

Luga Singh Charitable Triat's (Regd.)

#### THAKUR SCHOOL OF ARCHITECTURE & PLANNING

(Approved by COA, DTE, Govt. of Maharashtra & Affiliated to University of Mumbai)

\* Recognized under Section 2f of UGC Act, 1956 \* 18O 21001: 2018 Certified



# LUMIERE

ज्योतिर्गमय

noun (French). -LIGHT . ILLUMINATION . GLOW



# **CHAIRMAN'S DESK**



Thakur School of Architecture and Planning is focused on leadership in Nurturing Environmen Concious Architects. Technology has transformed into a critical tool shaping the nature of living. Our outstanding, competitive faculties are trained on helping students understand the context technology and composition of the world around them, so that, they can make the best outcomes for the future

MR. V K SINGH

CHAIRMAN

# **CEO'S DESK**



Thakur School of Architecture and Planning focuses on design in terms of Art and demands of the sustainable environment. We teach our students to intervene in the real world, through thoughtful actions. We develop ethos of responsibility in students preparing them to become effective leaders in practises and discourses surrounding the complex global issues of our time.

MR. KARAN SINGH

CEO

# **CFO'S DESK**



TSAP with its contemporary curriculum is dedicated to nurture 'Smart and Environment Conscious Professionals' that are prepared to address future challenges, by working on them today and with awareness of the past.

MS. GREENA KARANI

CFO



# VISION

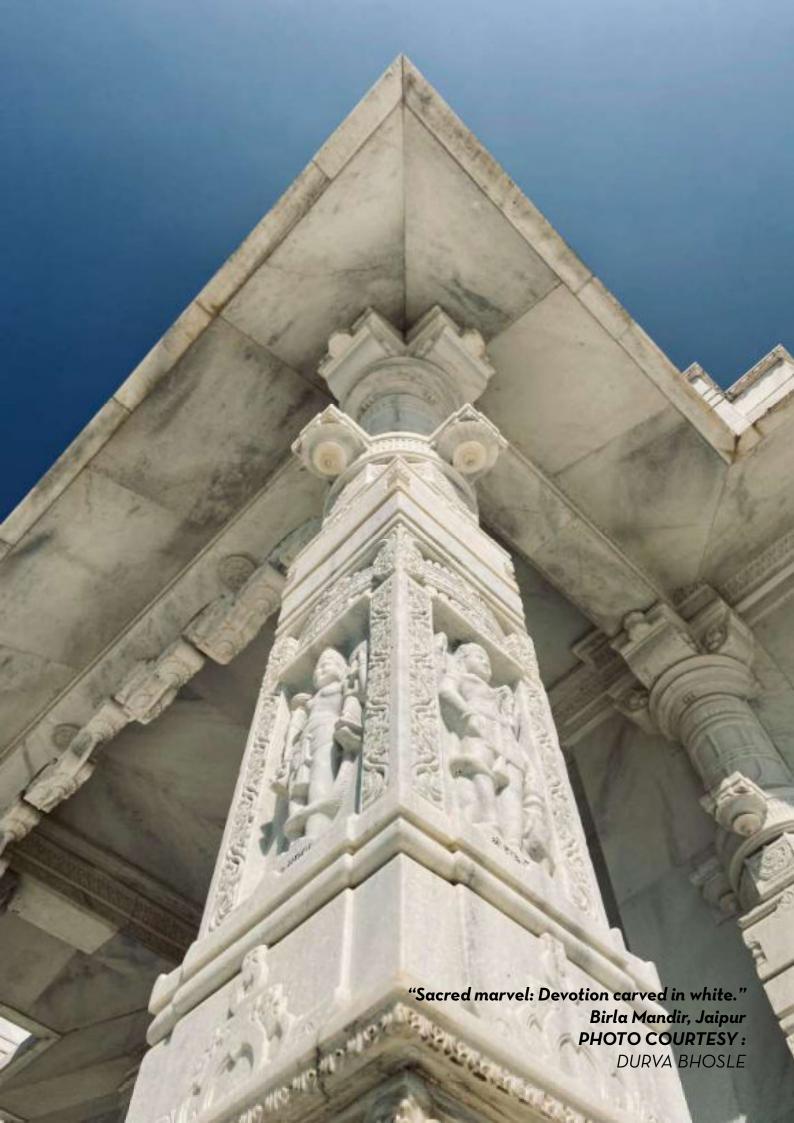
Aspire to emerge as a distinguished institute known to nurture Socially responsible ,creative, innovative and competent professionals through universal value based education.

# **MISSION**

- -To emerge as a pioneering institution.
- -To facilitate and nurture virtues of research, entreprenuership and leadership
- -To develop competency in application of appropriate comtemporary technologies
- -To provide sustainable, environment friendly and affordable solutions for the benefit of the society.

# **QUALITY OBJECTIVES**

- -To continuously enhance quality of education through review and innovation wwww-wTo assert role as an educational institute with holistic focus.
- -To strive hard to align all its processes with the purpose and context.
- -To align with educational organization objectives by creating a team of dedicated professionally oriented and socially aware mentors to achieve values and mission of the institute.
- -Takes into account relevant educational, scientific and technical developments to adapt to best practices in Profession.
- -To address industry preparedness, employability and proficiency in field knowledge.
- -To maintain technologically advanced infrastructure facilities.
- -To strive to maintain a conducive and progressive learning environment.
- -To describe and includes a commitment towards managing intellectual property
- -To address diversity of students from various backgrounds
- -To include a commitment to satisfy the organization's social responsibility by addressing societal concerns and response to local, regional needs of the society at large.
- -To observe a commitment to satisfy the organization's social responsibility, and safety and security in all endeavours.
- -To include a commitment to protect the Intellectual property of all the stakeholders of the organization.



# PRINCIPAL & VICE PRINCIPAL'S DESK



It is with immense pleasure to forward the Annual Magazine 'Lumiere' the *'manifested* 2022 αs representation' of the TSAP family. The spectrum of topics that are captured in the magazine, 'sparkles of luminance' that a fountain are critical ideas and expressions on The essence of the content is to either impart or add to knowledge, introduce a newer dimension. the epitome offer emotion or at thinking methods. direction to We are sure of contents the magazine shall continue inspire thoughts and trigger the nourished minds. It is through constant support, encouragement and the

guidance of the Management, Institute is able to achieve the milestones consistently. We wish to congratulate the team of editorial committee for ensuring the successful launch of yet another 'milestone' publication of 'Lumiere'

# AR. DHIRAJ SALHOTRA PRINCIPAL



#### With power of knowledge, Celebrate life

We at TSAP strive for vibrant and dynamic academic atmosphere, as a wholesome and holistic exercise. This calls for the integration of students in qualitative of that necessitates processes institute innovative an ecosystem to hone their skills in diverse subjects and to mould them to become notable change maker of the society. Our make learning aim is to an enriching. fulfilling and enjoyable experience by combining theory, studio with hands on practice in pedagogy. Our focus is not only 'what is taught 'but also' the way it is taught'. Research being an important pillar of academic growth, the thrust is on socially relevant, locally need based, nationally and globally significant research initiatives. Creating

fertile ground for effective synergies between research and teaching skill, nurturing and fostering critical thinking and problem solving among students. Hence, our persistent effort is to leverage the intellectual and emotional capabilities of students. We encourage the free and spirited exchange of ideas to celebrate diversity, while ensuring inclusivity.

AR. PURVI KAKKAD
VICE PRINCIPAL



#### **EDITOR'S NOTE**



#### Dear readers,

Welcome to the latest edition of our architecture magazine "LUMIERE". In this issue, TSAP explores the evolving landscape of architecture and design, highlighting the latest trends and innovations that are shaping the industry.

In this edition, we focus on the multiple concepts like sustainable design to emerging technologies, our faculty and student writers have worked hard to provide you with a comprehensive overview of the state of the field.

We would like to take this opportunity to thank our readers & contributors for their continued support. Your feedback and engagement are what drives us to continue producing the highest

quality content possible. We hope you enjoy this issue of our magazine and find it informative as well as inspiring. We welcome your feedback/suggestions for future topics and articles.

**AR. DHRUVIN SONI**ASST PROF.

### STUDENT EDITOR'S NOTE



Welcome to the most recent issue of Lumiere!

We are pleased, to present in this issue, a wide range of essays as well as design investigations that capture the spirit of invention and originality in the architectural profession.

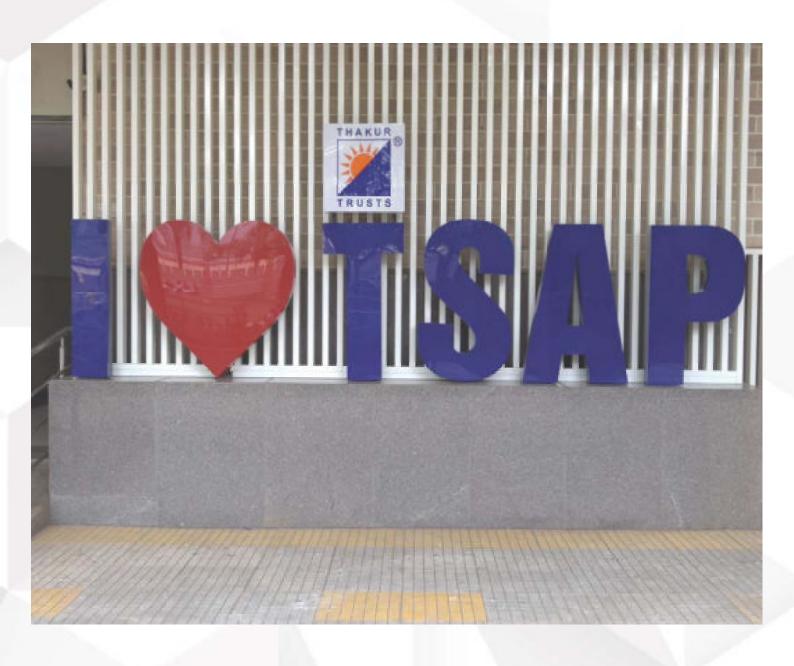
Our contributors delve into the fascinating opportunities and challenges influencing the future of our built environment, covering topics viz. sustainable urban planning and cutting-edge digital fabrication processes.

We hope that this selection of thought-provoking works will promote a greater comprehension and appreciation of the significant influence that architecture has on our world. I wish you a happy

reading experience and success on your own architectural adventure!

Hope you enjoy reading this magazine as much as we enjoyed curating it!

HARDIK VEPARI 3RD YEAR B.ARCH



Thakur School of Architecture and Planning PHOTO COURTESY:

RAJ VEGAD

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**ROSHAN MATHEWS** 

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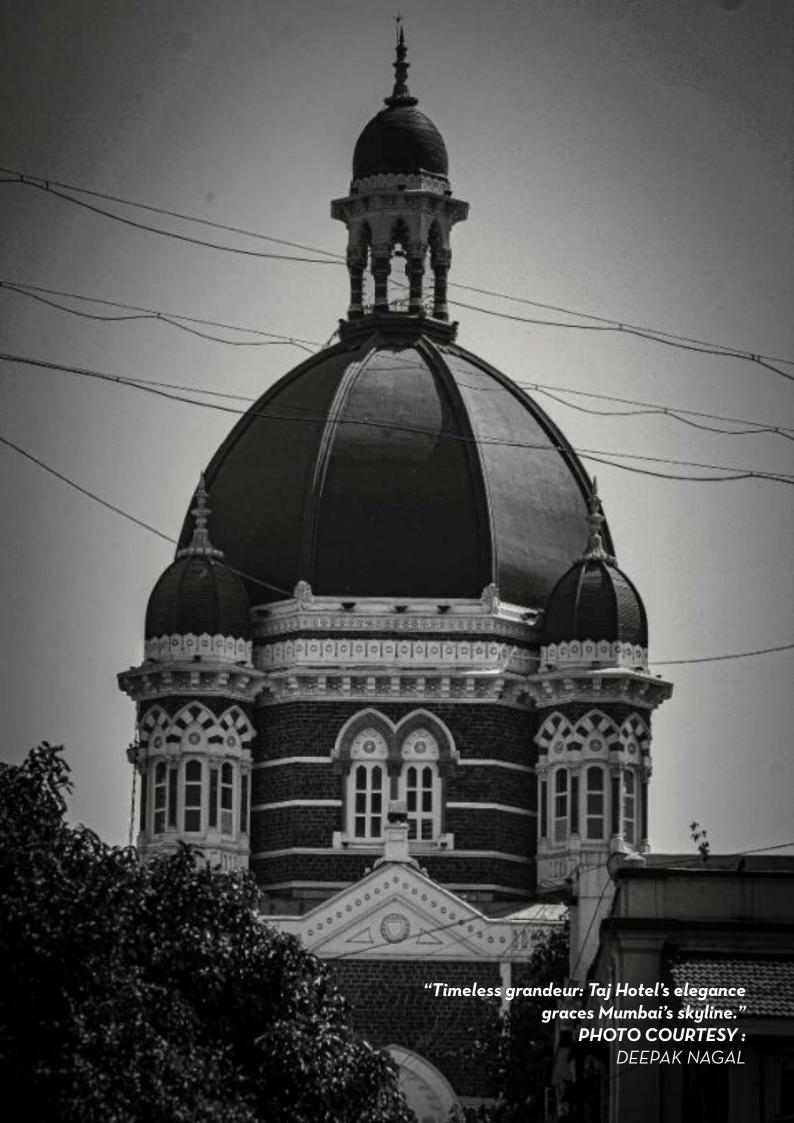
TANMAY VISHWAKARMA

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**PRAKET SAWANT** 

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"In the garden of academia, faculties are the diligent gardeners, nurturing the seeds of potential into flourishing blooms of knowledge."

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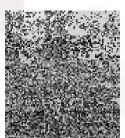
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#### THE JOURNEY

T<sub>hakur</sub> School of Architecture and Planning or TSAP was established in the year 2014 and is guided by a strong vision and goal, that is oriented towards a purposeful mission; which will meet both the local and global requirements of Architecture by providing 'State of Art, Architectural Education' to young budding aspirant architects that will be coherent with the overall sustainable developments of the state and country.

Architecture being a multi-disciplinary subject requiring amalgamation of knowledge from many fields, our students are provided with all the relevant education to ensure near to total knowledge in Architecture.

Here at Thakur School of Architecture and Planning, we aspire to take small yet focused steps, in achieving our goal of education. Since the humble beginning we have grown to a strength of 400 young aspiring architects.

#### The aim is to create a collaborative environment to ensure exchange of new ideas and designs.

We look forward to ensure many such batches full of successful, humble and confident graduates into the architectural fraternity.

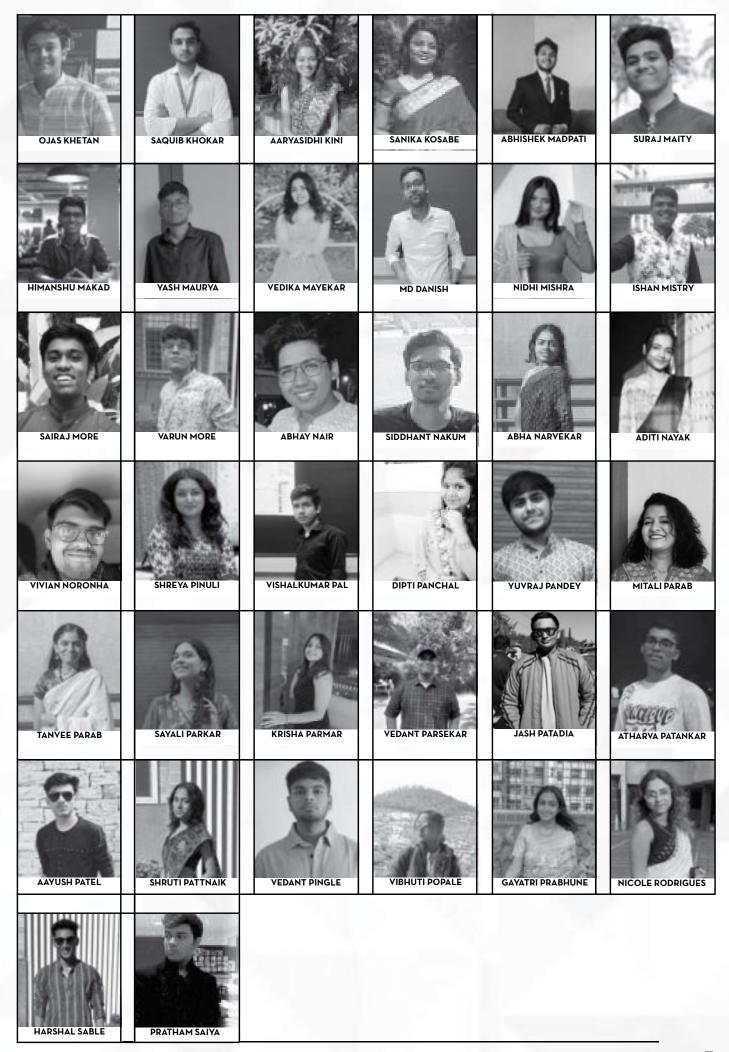




LANDSCAPE AWARD 61ST ANNUAL NASA C O N V E N T I O N BEST ARCHITECTURE
DESIGN 3RD YEAR BATCH

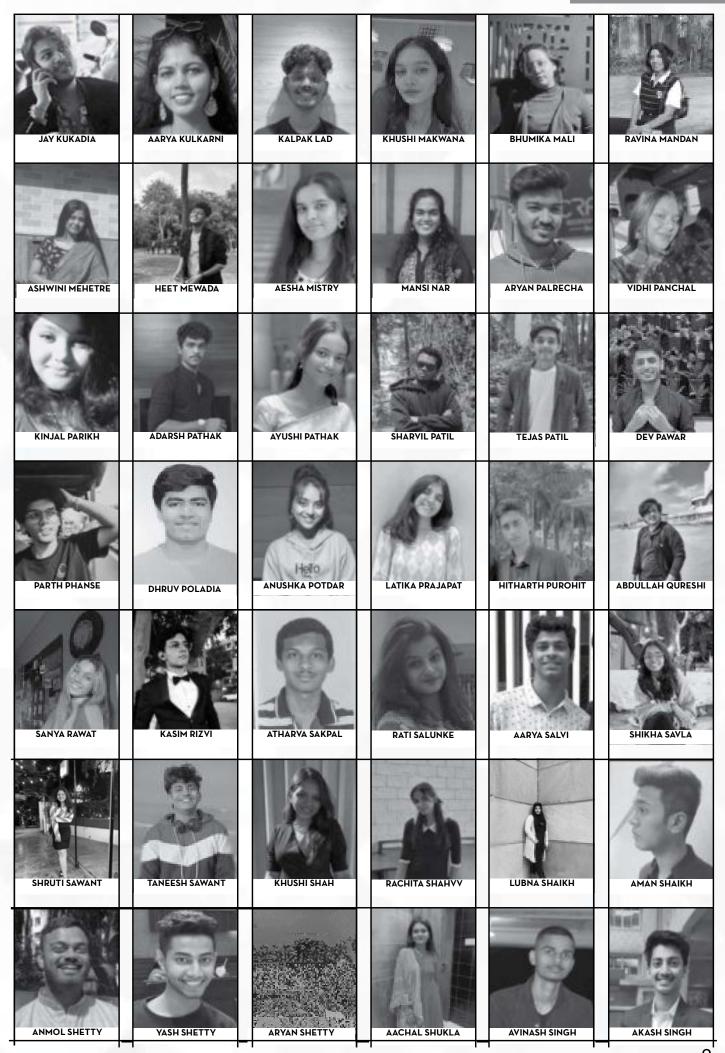






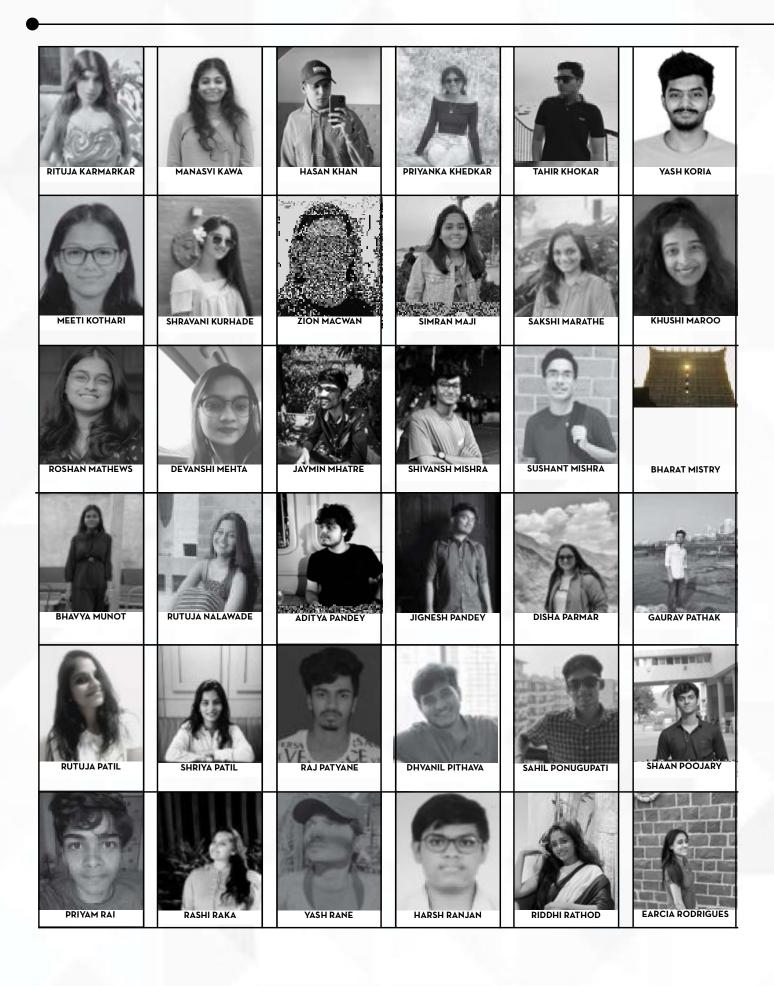




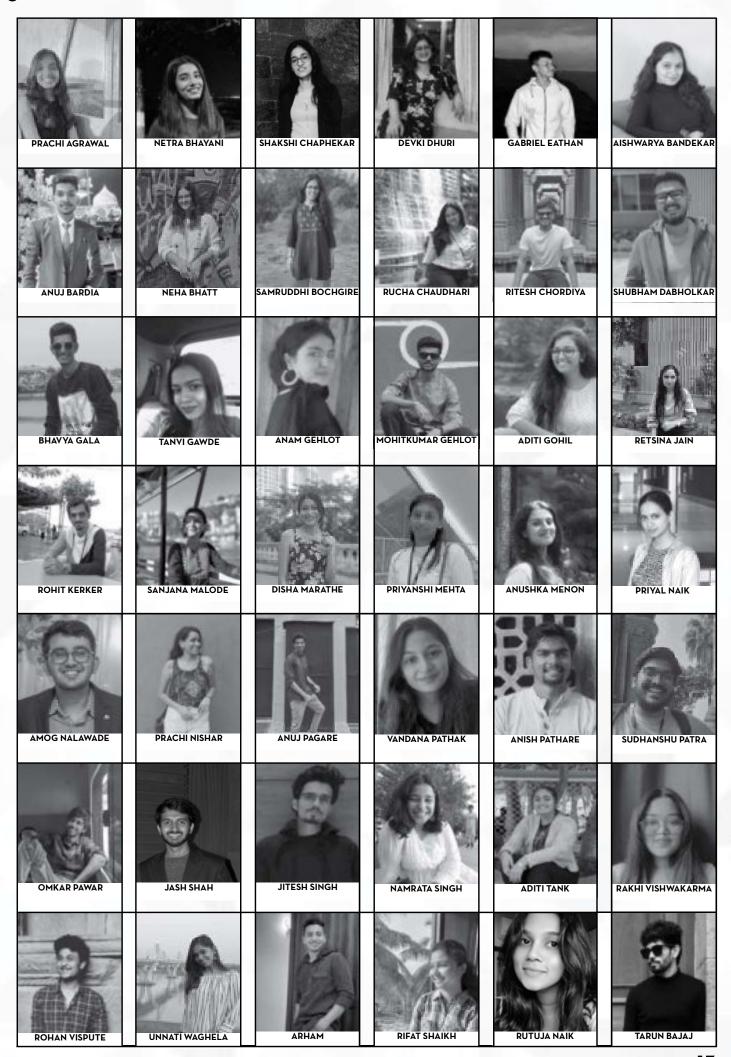






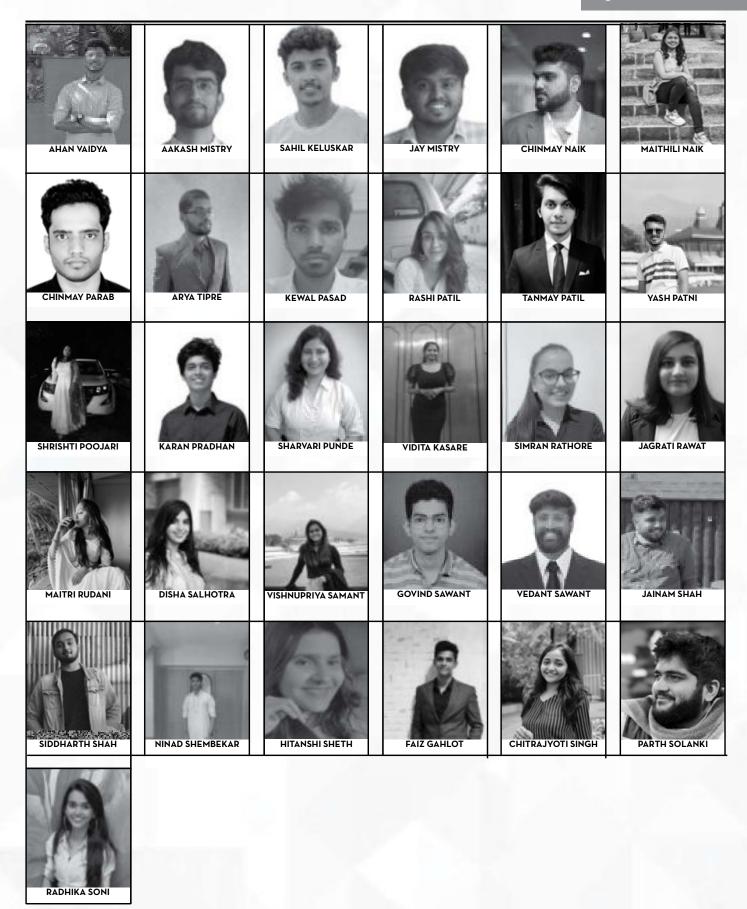


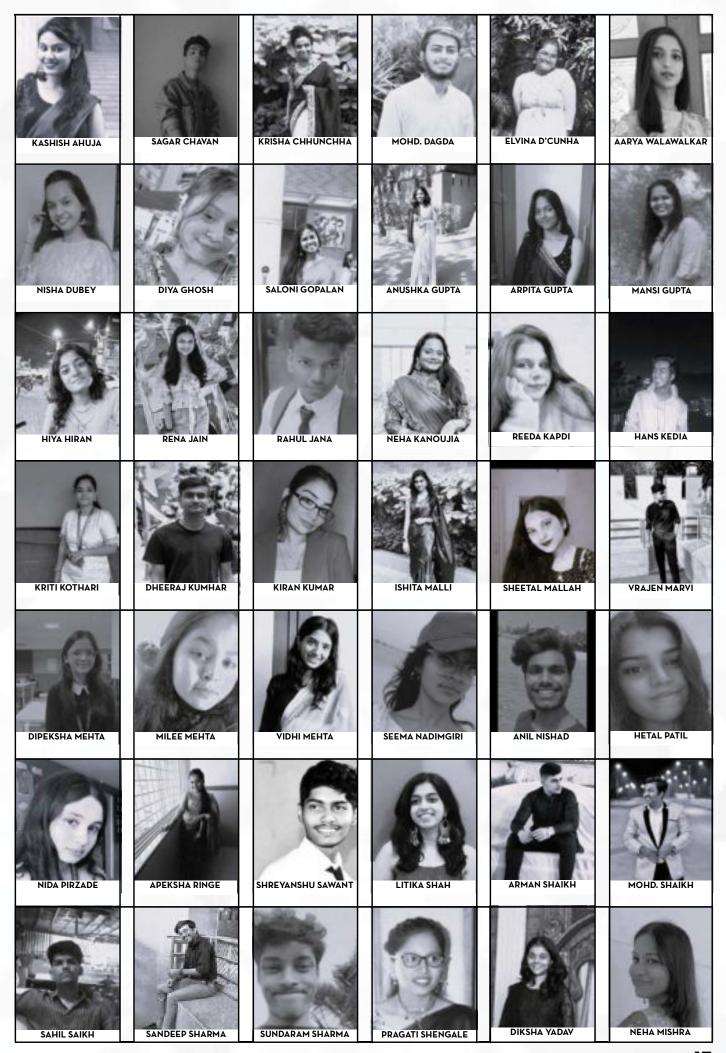




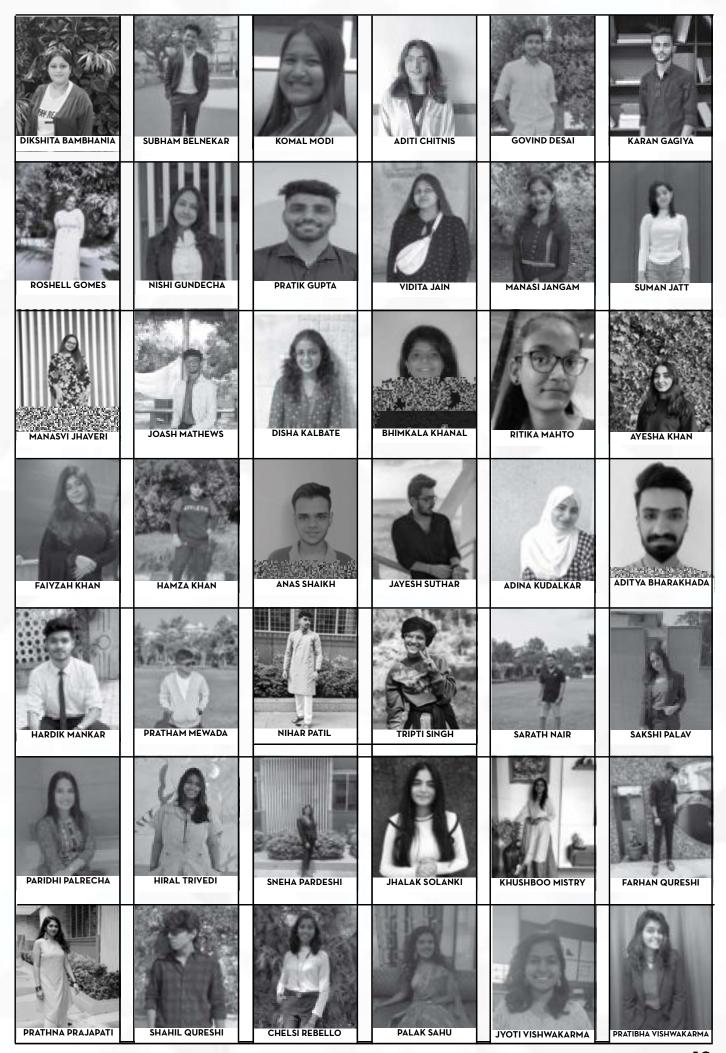




























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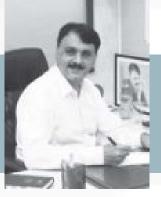
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PHOTO COUPTESY DEEPAK NAGAL

# TWO CONTEXTS,

## ONE ARCHITECT



AR.DHIRAJ SALHOTRA
PRINCIPAI

...Context determines, the language of Architecture...
is the seemingly the best way to quote the essence of
Architectural Vocabulary Captured in these works of Daniel
Libeskind.



Via Spinola, Milan, Italy

One is a housing project in the Context of the Historic, City of Milan and the other Waterfront Architecture, in the vibrant City of Singapore.

## HOUSING OF VIA SPINOLA, CITY LIFE OF MILAN, ITALY

Milan has been the laboratory of Architectural styles in Construction. The City of Milan, has been choosy and conservative about the kind of Architecture that it allows to partake its skyline.

The Libeskind Housing of Via Spinola, is

strategically located at the South west portion of the City Life Area, it enjoys the view of the park and the new formed City Centre with spiralling towers (II Dritto (The straight tower of Allianz), Lo Stroto (The twisted one-Generali Tower) & II Curvo (The Curved One).

The project is a clever utilization of the pedestrian plaza generated as an elevated mound over parking and driveways offering unobstructed pathways and views of the panoramic Site.

The spiralling built form meanders on the site as a sculptural mass, that turns, twists and skews the geometry of balconies to create variety of patterns and sciography. The projecting balconies, offer transitional sun decks offering perched views of the landscape, while maintaining the privacy of the apartments.

Libeskind, carefully chooses the material finishes of the building, as he clads the structure with finely textured, light grey tiles (naturalistic, central to traditional houses in Milan) and combines them with brise soleil of composite wood trails.

#### REFLECTIONS, KEPPEL BAY, SINGAPORE

In the context of the site, Libeskind carefully chooses to combine high-rise and mid-rise apartments as a befitting strategy to response the beauty of the site, gifted with natural banks. The amazing 6 Iconic dancing glass towers, and 11 villa apartment blocks spread over the Site, gape to capture astounding views of the landscape around.

A project that takes telescopic breathtaking views of the City Skyline as well as the Coast way. The project can be viewed from various vantage points such as the Bay, Faber Hill and as an aerial view from the Cable car to Sentosa. The picturesque 250 Meters long cable suspended Keppel Bay Bridge across the straits, adds to the panoramic beauty of the project along the coast.

The article urges its readers to take a peek at both the projects, as Daniel Libeskind finds befitting vocabulary to meet the context of the site while addressing the innate function of the form.



Reflections, Keppel Bay, Singapore

# ECO-INNOVATIVE

# RETAIL DESIGN

A designer has to consider the type of business and energy conserving methods applicable to that particular design.

AR. SUVARNA LELE PROF.



Energy Conservation In Puma Retail Shop At Bangalore

Energy conservation proves valuable to owners as well as customers by reducing the maintenance costs and providing safer indoor air quality. The natural quality of the products used in Green Design should be healthy, pleasing and attractive.

## The several ways by which a building can made be energy efficient are:

1. The materials used for construction and

Interiors should have lower embodied energies, they can be a recycled and reused. Use of composite materials wherever possible is recommended.

- 2. Use of energy efficient equipment such as refrigerators, electric stores, electric fixtures and computers etc. can add up in energy saving.
- 3. Sustainable design can be incorporated into Retail projects using thoughtful space planning and careful specification of products.

4. Low flow faucets in showers and toilets in hotel rooms would save energy by reducing hot water used.

Design of lighting system plays a major role in creation of inductive environment inside and outside the retail spaces. The design of lighting should be in coherence with the character of the structure and its surroundings. The lighting has to be designed for external and internal including access roads. parking areas. entrance lobbies, reception, watering, atrium areas so as internal and retailing areas, food courts, cinemas halls, lobbies, passages and toilet areas.

The appearance of interiors as well as the exteriors changes with the effective kind of lighting. The lighting should serve the purpose of aesthetic as well as security of the structure.

The right kind of lighting adds up in retail sales as well as it can establish stores image. One of the largest energy users in commercial spaces is lighting.

Low watt, high light output florescent lamps can be used in place of in candescent lamps. The effective design would be the maximum use of daylight and wind flows to reduce the use of lights and air-conditioning systems. The sensors used for switching the systems off and on can add up in energy saving.

The several aspects while designing a lighting system can be specified as - colours rendering index and their temperatures, organisation, visual priority, day lighting, Image or style, glares and quantity of lights on vertical displays and horizontal surfaces.

Thus from the design of the building through the interior, all the way down to the signage and graphics that engage the customers create an identity of the business and provides a sense of place to the customers.



Energy Conservation In Lighting Design



External Ambience Due To Lighting

# DRAWING IS LIMITED-

## MODEL IT!



Although we often say that Drawing is an Architect's language. How many of us believe that? How many of us have seriously taken the training to learn to draw?

I guess the answer is very few.

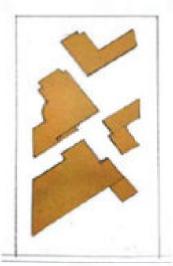
**AR. ANSHUL SINHA** ASSO. PROF.

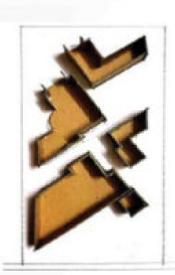
We know for sure that Drawing is an essential tool to explore Design. But many other ways assist in Architecture Design- one of them is Model Making. This article discusses how model-making is effective and the Drawing medium is limited while learning the design process in the initial years of Architecture. In no way does this article advocate neglecting drawing skills and taking up the model as the only effective method. However, if learned and applied together, one can yield extraordinary results.

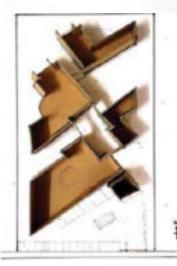
Very often, in architecture education, we expect students to draw and communicate ideas. But I have realized that most of the students cannot draw proficiently and communicate.

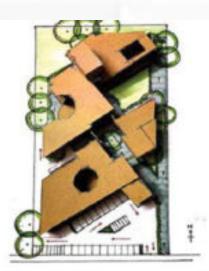
The design process involves a back-and-forth process of design refinement via sketching and modeling.

Since the students cannot sketch in multiple vantage points, there is always a limited amount of clarity on their Design.









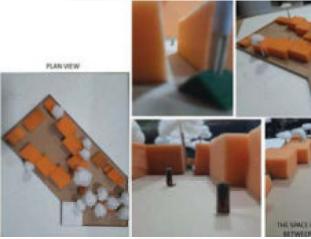
Progressive Development Of Design Using Planar To 3d Model Composition

An architecture student in the initial years of their education must learn how to visualize. The best way to develop more profound visualizations and understanding of spaces is by creating models. Models help us recreate the spatial environment on a miniature scale and study various patterns, volumes and quality of space. Models are of different types, such as block models made out of solid materials, models made out of planar wall materials (hollow inside) & detailed models using other materials. Many of us fail to understand which type to choose during the design process.

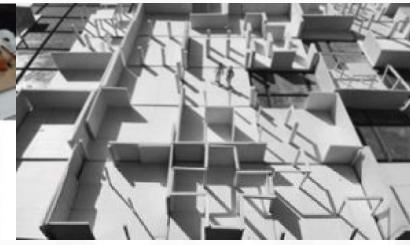
During the initial stages of design development, one must quickly use blocks to assemble and compose zoning ideas. One can assume a tentative height concerning their concept. This schematic assembly of blocks helps one to understand massing and the spatial interaction of built and unbuilt.

I realized that taking pictures from different vantage points while modeling is very important. We all know that architecture is about a journey and not a destination. Picturing our models reveal an innate quality that is unseen or unrecognized in 2D Drawing of any sort.

Photographing spaces helps create conviction and adds belief in our design ideas as we can see the scaled physical manifestation. The resolution is effective and worth doing.



The Use Of Solid Blocks To Test The Composition Of Blocks



Students learning about the sciography patterns of architectural space making elments

Since architecture is also about housing activities and creating volumes, instead of looking only from the exterior, one must create open-able models with assumed fenestration strategies that help us study the impact of light and shadow in interior spaces. Photographing interior spaces under natural sunlight can make one recognize the dramatics of the light inside.

While deciding the opening's location, one can effectively use models by placing them in the context to see the framed views. The following images showcase an experiment where students created fenestrations with specific framed views of the context.

As opposed to architectural drawings, which are essentially a two-dimensional interpretation or representation of a design, the architectural model is a powerful design tool used not only for representation purposes but also to generate multiple design ideas.

To motivate more students to adopt model-making as a methodology, I have attempted to compile a few pictures of the explorations done using models in Architecture education.

# LIVE SKETCHING



Live sketching is all about 'Observing the Unobserved'. It Is an important step to study the form, texture, shapes, colour and overall aesthetics of the objects around us.

AR. ANSHUL SINHA ASSO. PROF.

One of the things that often comes up when discussing the future of construction is sustainability. The building sector is one of the largest contributors to greenhouse gas emissions (GHG), with occupied buildings being responsible for nearly 40% of global GHG emissions, according to Architecture 2030.

VAs we have the only planet we can live on, promoting sustainability will serve us and the future generation.

Experts in the construction industry have already started using sustainable construction materials. Bendable Concrete is one of the sustainable construction materials.



#### THE LAST SCHOOL AT AUROVILLE, PONDICHERRY

Time constraints are an advantage here. If you carefully look at the sketch, you will find that most of it is not drawn. We call it a positive-negative sketching technique. The sky (negative space) gives the shape to the built form (positive) i.e cylinder & flat wall. The shade and shadow both are in the same tonal value.

Medium & tools - Black PIK chisel marker on cartridge paper

Duration - 15 mins

Tips: It's not necessary to create a tonal value difference between shade and shadow. The positive negative method is a technique that enables the use of Gestalt theory which says that 'the Brain completes the incompleteness'.

#### SANCHI STUPA AT MADHYA PRADESH

One of my dream destinations after I read about it in our syllabus, for the first 30 mins I didn't really understand what to sketch. I wasn't inspired at all as from every angle the edifice looked the same. It was difficult to gauge the lighting condition as the structure doesn't cast significant shadows due to its hemispherical geometry.

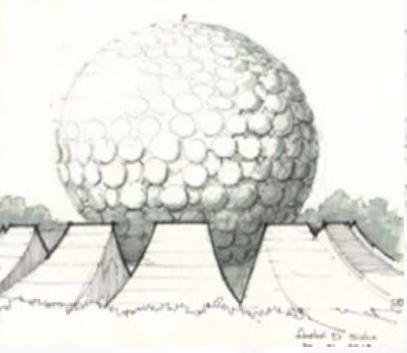
At last, after roaming in isolation for a few minutes, I figured out a vantage point framed by two trees and a few smaller stupas forming the foreground. The attempt was to capture the essence of the masonry with broken plaster on the surface. I shaded the right side of the dome with a middle tone and the left side

appeared due to the shading of the sky.

Medium & tools - flat lead 2b grade pencil on cartridge paper

Duration - 15 mins

**Tips**: The sky, as a background context is an essential element. We always see a building in the context. Knowing this we can use sky rendering effectively and minimally to lift the geometry.





#### MAITRIMANDIR, AUROVILLE

It's a difficult edifice to draw. The complex composition of the golden disc on the façade is challenging and will make you question where to start. However, the experience gave me an advantage.

I simplified the sketch into a sphere and a few trapeziums in the foreground at the base. It was easy to sketch then, just enough that gives a glimpse of a spherical form cladded with circular discs of some sort.

I added a grey tone to enhance the 3diness and background trees that give it a solid base.

Medium & tools - Black 0.3 pigment liner & Grey Alcohol ink Markers on cartridge paper

Duration - 15 mins

**Tips**: A heavy line-weight silhouette is used in the trapezoidal form to make it appear in the foreground.

# ORIGAMI -

## A SPACEMAKING TOOL



"When you fold, the ritual and the act of creation is more important than the final result. When your hands are busy, your heart is serene"

- Akira Yoshizawa

AR. SUJIT JADHAV ASST PROF.

Have you ever tried making something out of paper in your childhood? I am sure, most of you would have tried your hands in making paper boats with simple folds of paper. Such brief episodes with paper made us feel mindful & brought us sheer joy. One such art form associated with the paper is Origami. The slow & precise act of paper folding, carefully made with presence of mind can aid relaxation, concentration, bring hand to eye coordination & sharpen our memory, which is the true remedy of our times today. This favourite pastime of Japanese people has now reached globally & has been the source of inspiration to many. Used as part of Japanese etiquette of Gift giving & paper adornments, Origami had travelled a long way of more than 500 years & has wider scope of applications in the fields of design to technology today.

#### RELEVANCE OF ORIGAMI IN DESIGN FIELDS

Attributes such as Shape, Form, Composition, Geometry, Fractions, Folds, Patterns, Material, Manipulation & Action are significant in making designs. Through the actions of bending, contracting & expanding of simple paper folds in origami, one can develop creative visualisations for products, buildings or spaces. Such actions can help in exploring the spatial & structural ideas, and can act as a tool to create conceptual design expressions for the designers. Origami can also aid in aca-



Fig: Origami - Temporary shelters

#### **APPLICATION IN DESIGN FIELDS**

The Foldability of Origami, helps to create structures which uses minimal material, decreases the labour requirement & construction costs. Such structures can be easily transported, assembled & disassembled whenever required. It can help design spaces in an environment consciousness way causing less damage to the environment during its construction process. It can also create temporary spaces as per the need during any event, exhibitions or can be used during disastersastemporary shelters & shelters for site workers.

The patterns or modules created through Origami are artistically applied in designs of wall panels, roof designs, foldable furniture's, decorative artefacts such as lamp shades, wall hangings etc. Origami inspired fold patterns are also utilised to create green walls & grass mounds in land-scape designs offering unique recreational spaces.

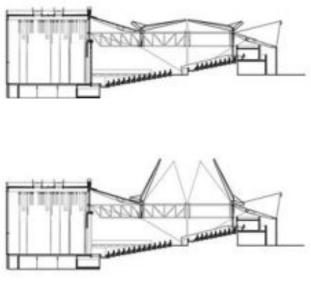
## CASE STUDY: BENGT SJOSTROM STARLIGHT THEATRE, UNITED STATES

This regional theatre facility located in the Rock Valley college campus designed by Studio Gang in 2003, uses the Origami inspired roof to create a social setting with porous connections with the landscape around. The kinetic roof taking inspiration from paper folding patterns, is a fine example of application of Origami in creating space enclosures.

The kinetic roof provides an enclosure to provide uninterrupted performances under the roof during the rainy season. At the same time, it provides a strong desire to maintain the sense of being outdoors. The simple material palette such as wood (for covering) & steel (for framework) is used for its execution.



Fig: Bengt Sjostrom Starlight Theatre, United States-Origami application on Roof design





# OPENFABRIC -



AR. SURAJ KADAM ASST PROF.

A RESPONSE TO THE PROBLEM CREATED, A SOLUTION IGNORED (OUT OF RIGIDITY)

The general understanding of the need to develop a housing project for today's society starts with the need to include the ideas, and physicality's of social connections, individuality to units, safety and private spaces with varied spatial possibilities. Vancouver's housing crisis is surely a need, but should not lead to the densifying of the residential spaces. With increase in the number of units, it should be directly connected to increasing the open space proportion as well as providing an added probability of social spaces in the surroundings.



The proposal speaks of ideas that function by the development of not only the individual 'LOTS' but also addressing the issues' associated with the entire 'BLOCK'.

Design Principles In order to assure applied lateral plotting models full potential, each proposal must meet the following standards.

- **1. OPEN SPACE RATIO:** 30% built to 70% unbuilt ratio.
- 2. UNIT CONFIGURATION: Units of varied configurations to be developed to address diverse income groups using modular grid system followed in the layouts. This holistic design approach allows the city to develop breather spaces keeping in mind the population infusion that is bound to happen with the increase in housing opportunities. At a city level, the idea



Human to Open space ratio achieved in the proposal

#### **Existing Single Family Dwelling:**

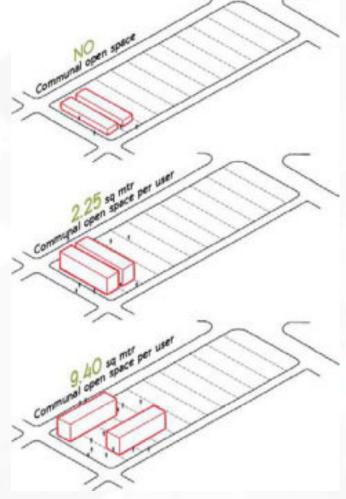
The existing single family unit is a crude interpretation rather representation of a habitat that barely adds life to the social fabric. The module has led to the housing crisis due to its conventional planning approach.

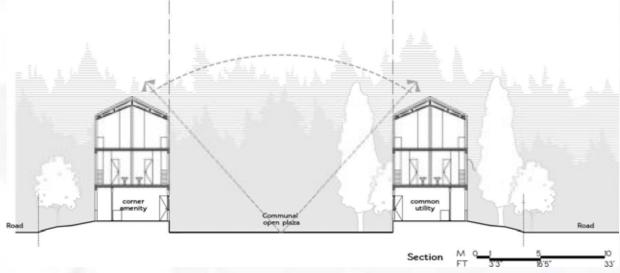
#### Missing Middle -

LOT focused approach A solution that addresses the existing crisis, but on a holistic scale loses its credentials taking into consideration the social and open spaces per user. The conventional plotting of the BLOCK longitudinally does not allow maximum optimiza-

#### Missing middle - "BLOCK" focused approach

Achieved by LATERAL PLOTTING the idea allows increasing the density of dwelling units also not missing the ideally desired efficient and sustainable design that enhances the neighborhood infused with increased open space ratio.







# GOPI TALAV

#### RENOVATION AND REDEVELOPMENT PROJECT



AR. NIMISH BARI ASST PROF.

The Gopi Talav had lost its existence & identity so the main concern was to give an identity to itself. In 2012, the Gopi Talav was renovated by Surat Municipal Corporation and the area surrounding it was redeveloped as a recreational facility.

In 2012, the lake and the surrounding areas were renovated at the budget of around 22 crores (US\$3.4 million). Around 90,000 square metres (970,000 sq ft) of land was renovated, where the 212 metres (696 ft) diameter lake

covered almost 35,000 square metres (380,000 sq ft) of area.

The lake can hold 120,000,000 litres (26,000,000 imp gal; 32,000,000 US gal) of water.

The area has been divided into

seven zones; the diamond zone, food zone, environment zone, history zone, communal harmony zone, textile zone and Surat nu Jaman.

Water to the lake will be piped from the Tapi river on whose banks the city lies. The lake has diameter of 212 meter with average depth of four meter. When completely filled it could accommodate 141 MLD (million litre per day) of water.

The redeveloped lake attracts nearly 800 visitors on normal days while during holidays and festivals more than 10,000 people visit it daily.

The real challenge for urban local bodies through developers, architects, and professionals is to protect and preserve the built heritage. The most difficult task ahead is to conserve the local traditional and cultural values of communities for future generations to appreciate. This paper discusses a case for the renewal & restoration of historical Gopitalao,

By the creation of this state of the art public place the neighborhood and the old city at large

is provided with an essential recreational space. The project is a torch bearer in the Indian context and is seen as a catalyst for the renewal of the medieval towns

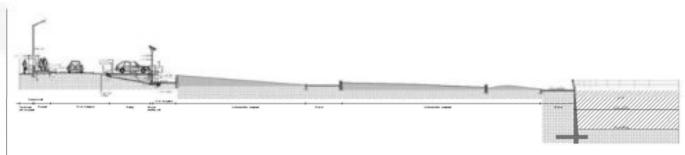
SMC is carrying out the redevelopment in 3 phases:

PHASE-1: work completed in this stage is 3 nos. Of platform, two no. Of Ghats, open amphitheatre, viewing jetty with approximately amount of 6 crore.

PHASE-2: work completed in this stage is inner, outer & d. P. Roadside compound wall, c.c road development cost of about 3.40 crore.

PHASE-3: development of different types of zone (approximately cost of 10 crore).





# TOILET

## EK ASAMANYA KATHA

In contemporary times, the world looks at gender neutrality in all fields, including architecture. While it inspires people to come out of the closet and accept what naturally they are bound to, it also inspires society to change its perspective toward a binary understanding of genders.



AR. ESA SHAIKH ASST PROF

Architects and the public have started to acknowledge the gender-driven design of public spaces. Gender is demonstrated in public zones that promote visibility and interaction between people. An arduous challenge lays upon architects and planners to design fair environments and equitable spaces.

In the USA, one of the informed passengers filed a case against the airports' authority for not providing Gender Neutral Toilets on their premises. This led to a debate in various sections and which led to multiple and sensitive understandings of the issue.



AR. DANIEL D'SOUZA ASST PROF.

## Mumbai: 'First exclusive transgender toilet an inclusive move'

Mehammed Wajihudin / TNN / Updated: Var 28, 2020, 02/21 IST



One debatable option suggests that the measure taken by the introduction of Gender Segregated Space is favorable for the few passengers, while few object against it making the objection suggesting that all toilets need to be inclusive. By providing the gender segregation toilet, the message of exclusiveness goes to the public. This led to the challenging the notion of an equitable society or inclusive space in the city.

In a recent survey in the Indian condition, it concluded that females are more skeptical and uncomfortable in presence of another gender in their private spaces. "Women may feel uncomfortable tidying up in front of the mirror

or attending to their menstrual needs in unisex bathrooms" was noticed in an interview. They may also find public toilets distressing to use for hygienic reasons. Individuals suffering from a "shy bladder" could feel self-conscious around other gender groups in such environments.

The gender-neutral bathroom appears challenging to deploy in some countries, owing to the different cultural ideas around modesty, gender, and gender segregation. Many religions and cultures prohibit sharing intimate spaces like toilets with unrelated people of the opposite sex.



Even the other side of the debate makes a good case. Gender-neutral toilets not only provide secure experiences for trans and non-binary users but also for children and the elderly. Children can accompany their dependents to the bathroom and assist them with ease. Unisex bathrooms would also support equal parenting by making changing and feeding rooms accessible to mothers and fathers.

The Toilet Manifesto by MAD architects sets out a holistic framework of all parameters necessary for the functioning of public toilets such as sanitation technology, recycling systems, construction method, affordability, maintenance model, operational & maintenance cost, delivery model, etc.

The debate highlights the fundamental problem around this social equity issue - toilet design. So far, there haven't been standardized layouts or sets of rules on what exactly makes a bathroom gender-neutral. Not much thought has been given to the design of spaces based on the different needs of gender groups. These problems and concerns have shaped design briefs that aim to create ethical and comfortable toilet experiences for all.



## VERTICAL GARDENS



Green walls or vertical gardens are a visually spectacular addition, but more complicated to achieve than we might expect.

AR. HARITA PATIL ASST PROF.

A well-designed green wall is a thing of beauty, adding texture and life to an area that might otherwise be a blank wall. Unlike a climber or a hedge, a green wall can incorporate several species of plants and thus a variety of foliage colours and shapes.

Vertical gardens are being included more

and more frequently in new builds - mostly commercial, but some residential - because their benefits go beyond good looks. They can purify the air, provide a barrier for sound and even help reduce the surrounding temperature.

With limited soil capacity, stopping the plants from drying out is going to be a constant battle, and if you're putting a green wall in a sunny or windy location, you're setting yourself an impossible task. The lush-looking walls you buildings sides of tall are illusion - seen close up, many of the plants are likely to be wind-burnt and haggard. Unfortunately, while every plant has its ups and downs, those suffering a bad season at eye-level on a green wall will be objectionable to most clients...

Size is important. The best green walls have a sense of scale, soaring above head height at least, but with size comes weight. An engineered solution is essential - try to cheap out by tacking something onto a paling fence and there's a good chance the whole thing will eventually come down.

And thus the greatest factor against green walls: the cost. A properly built structure will cost big bucks to build, plus a significant amount to maintain to a high standard.

The most crucial factor in creating a successful vertical garden is choosing the right spot, one that won't be blasted by sun or wind. One of the best spaces for them is an internal courtyard, which is generally shady and protected, ideal for softer, lusher varieties of plants, which really make a green wall look spectacular.

The best results will be obtained by experts in the field - there are several companies who specialize in this type of garden. They will understand the limitations of the site, the needs of the plants and put in place systems to keep the wall as healthy and beautiful as possible.

If you really want a green wall, do it as a part of your balcony. Done right, they can be stunning, but they don't work in every space and they do come at a steep price. Enlisting the experts for installation and maintenance is recommended. Companies such as HVT and other similar professionals really know their stuff and will lead you in the right direction.





# BUILDING RESILIENT CITIES



AR. ARUNDHATI N ASST PROF.

A uniform way of building cities has accelerated from the mid-20th century onwards. There is a clear need for new models of urbanism as the world's population is on the verge of increasing by two billion inhabitants in the next three decades. The window of opportunity to act upon the challenge is closing.

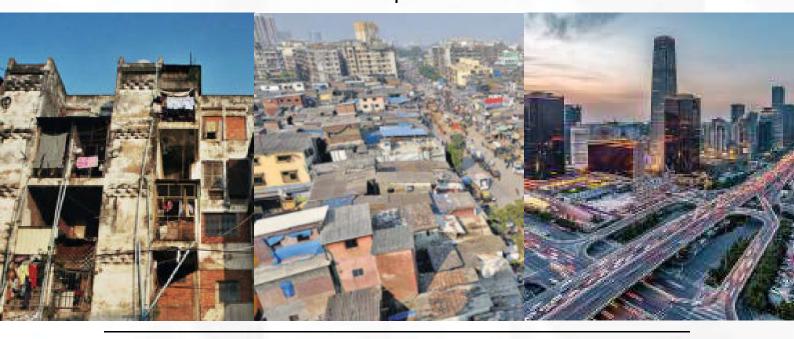
The World Bank estimates that over 60% of the infrastructure the world will see in 2030 is yet to be built. These challenges are likely to exacerbate further if the business as usual (BAU) way of building cities continues.

Today's conventional building materials such as concrete, steel, glass or aluminium have the highest embodied energy and construction techniques have high carbon footprints an often are unsuitable to the local context.

Contextualised, sustainable and often vernacular approach, usually stand-alone or small scale innovative practices.

However, these could not yet be up-scaled due to gaps in knowledge and skills, technical limitations, time and cost costraints, and a lack of supportive policies.

In this context, several Asian cities are approaching meeting today's infrastructure and housing needs that equally responds to the need of building fast and affordable in a dense urban environment and to the need of building unique, sustainable and liveable cities.



- 1. Building materials and passive building design techniques are adopted that optimise embodied and operational energy, lower GHG emissions and offer unique localised solutions. For example, upscaling the use of CSEB and timber constructions & establishing the case of circular economy in construction materials. Furthermore, these are getting integrated with construction techniques with technological advances that make sustainable construction processes faster and more affordable for example, modular constructions and 3D printing.
- 2. Building high rise essentially limits construction materials to those high in embodied energy (concrete, steel, glass, aluminium). In contrast, a high-density low-rise urban development model

- is being constructed that allows for a wider variety of materials and often offers a better quality of life.
- 3. Large scale construction companies and real estate developers majorly lead the construction market, urban development projects require public policies and regulations favouring sustainability and quality of life as well as economic/financial incentives for these players to change their paradigm.

The fundamental goal of city design must be to improve the lives of people. This means creating fulfilling, enriching, and sustainable ways for residents to live, work and thrive. Building unique is a pathway to achieving this goal in the long run.



## CARE + REPAIR ARCHITECTURE



AR. VIBHUTI MHATRE ASST PROF.

Architecture of Care & Repair could also be known as architecture of Care & Kindness. It looks out for the health of its residents and protects the environment, much like a good family doctor. Additionally, it is a strong architectural design with people and the environment at its core

Long ago, designers and architects gave no thought to how a structure would interact with its surroundings and instead concentrated entirely on its usefulness.

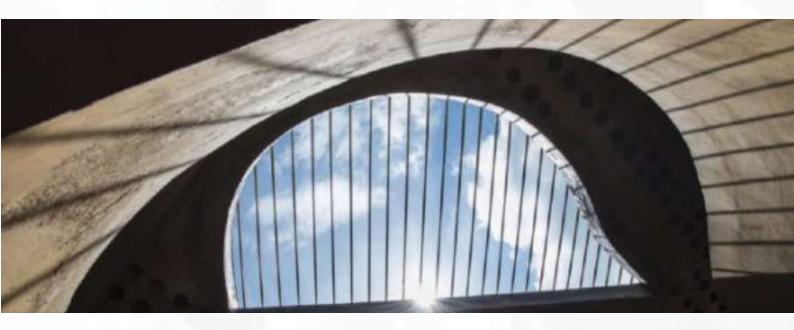
A paradigm change is currently taking place as a result of the care focus, which centres its concerns around the inherent fragility of environments, urban settings, and people. In order to find the proper balance, this awareness of fragility compels us to view and comprehend urban spaces in a new light.

In other words, this architectural kindness inspires us to imagine flexible, sustainable solutions that combine the best aspects of urban design, economics, and ecology. Other instances of taking care include promoting

smooth mobility in urban areas, actively participating in local community life, and protecting biodiversity in urban areas.

The repair and reuse philosophy is the natural progression from this care philosophy. This entails taking into account a material or structure's durability with the ultimate goal of decreasing waste and/or programmed obsolescence.

In order to minimise the carbon footprint of such structures, architects will pay particular attention to prospects for building restoration. Contrary to common assumption, rehabilitation is frequently more economical than demolition and construction from a financial and environmental standpoint.



The fact is that we frequently forget to account for the "grey energy" capital that every building project entail, which includes everything from the extraction of raw materials through manufacturing, delivery, and transportation, as well as construction and demolition operations, landfill, etc.

When you total everything up, you you soon realize that demolition comes with a significant cost. Finally, without fully accounting for the recovery and recycling processes necessary to save raw

materials and prevent construction waste from ending up in landfills, the architecture of repair would be lacking. To save resources and guarantee supply security, it is envisaged that more building waste would be repurposed in the future.



### IMPORTANCE OF URBAN AESTHETICS



Urban aesthetics enhance identity, pride, and well-being. They attract tourists, drive economy, foster community, and inspire innovation while contributing to sustainability, health, and city resilience.

AR. RUCHIRA PATKAR ASST PROF.

Beauty is an experience that a user perceives and responds to a subject's representational qualities. As one of the subfields of philosophy, aesthetics is devoted to the study and theory of this experience of the nature and expression of beauty. Aesthetics act as a judgmental abstract segment that resets the definitive standards of normalcy. Urban aesthetics is one of the major principles of architecture and urban studies that concerns beauty or appreciation of beauty behind a pleasing appearance or experience of urban elements. It can be referred to as beautiful and functional discipline in the order of the urban design elements which forms an image of a city. Their adoption into the urban space allows a new dimension of organized distinctions into the city environment.

A city's primary purpose is to house and sustain the activities of a certain population. While some cities worldwide are designed with a planning perspective and a vision, most have experienced organic, uncontrolled haphazard urban development. People in such cities are subjected to a mechanical way of living in a rigid built environment. This urban environment lacks art, visual attractiveness, vibrant ambiance, and in overall, a sense of urban aesthetics. It is important to understand that a place does not exist only physically but also in peoples' minds as memories. Even though the perception of urban aesthetics is subjective to each user, they together work in developing a sense of belongingness for the urban citizen towards the city.

The role of urban aesthetics is to make this identity more intriguing, by bringing about a certain experience and evoking emotions, associations and mental impressions. It is important to identify factors and processes that contribute to the better awareness of urban elements, understanding their individual



Art Deco building and EROS cinema - Source: Sandra Cohen-Rose and Colin Rose for Flickr.com

characters and the particular ways in which they are organized and experienced. All these factors are collectively important and can have an effective, long-lasting impact on the user's perception. To give urban aesthetics justice will require engagement of learning experiences from the natural, physical and emotional dimensions of the city. It is necessary to develop initiatives to help people understand the importance of aesthetically built environment.

A conscious effort towards stronger promotion and implementation of the best aesthetic practices in the urban planning field would provide the citizens constantly with satisfactory and sensory experience not only through their built environment, but also the living environment.



Installations in isolation struggle to create the desired impact- Source: change.org



## SUSTAINABILITY PRACITCE



Contemporary architecture prioritizes environmental consciousness to address global challenges. Sustainable materials, green roofs, and energy-efficient systems contribute to eco-friendly designs, fostering a sustainable future.

**GAYATRI PRABHUNE** FIRST YEAR (B.ARCH)



**VEDANT PARSEKAR** FIRST YEAR (B.ARCH)



Environmental consciousness has become animportant factor in contemporary architecture. The world is facing a significant environmental crisis, and it is imperative for architects and building developers to take action. The construction industry is a major contributor to global greenhouse gas emissions and other environmental problems, so adopting environmentally conscious practices in the design and construction of buildings is crucial. In this report, we will examine some of the practical solutions that can be adopted to promote environment consciousness in contemporary architectural projects.

Torre Reforma (Mexico City)

Torre Reforma is a 56-story skyscraper located in Mexico City. The building is designed to be environmentally conscious, with features such as double glazed windows, high-efficiency air conditioning, and a rainwater collection system. The building also incorporates a green wall, which provides insulation, reduces heat gain, and improves air quality. Additionally, the building features a rooftop garden, which helps to reduce the heat island effect and provides a green space for employees and visitors.



ACROS Fukuoka Prefectural International Hall (Fukuoka, Japan)

The ACROS Fukuoka Prefectural International Hall is a unique and environmentally conscious building located in Fukuoka, Japan. The building features a terraced design, which provides ample green space, and a green roof, which helps to reduce heat gain and improve air quality. The building also incorporates a rainwater collection system and energy-efficient heating and cooling systems. Additionally, the building has been designed to allow for natural ventilation, reducing the need for air conditioning and heating.

Suzlon One Earth (Pune, India)

Suzlon One Earth is a sustainable building located in Pune, India. The building features a rainwater collection system, energy-efficient lighting, and a green roof. The building also incorporates a solar panel system, which provides a significant portion of the building's energy needs. Additionally, the building has been designed to allow for natural ventilation, reducing the need for air conditioning and heating.

Pixel Building (Melbourne, Australia)

The Pixel Building is a unique and environmentally conscious building located in Melbourne, Australia. The building features a façade made from recycled materials, a rainwater collection system, and a green roof. The building also incorporates a solar panel system, which provides a

significant portion of the building's energy needs. Additionally, the building has been designed to allow for natural ventilation, reducing the need for air conditioning and heating.

Adopting environmental consciousness in architecture has a significant impact on architectural trends. For example, the use of sustainable materials, such as bamboo, recycled steel, and recycled concrete, is becoming increasingly popular. Additionally, the use of green roofs, rainwater harvesting systems, and solar panel systems is becoming more widespread. As a result, architects and designers are becoming more conscious of the environmental impact of their projects and are working to create buildings that are more environmentally friendly.

In conclusion, there are numerous practical solutions that can be adopted to promote environment consciousness in contemporary architectural projects. The examples discussed in this report, Torre Reforma, ACROS Fukuoka Prefectural International Hall, Suzlon One Earth, and Pixel Building, demonstrate some of the environmentally conscious features that can be incorporated into contemporary architectural projects. By adopting these solutions, architects and building developers can help to reduce the environmental impact of the construction industry and contribute to a more sustainable future.



# PATHBREAKING

### ARCHITECTURAL STARTUPS



**ADITI NAYAK**FIRST YEAR (B.ARCH)



SAIRAJ MORE FIRST YEAR (B.ARCH)

The world of architecture is constantly evolving and startups and entrepreneurial projects are leading the way in shaping its future.

Two of the most innovative and influential firms in this space are Sanjay Puri Architects and Space Matters Architects. These firms are at the forefront of some of the most exciting trends in architecture today.

Sanjay Puri Architects, based in Mumbai, India, is a firm that is pushing the boundaries of sustainable design. The company is known for its innovative use of materials and technology, and its commitment to creating buildings that are environmentally responsible.

One of the firm's most notable projects is the Lotus Temple in New Delhi, which was designed to resemble a blooming lotus flower and is powered entirely by renewable energy sources.









Space Matters Architects, based in Mumbai, India, is another example of a company that is leading the way in innovative design. The firm is known for its use of modular construction techniques, which allow for faster and more cost-effective building processes.

One of the firm's most impressive projects is the Modscape office building in Mumbai, which was constructed using prefabricated modular units and was completed in just six months.

Both of these firms are examples of the types of startups that are shaping the future of architecture. They are using technology, sustainability, modular construction techniques to create buildings that are not only aesthetically pleasing, but also environmentally responsible and cost-effective. These trends are likely to continue to gain momentum as more startups enter the field and push the boundaries of what is possible in architecture.

In conclusion, the world of architecture is in a state of rapid transformation, and startups and entrepreneurial projects are at the forefront of this change.

Firms like Sanjay Puri Architects and Space Matters Architects are leading the way with innovative designs that are setting new standards for sustainability, cost-effectiveness, and technology in the field of architecture.

These companies and the trends they embody are poised to shape the future of architecture for years to come.



### NEW ADMINISTRATIVE CAPITAL,

**EGYPT** 



**BHUMIKA MALI** SECOND YEAR (B.ARCH)

The New Administrative Capital (NAC) of Egypt is a planned city that is currently under construction, located about 45 kilometers (28 miles) east of Cairo.

The city is being built on about 712 square kilometers (275 square miles) and is planned to have a population of around 6.5 million people.

The NAC is designed to be a modern, sustainable city that will serve as the new administrative and business center of Egypt.

One of the main features of the NAC is its emphasis on sustainable design and green spaces. The city will have large parks and green areas, as well as a network of bike paths and walking trails. The city's buildings will also be designed to be energy-efficient and use renewable energy sourc-

es. It will also feature several iconic buildings, including a new presidential palace, a new parliament building, and a new administrative complex for government agencies. The city will also include several commercial and business districts, with modern office buildings and shopping centers.

The NAC also plans to have several cultural and recreational facilities, including museums, theaters, and sports venues. The city will also include several educational institutions, universities, and research centers.

The construction began in 2015, and the first phase of the project is expected to be completed in 2022. This phase will include the completion of the first residential neighborhoods, as well as the new presidential palace and the new parliament building.

The New Administrative Capital is an ambitious project that is designed to address the growing population and economic needs of Egypt. With its focus on sustainability, modern design, and a wide range of amenities, the city is expected to become a major center of government, business, and culture in the region.

SOME NOTABLE BUILDINGS IN (NAC)

Al-Fattah Al-Aleem is a mega-mosque, the largest of its kind in Egypt.

Capital Park (also known as Green River) is an

urban park planned to extend along the entirety of the new capital, representing the Nile river. It is expected to be 35 kilometers (22 mi) long, aiming to be double the size of New York's Central Park.

The Octagon (State's Strategic Leadership Centre) is Egypt's new Ministry of Defense headquarters. The complex is considered the largest of its kind in the Middle East and one of the largest in the world, much like The Pentagon in the United States of America.



Al-Fattah Al-Aleem, a mega mosque



The Octagon (State's Strategic Leadership Centre)



Capital Park (also known as Green River)



### DOWNTOWN CIRCLE, DUBAI



**BHUMIKA MALI** SECOND YEAR (B.ARCH)

In Dubai, experimental architecture firm ZNera Space has proposed a conceptual design featuring a massive five-story circular structure wrapped around the world's tallest skyscraper, the Burj Khalifa.

The development features a mix of residential, commercial, and retail spaces, all centered around a large circular public plaza. The concept, known as Downtown Circle, weds community, luxury, and futuristic urban planning in a wildly ambitious design, which has been brought to life by a series of mesmerizing illustrations created in collaboration with Pictown.

This company specializes in architectural renderings.

The structure, intended to perch 550 meters (1,804 feet) above street level, would have a circumference of more than three kilometers (1.8 miles). The ring would be supported by five huge

pillars with their bases located in empty plots that could potentially serve an additional purpose.

The focal point of the development is the circular plaza, surrounded by a series of tall, modern buildings. The plaza itself is designed to be a vibrant public space, with plenty of seating, land-scaping, and public art installations. The buildings surrounding the plaza are also designed to be visually striking, with clean lines and a minimalist aesthetic that emphasizes the circular theme of the development.

One of the key design elements of Downtown Circle is its emphasis on sustainability.

The development incorporates several environmentally friendly features, such as energy-efficient lighting and building systems, and the use of solar power to generate electricity.

In Dubai, temperatures often exceed 40 degrees Celsius, and the architects want their design to set a new benchmark for sustainability in the region. The entire ceiling will be a stretch of solar panels.

What they also want to do is implement a technology that they have already used in a previous project, solar hydrogen cells.

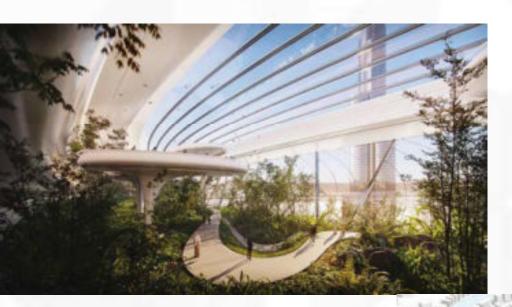
The concept also proposes transportation options from one end to the other including an electric tramsystem that could reach speeds of 100 kilometers (62 miles) per hour and infrastructure to accommodate sky taxis.

Different natural scenarios and climates are recreated inside the continuous Skypark, forecasting a life journey for the visitors and residents. They can experience the canyons, sandy dunes, and plants from various floras. Swamps, waterfalls, tropical

vegetation or digital caves, cascades, fruit trees, and flowers of different hues and species together enrich the green ecosystem.

The concept is a potential answer to the global search for new, mixed urban typologies, which combine high densities and lavish greenery, dynamic urban functions, and a high-quality user experience, as a means of doing justice to the demand for both climate protection and environmental excellence. As a green lung, the Skypark seeks to replenish the air with oxygen and intends to incorporate a series of activities and research centers.

The Skypark is integrated with offices, research zones, culture, science, and education and this spatial hybrid forms a new type of contemporary symbol for the city: a green and natural landmark – a refreshing and exciting stage for people to interact, experience, and learn in contact with nature.



# FABRICIN

### ARCHITECTURE



It's not just fabric.

MANSI NAR SECOND YEAR (B.ARCH)

Fabric has been used in architecture for as long as history allows. In nomadic societies, humans have lived using fabric architecture from the beginning; it is light, easy to convert, and easy to dismantle. It gives one a sense of protection; for example, an umbrella protects you from rain and ultraviolet rays, and curtains protect your privacy and from harsh sunlight. Bed sheet tents that we used to build in our childhood make us feel comfortable and safe.

It even serves as a sustainable architectural element. Global issues of overpopulation, loss of natural habitat, carbon emissions, and pollution of all kinds today point us toward environmental sustainability, and many architects and designers agree that fabric structures play an important role in creating an eco-friendly future. Fabric structures, permanent and temporary, large and small, are rising across the globe.



Fabric In Residential Architecture Explored Using Midjourney

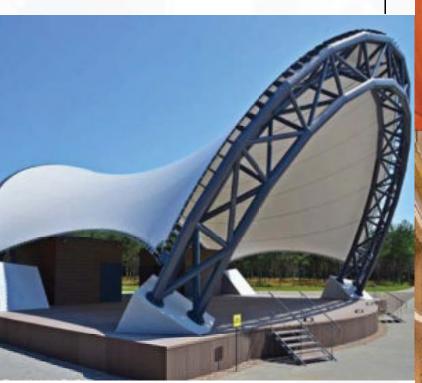
They are used not only on the outside but also on the inside. I read this earlier somewhere: "One of the reasons I have always loved fabrics in architecture is the idea that we could dress our buildings in a seasonal rotation," "We do this ourselves, why not our buildings?" Using fabric in the interiors, we can dress up the space according to the season, our mood, or the colour we wish for.

Walls can be constructed of sheer fabric, creating a veil. The aesthetic appeal of flipping the interior and exterior fabric architecture is very strong. Its flexible characteristics are not achievable using steel, glass, or concrete. Because most fabric membranes are translucent, the spaces enclosed within them remain bright. Daylight penetrates right through it and lights up the space. If the fabric is of a certain color, the daylight entering the room through it will illuminate the space in that color. The

atmosphere created by fabric is cozy, delightful, and comfy.

It has a specific character of fluidity that allows the movement dialogue of space. It is reflected in the design of flexible and adaptive spaces in architecture. They are used in installations because of their lightweight and flexible properties. Even sculptures are made through fabric.

The use of fabric in permanent architecture is increasing. One should experience living in a house where walls are replaced with fabric with plenty of daylight pouring in keeping the room warm.



Amphitheater In Stężyca - Spatial High-Tension Membrane



Colorful Fabric Sun Shade Suspended From Exterior Walls

# INDOOR DECO

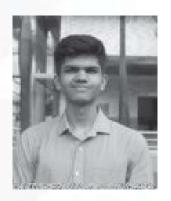
#### STYLING BOMBAY'S

MODERN INTERIORS (1920-1940)



SAHIL SABHARANJAK THIRD YEAR (B.ARCH)

Owing to its proximity to the sea, the city of Bombay has been an open canvas of exploration and expression. Various architectural styles have been expressed in this port town, of which one stands out not only as an architectural style, but a holistic design trend, popularly known as Art Deco.



HARDIK VEPARI THIRD YEAR (B.ARCH)



Images by : Roli Books from the book 'Bombay Art Deco Architecture: A Visual Journey, 1930-53' by Navin Ramani

Art Deco is an abbreviation of Arts Decoratifs which emerged in the 1925 International Exhibition of Modern Decorative and Industrial Arts which was held in Paris. The Indian Institute of Architects played a major role in introducing this style to Bombay in the early 1930s when it arranged a 12-day exhibition named 'Ideal Home Exhibition', which attracted thousands of visitors. The exhibition brought in ideas that focused on Interior decoration which included furniture, finishes, colors and some electrical and electronic products.

Since Bombay was under colonial rule, it had a mixed population of British royals, wealthy Indian businessmen, elite class people and largely working middle class. They started experimenting with interiors as well as in the construction of structures. The early 1930s saw the construction of buildings of a new style that followed Art Deco features in buildings. These included geometric patterns and motifs on the façade, using curved exposed balconies cantilevered from the exterior.

These curves were not only for the façade, they continued into the interiors, dictating the internal layout and shapes of the furniture utilized in the space. The furniture was primarily made out of rich teak and expensive wood. The main features of Art Deco furniture are symmetrical, neat, rectilinear lines. Modern machinery and materials are combined with



rounded fronts, wood and steel furniture, chrome hardware and glass tops. Soft colors were dominantly used like bright and deep yellow, red, green, blue and pink.

The most famous Art Deco furniture and accessories were chairs, tables, lamps, vases, mirrors, frames and clocks. The furniture had muted colors, shiny metal accents, eccentric large shapes and polished finishes but intricate detailing was missing in this style. Further loud paintings, larger-than-life human sculptures, decorative lighting or chandeliers, gold carving borders, floral prints fabric, and leopard or zebra skin in velvet and leather material were also used for making furniture.

Art Deco style added glamour and luxury to the interiors and order to shapes. The famous examples of such buildings in Mumbai are Eros Cinema, Churchgate; Soona Mahal, Marine Drive; Rajjab Mahal, Oval Maidan.



# INTERIOR DESIGN

#### **BEYOND IMAGINATION**



RAJUL GODA THIRD YEAR (B.VOC)

Interior design is the art and science of enhancing the interior of a building to achieve a healthier and more aesthetically pleasing environment for the people using the space. While traditional interior design ideas often focus on practicality and functionality, there is no limit to the imagination when it comes to creating unique and innovative spaces.

Utilizing unusual materials and textures is one approach to push the limits of interior design. For instance, to create a distinctive aesthetic, think about using materials like wood paneling, brick, or even cloth in place of conventional paint or wallpaper. When combined with more conventional components, these materials can give a room depth and character for a unified, yet diverse, appearance.

The use of unusual colour schemes is another technique to encourage creativity in home design. Bold flashes of colour may liven up a room and make it feel more vibrant and dynamic, whereas neutral hues are frequently employed as a safe choice. To create a sense of movement

in the room, employ a gradient of colours or a monochromatic colour scheme, in which all the colours in the space are variations of a single hue.

Incorporating sustainable and eco-friendly elements into interior design is also a trend that is gaining popularity. This not only helps to reduce the environmental impact of a space, but it can also add a unique and modern touch. For example, using reclaimed or recycled materials for furniture and decor, or incorporating plants and greenery into the design can create a sense of connection to nature and bring a fresh, calming vibe to the space.





The way we approach interior design is also changing due to technology. Smart home technologies, including programmable lighting and thermostats, can enhance a space's functionality and efficiency while also giving it a futuristic, high-tech vibe. Virtual and augmented reality are also increasingly being used in the design process, giving designers the ability to imagine a space before it is even built.

One of the most exciting aspects of interior design is the opportunity to think outside the box and create spaces that are truly unique and imaginative. Whether it's through the use of unexpected materials, bold color choices, sustainable elements, or cutting-edge technology, there are endless possibilities for creating spaces that go beyond the ordinary and inspire creativity and innovation.



# DEMYSTIFYING THE ARCHITECTURE

OF ARCHITECT DANIEL LIBESKIND



**DISHA SALHOTRA**FIFTH YEAR (B.ARCH)

"It's not the material that makes architecture" - Ar. Daniel Libeskind

Architect Daniel Libeskind has been labelled amongst the Deconstructivist Architects to the likes of Zaha Hadid, and others.

However, Architecture of Daniel doesn't represent any stylization or pattern, it is an ideological pedagogy that sets itself in the emotion of the site, program and culture.

Daniel Libeskind studied architecture at Cooper Union for the advancement of science and art, under the great architect John Hejduk.

His architecture was often criticized for weird geometric shapes and dynamism of form.

Many labelled him as deconstructivist. It was the path breaking project of Jewish Museum that set the stage for his architectural practice.

In the Jewish Museum, he takes the visitor through a journey that starts from underground as an experience of going throughthe darkness holocaust and finally to emerge with the vision of future. The zig-zag shaped museum breaks the conventional stereo type offering the visitor,



Architect Daniel Libeskind

varied experiences.

It is one of the pioneering architectural projects that deals with experiential architecture. The building is a journey to be experienced and gives goosebumps to its visitors. The highest form of impact

architecture can have on its user is to give an emotional experience that comes straight from the spirit behind the building.



Architect Daniel Libeskind

In most of his projects Daniel Libeskind believes in interaction with the site and narratives that connect with history of the place. His projects are not traditional in term so ornamentation, design, or material palettes. However, it is designed to capture the essence of culture through artistic and experiential narration.

If for Le Corbusier 'Architect is an Acrobat' that balances all the architectural objectives and function to create meaningful piece of art, then for Daniel Libeskind "Architect is a visionary, a saint, a spiritually evolved being' that can hear the other voices from the site and visualize beyond that eyes can observe.

The experience of space, light, sound, texture, color, material and form communicates and interacts with the user a story. Architecture of Daniel Libeskind is sequence of frozen moments in time, and poetically he calls it "frozen

music". For Daniel Architecture is no different than producing music, note by note.

Once the ideas are figured in the mind the process of Architectural manifestation for Daniel Libeskind is an extensive play of doodling, scribbling and layering the various visions to drawings. He believes in working extensively on the drawing board, sketching, drawing ideas, deriving meanings. The manifestation of the project as an execution project is an outcome of art, architecture and engineering put to action.

# IMPACT OF DIGITIZATION

#### ON CONSTRUCTION & TECHNOLOGY



Climate change has increased the obligation on infrastructure to operate, specifically in the context of building systems integration.

Architecture and construction are being challenged to produce structures that are smarter, more sustainable, and positioned to avert the catastrophes of tomorrow's climate in an era where infrastructural planning must be readjusted and building rules must adapt for dynamically altering settings.

AR. PURVI KAKKAD
VICE PRINCIPAL

Climate change is inevitable, Smarter, and sustainable industry for architecture and construction are mandatory it is challenge to position in such manner that prevent disasters for tomorrow's climate in a period where building rules and infrastructure planning must accommodate climate challenges altering dynamic setting is best option for industry. Given the current availability of significant breakthroughs in consumer technology that can assess physical well-being through pulse rate analysis or diagnostics generation, IoT data will play a crucial role for buildings.

This year embodies a strong sense of hopefulness and the potential for new beginnings and

experiences. Nevertheless, as a weary world contemplates the promises the future might hold after years of struggle, it becomes clear that we are seeking predictability more than ever. Throughout generations, design trends have been embraced as both aesthetic and functional tools to achieve inner calm. This leads us to ponder: What can we anticipate amidst the multitude of designs available? Analysts predict the rise of an embracing, earthy color palette dominated by browns, reminiscent of materials like leather. Additionally, this year introduces the groundbreaking concept of a virtual community taking on a substantial role in our daily lives in the form of AI (Artificial Intelligence).



TECLA, 3D Printed Habitat\_@WASP and Mario Cuccinelli Architects

Brought to the forefront by the pandemic, the persistent one of the serious issues is urbanizing housing crisis. The evident trajectory reveals that property prices have risen exponentially worldwide, worsening risky living standards, while climate variation remains a lasting threat. Consequently, professional creators have had to scrutinize substitute elements, innovations, and solutions for housing developments that are more sustainable and cost-effective, without compromising design in these unpredictable times. Technologies are sought after by structures, homeowners, and communities to aid in auditing and analyzing performance, estimating and avoiding glitches, and successfully designing cleverer structures and towns for the future. An architectural and design trend to be explored and repeated upon is Prefabrication, which symbolizes the Future of Mass Housing and New Ty-

pologies.

This technology has not only been utilized for extravagant and elaborate structures but has also undergone rigorous testing within the housing industry. In fact, numerous 3D-printed residential buildings have been successfully completed using a range of materials. Keeping these advantageous applications in perspective, the advancement of digital visualization through tools like BIM and renderings has played a pivotal role in evolving the process for printing. By precisely modeling structure systems with all their layers and dimensions, it becomes possible to enhance understanding of how components integrate and interact. This, in turn, paves the way for a smarter and more innovative design approach.



3D-printed concrete house in the Netherlands by Houben / Van Mierlo Architects\_©WASP and Bart van Overbeeke

# BAMBOO KINGDOM

#### **EXPLORING THE UNEXPLORED**



We are living in a city where you look out of your window only to see a concrete jungle. We get inspired by forms of the building, glazing styles and polished facades but it is really unfortunate that we only notice Bamboo as a scaffolding material. Following are some fact checks as far as Bamboo as a material is concerned.

**AR. ATUL PHOUJDAR**ASST PROF.



AR. ARIMITA ROY ASSO. PROF.

windows.



Bamboo scaffolding on construction sites

#### Creative Usage of Bamboo

Bamboo can replace timber frames appropriate to function. Mat shutters fixed to bamboo frames or bamboo boards can be used as a door.

Small frame to the top of the wall can serve as

Bamboo as a material has a very interesting appearance because of its texture and color.

With its unique appearance, Bamboo can create an interesting ambience within the spaces. This way Bamboo can replace the

conventional and repeated look of plastered and painted walls. Use of Bamboo can also help in organizing wall oriented electrical services. By splitting one can get halved canes, strips and battens which can further be processed according to the use. Up to the age of 18 months, the canes can be peeled. The strips can be used as ties or be woven to make strings and ropes. Bamboo when freshly cut can be bent by heating which remains in the shape after drying. It changes the shape when heated beyond 150 degrees and keeps the shape after cooling.



Bamboo used in doors and windows

Bamboo as wall partitions

Roofs not only offer protection against extreme weather conditions, but also provide shelter and usable space under the canopy. The use of Bamboo in roofs can consist of purlins, rafters and trusses. Soffits of Bamboo roofs also create an exciting effect. Various joineries come into the picture when roofs are made of Bamboo which can be explored separately covering study areas like ties between the members, cane mats and so on.



Bamboo as a roofing material

researchers question have been exploring is whether bamboo has the mechanical properties needed for use as a structural building material. Due to some advantageous characteristics of bamboo, studies have been conducted in the last few years on whether bamboo can be used as reinforcement in RCC. Tropical bamboos are generally better in quality than temperate bamboos. Moosa Guadua. Dendrocalamus and Bambusa are few of such breeds which can be used for construction purposes.

Bamboo is an overall environment friendly material, a renewable resource which helps to reduce dependency on non-renewable resources. It is a sustainable building material with low embodied energy as it requires very less energy to nurture and can be used for various interior and exterior purposes.

Strengthening local level institutions and government schemes can proliferate use of bam-



Bamboo reinforcement in plinth beams

### INNOVATIVE SUSTAINABLE

#### CONSTRUCTION MATERIAL



Sustainability in future construction is one of the most important things to be looked upon as the construction industry contributes nearly 40% of global Green House Emissions (GHG), according to Architecture 2030.

**ER. KHUSHBU PARMAR**ASST PROF.

Sustainability in future construction is one of the most important things to be looked upon as the construction industry contributes nearly 40% of global Green House Emissions (GHG), according to Architecture 2030.

When conversations turn to the future of construction, sustainability invariably takes center stage. The construction industry stands as a major contributor to greenhouse gas emissions (GHG), accounting for a significant portion. Oc-

cupied buildings alone are accountable for nearly 40% of worldwide GHG emissions, as reported by Architecture 2030.

As we have the only planet we can live on, endorsing sustainability will serve us and the future generation. Experts in the construction industry have already started using sustainable construction materials. Bendable Concrete is one of the sustainable construction materials.

Bendable Concrete, recognized as Engineered





Cementitious Composite (ECC), boasts heightened flexural strength, capable of enduring bending forces. In contrast, conventional concrete exhibits brittleness, rendering it susceptible to cracking. Notably, Bendable Concrete showcases an impressive 500-fold increase in crack resistance and superior shock absorption capabilities.

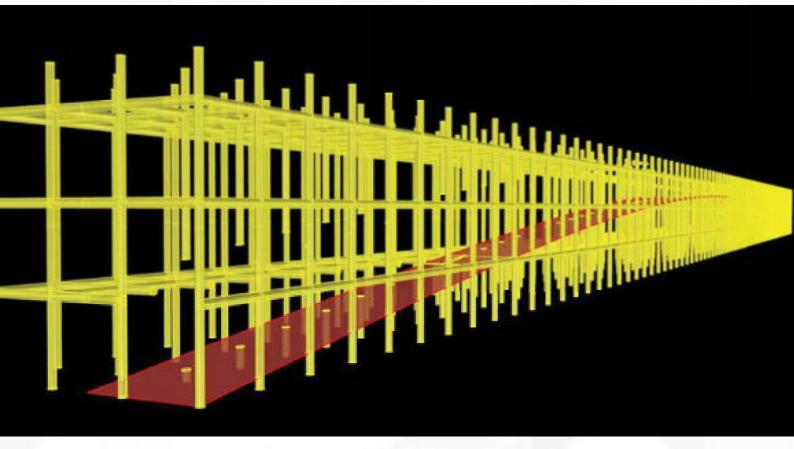
Bendable concrete consists of the same ingredients as that of conventional concrete. In addition to conventional ingredients, small, polymer-derived fibres are added. These make them more durable ductile & flexible.

Bendable concrete emerges as a more sustainable option due to its capability to integrate carbon dioxide. This infusion imparts strength to the concrete while necessitating less cement, thus contributing to reduced carbon emissions. The ductility inherent in ECC also contributes to diminishing the financial and environmental expenditures associated with construction. Unlike conventional concrete that is prone to breakage and demands frequent repairs and maintenance, bendable concrete showcases enhanced durability, effectively withstanding greater pressure. This resilience translates to reduced expenses for repairs and maintenance, thereby enabling

builders to save time, resources, and curtail carbon emissions.

In collaboration with the Michigan Department of Transportation in the US, a demonstration project featuring Engineered Cementitious Composite (ECC) was accomplished in the summer of 2005 on the Grove Street Bridge spanning I-94 in Ypsilanti, MI. The ECC link, with a substantial thickness of v mm, measured 5.5 m by 20.25 m. The construction process involved utilizing 25.5 m3 of ECC, conveniently transported on-site through standard ready-mix concrete trucks from a nearby batching plant.

Presently, almost 16 years since the installation of this ECC link slab, its performance has remained constant, exhibiting minimal indications of typical wear. Continued long-term performance monitoring, coupled with additional demonstration experience, underscores the potential of ECC link slabs as viable substitutes for conventional expansion joints. This transition could lead to a marked reduction in maintenance requirements for bridge decks.



# COALESCE

#### HIGHLIGHTING THE EXISTING FUTURE



We stand at a junction in the history of humankind where we select attributes like sustainability and innovation to be optional, rather than being the obvious 'to have' in the process of design and construction. Nevertheless, elements of material development are moving towards the digital fabrication ideology. In this process, we tend to stand at a confused turning point which questions the existence of the actions of DIGITAL FABRICATION and VERNACULAR together.

#### AR. ANUBHAV MALHOTRA

ASST PROF.

This text largely tries to highlight the question of the dual existence of both ideas in a coordinated manner.

Concrete as a material has been extensively used (apart from its structural properties) for the sheer fact that it saves immense time and is partly factory produced, hence the idea is to generate an effort to add these qualities to

materials that are naturally available, sustainable in nature and also keeping their aesthetic value in mind.

In direct words, the idea is to use mud as the printing material (filament) from a 3D printer and bamboo will be explored by generating its joineries from 3D printing machines. This collaboration allows for the design's holistic growth of all desired factors. Partially available in the market, this idea like many others needs to be advertised and utilized on a larger scale for a

successful intervention.

The idea is to **COALESCE** to build.

The program and spatial placements are left for multiple options based on the specific activities to be conducted in that area, achieving flexibility in all phenomena possible.



#### Guidelines to Build

- 1. Utilize the passageway/pedestrian path for building a bridge to connect both ends
- 2. Bridge allows movement from under and above, to not harm the existing program, function

and the fabric of the site.

- 3. Allow programs to be flexible for each annual year could have a different set of requirements
- also different/same spaces can be explored in multiple aspects.
- 4. The BAMBOO structure is to be built as a mesh for the bridge to be executed.
- 5. Layer of MUD to be 3D printed over the bamboo mesh according to the required program and functionality of space.



Note: Special references directly shown as the concept revolves around the idea of advertisement existing for a better future.



Self - Healing Process of Concrete

### SELF-HEALING CONCRETE



YASEER SHAIKH FIRST YEAR (B.ARCH)

Hendrik Jonkers, A Dutch Scientist, and Microbiologist has invented self-healing concrete, a product that, despite its higher initial cost, could save money and work in the long run. Self-healing concrete is a type of concrete that is able to repair cracks and damage on its own, without the need for human intervention. This technology has the potential to significantly extend the lifespan of concrete structures, as well as reduce maintenance costs.

There are several different methods for incorporating self-healing properties into concrete. One common method involves adding microcapsules to the concrete mix. These microcapsules contain a healing agent, such as bacteria or a chemical compound, that is activated when the concrete cracks. As the cracks open and close due to temperature changes or stress, the microcapsules break and release the healing agent, which then fills and seals the cracks.

Another method for creating self-healing concrete involves the use of bacteria that are able to produce calcite, a mineral found in limestone. When the concrete cracks, the bacteria are activated and begin to produce

calcite, which fills and seals the cracks.

There are several benefits to using self-healing concrete. One of the main benefits is its ability to extend the lifespan of concrete structures. Concrete is prone to cracking over time due to a variety of factors, such as temperature changes, water infiltration, and wear and tear. These cracks can weaken the structure and lead to further damage if left unrepaired. With self healing concrete, however, the cracks are automatically sealed and repaired, which helps to prevent further deterioration of the structure.

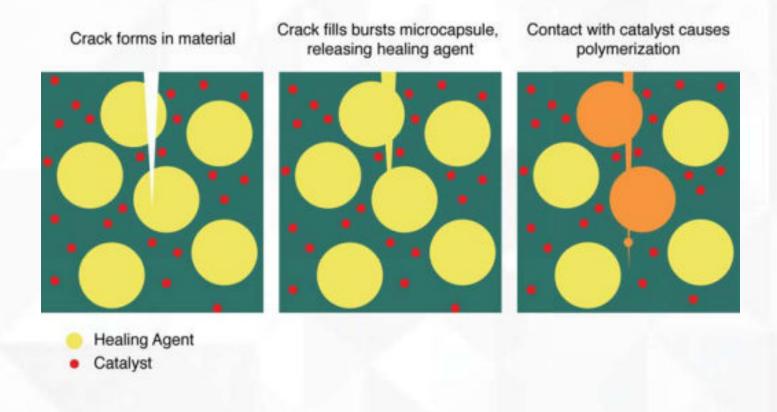
Self-healing concrete also has the potential to reduce maintenance costs. Traditional concrete

repair methods can be time-consuming and costly, as they require specialized labor and materials. With self-healing concrete, the repair process is automated, which can significantly reduce the cost and effort required to maintain concrete structures.

In addition, self-healing concrete is a sustainable solution, as it reduces the need for traditional concrete repair methods that can be damaging to the environment. For example, traditional repair methods often involve the use of cement, which is a major contributor to greenhouse gas emissions. By using self-healing concrete, we can reduce our reliance on cement and help to mitigate the impact of concrete production on the environment.

Overall, self-healing concrete is a promising technology that has the potential to significantly

improve the durability and lifespan of concrete structures. It is a sustainable and cost-effective solution that can help to reduce the need for traditional concrete repair methods, and it has the potential to revolutionize the way we think about the construction and maintenance of concrete structures.



Micro-encapsulated Materials - Self-Healing Matrix



# SAMRUDDHI MAHAMARG



#### DRIVING DEVELOPMENT FORWARD

Transport weighs significantly for the Growth and Development of the Nation. A construction is considered successful if it follows the three E's: EASY, ECONOMIC & EFFICIENT

**AARYASIDHI KINI** FIRST YEAR (B.ARCH)

Who wouldn't want to travel to their favorite destinations in half the time than before? How can one cover the same journey path in lesser time?

The answer to this question is simply by Samruddhi Mahamarg. It is one such practical execution which is easy, economic and efficient initiated by the government of India to meet the demands of a comfortable travel journey.

According to this scheme, Major Maharashtra cities, Mumbai and Nagpur are annexed to ensure a lucid road transportation. Known as Mumbai - Nagpur Expressway runs through 392 villages covering 10 districts lessening the time to 7 hours journey between two cities.

This Mahamarg routes map include 50 flyovers, 5 tunnels, 300 vehicular underpass and 400 pedestrian underpasses.

Samruddhi Mahamarg have two phases for development:

**PHASE ONE**: Road 210 km connecting Nagpur to Shelu Bazaar in the Washim district.

**PHASE TWO**: Road from Shelu Bazaar to Shirdi. The Expressway is likely to be functionally operative by mid-2023.

The Mahamarg is inspired by New Australian Tunneling Method. The cost of this project is around Rs. 50,000 crore, while Rs. 25000 is to be spent for land acquisition of the Expressway.

The 701 km Expressway project have also aimed for better infrastructural development which will include functional public toilets, hygienic eateries, fuel stations and also keeping in mind functional CCTV, sign board and speed limits.

The key thing in this project aims to provide the land share to farmers and support their livelihood. It will also lead to employment opportunities for the local population and promote tourism. The construction of the expressway will create job opportunities for skilled and unskilled workers and will also provide business opportunities for local entrepreneurs.

Also taking into consideration Green India Campaign to increase the forest cover , The plantation of trees is to be held in large numbers making the project a great success and perfect in all terms.

#### Maharashtra Prosperity Corridor: North-South Connectivity to the Expressway







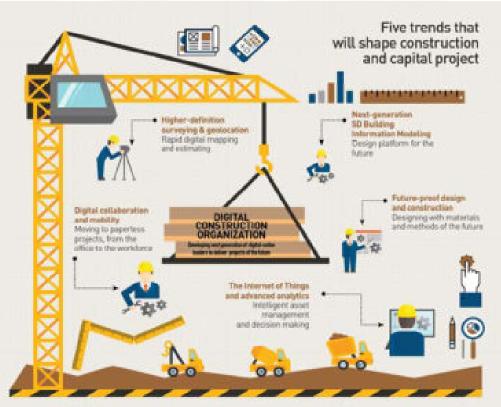


impossible to produce.

Additionally, the use of prefabricated and modular building materials has significantly reduced the construction time and costs, while ensuring quality and durability and also makes the other person understand clearly ,also there are no chances of error in the design.

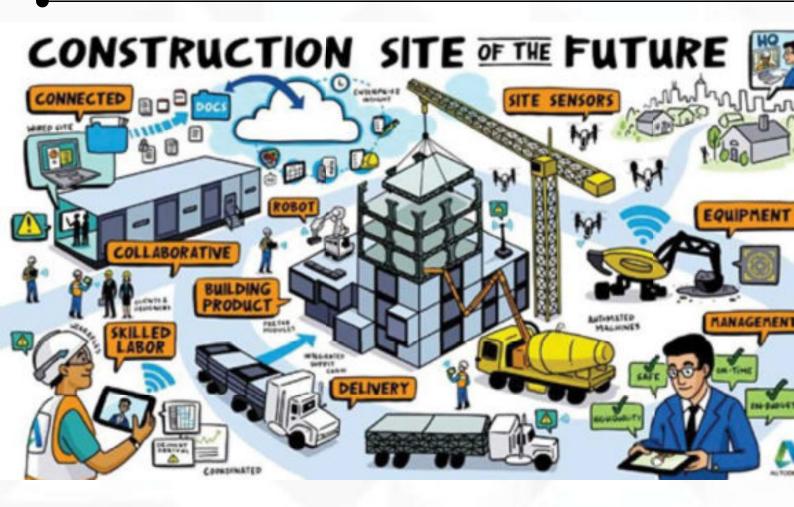
The rise of sustainable building practices has also been driven by technology and innovation. The use of energy-efficient materials and smart building technologies has allowed the construction industry to reduce its carbon footprint, while still providing comfortable and cost-effective living and working spaces.

In conclusion of the above topic, digitization, innovation, and technology have played a critical role in shaping the construction and building materials industry over a period of time. With the growing demand for smarter and more sustainable buildings, it's expected that the impact of these





Visualization of 3D Spaces through AR/VR



# REVOLUTIONIZING CONSTRUCTION



Digitization has had a significant impact on the construction and building materials industries. The use of technology has led to increased efficiency and productivity as well as improved communication and collaboration among project stakeholders.

ARYAA KHANVILKAR SECOND YEAR

Building Information Modeling (BIM) is one example of a technology that has revolutionised the industry. BIM is a digital representation of a building's physical and functional characteristics, allowing architects, engineers, and construction professionals to collaborate and plan projects more effectively. It also enables more accurate cost and schedule estimates, as well as improved

safety and sustainability outcomes.

Innovation in construction materials has also been driven by technology. For example, 3D printing has and building components, and advanced materials such as engineered wood and cross-laminated timber are being used in place of traditional materials like steel and concrete.

Smart materials and building systems, such as self-healing concrete and energy-efficient insulation, are also being developed to improve the sustainability and longevity of buildings.

Digitization has also made it possible for construction teams to access and share information more easily, resulting in improved coordination, better communication, and faster project completion times. It has not only made it possible to use new safety technologies like wearable devices that warn workers of potential dangers on construction sites, but it has also made it easier for construction teams to work together from different places, saving time and money by cutting down on the need to travel.

With digital tools, it is easier to measure, track, and analyse data, leading to fewer errors and improved accuracy in the construction process. They have made it easier to manage construction projects, including scheduling, budgeting, and resource allocation. The use of digital tools has also facilitated the adoption of sustainable building practices, such as energy-efficient designs and the use of

renewable materials. Digitization has enabled the use of innovative safety technologies, such as wearable devices that alert workers to potential hazards on construction sites. It has facilitated remote collaboration, making it possible for construction teams to work together from different locations, reducing the need for travel and saving time and resources.

In conclusion, digitization, innovation and technology have had a transformative impact on the construction and building materials industry. The use of digital tools and advanced materials has greatly improved the efficiency and productivity of the construction process, leading to faster project completion times and more accurate cost and schedule estimates. The use of technology has also improved communication and collaboration among project stakeholders and has facilitated the adoption of sustainable building practices. With its many benefits, it is clear that the continued development and integration of technology in the construction and building materials industry will play a critical role in shaping its future.



## UNFINISHED VISION

#### THE EVOLVING SAGRADA FAMILIA

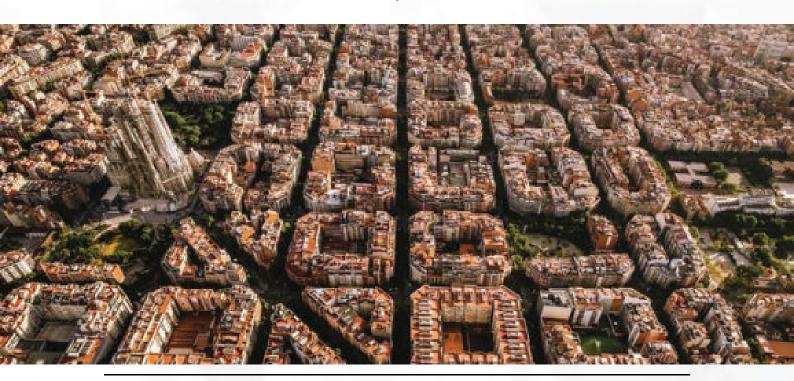


Gaudi's Sagrada Familia, a Barcelona masterpiece, blends nature-inspired designs with innovative engineering. Despite setbacks, modern technology continues construction, showcasing Gaudi's enduring architectural brilliance.

**AGRATA JAISWAR** SECOND YEAR (B.ARCH)

Nestled in the rigid streets of Barcelona, Spain, Sagrada Familia, designed by the renowned Architect, Antoni Gaudi was inaugurated for construction in 1882. Gaudi himself once said, "Originality consists of going back to the origins", and that he did. These complex intertwining parabolic forms are so complex that his magnum opus, the Sagrada Familia, a building which began construction over 135 years ago, is still under construction. He said to make the mega project combining Gothic & Art Nouvelle architecture. Instead of defying the laws of nature, he understood the impact of nature on structural intergrity of the building allowing physics & nature to

dictate his designs. Columns mimicking trees & skeletons, arches bearing rib cages, seashell inspired stairways, spires emulating crystals & ceilings that rival forest canopies for natural beauty. Gaudi pursued a simple concept to guide his replication of nature through his designs. Material strengths was a major challenge faced where the material- Montjuic stone, a type of sandstone was strongest in compression alone, having it to be kept in compression at all times. For this, Gaudi first started drawing footprint of the basilica, next he attached anchor points where he wanted the columns to be constructed by adding strings & weights. This model was used



to inform his design work. Gaudi devoted his life to this project, thereby rejecting any additional projects. He made his home inside the Sagrada Familia workshop. He neglected his personal apperance & became a dishelved reculse. On June 10th , 1926, disaster struck, Gaudi expired, leaving behind his marvelous masterpiece less than a quarter complete.

On the outbreak of the Spanish Civil War in 1936, the anarcists destroyed the only existing models of Gaudi's designs which made the construction process even harder as designing from the shattered models was beyond expectation. Although, the architects & engineers put on a

steady foot forward by using surface texturing & CNC machines. The use of high tech equipments & modern technologies increased the construction rate.

The building has undoubtedly diverged from Gaudi's original designs. The difference between the varied stones, weathering & materials that took up the mantle, are particularly noticeable. Even though the Architects could never have finished it exactly like Gaudi had visioned, I would say, undoubtedly, that Gaudi would be proud to see his creation finally coming close.



# **FUTURISTIC**



#### MEGA INFRAPROJECTS OF MMR

The Mumbai Metropolitan Region is set to witness a revolutionary leap in connectivity with futuristic megaprojects, seamlessly linking distant areas and unlocking the true potential of the region's transportation network.

YASH SHETTY SECOND YEAR (B.ARCH)

#### 1) THANE-BORIVALI TUNNEL

Distance from Borivali to Thane: 24KM

PROPOSED LENGTH OF TUNNEL: 11.84KM TUNNEL DEPTH BELOW SURFACE: 23M COST: Rs 1,3200 Cr

**STARTING POINT OF TUNNEL:** Next to Tikuji-Ni-Wadi, Manpada, THANE WEST

**ENDING POINT OF TUNNEL:** Ekta Nagar, Magathane, BORIVALI EAST

If a person wants to travel from Borivali to Thane then there is only one road that is Ghodbunder Road which takes more than 1Hr 15mins to travel Ghodbunder Road connects western MMR to Eastern MMR like Mumbai, Mira Bhayander, Vasai Virar to Thane because of which it causes Extreme traffic jam .As you can see in the map SANJAY GANDHI NATIONAL PARK (SGNP) is located just at the centre of Borivali and Thane because of which construction of road will disturb the flora and fauna of SGNP.

Therefore MUMBAI METROPOLITAN RE-GIONAL DEVELOPMENT AUTHORITY (MMR-DA) decided to plan tunnel just below the SAN-JAY GANDHI NATIONAL PARK (SGNP) which will not disturb the Flora and Fauna

The BORIVALI-THANE TUNNEL will reduce the travel time from 1hr 15mins to just 15 mins which will simultaneously reduce the pollution

Constructing a tunnel is a very challenging part. In the start MMRDA decide to construct the tunnel by Drilling and Blasting method

But Forest Department didn't give permission to MMRDA to construct the tunnel by drilling and blasting method because of which it will disturb the

Flora and Fauna of SGNP. Therefore at the end MMRDA decided to construct the tunnel with the help of TUNNEL BORING MACHINE (TBM) Tunnel Boring Machine is a machine that excavate tunnels in a single operation without disturbing and affecting anyone above the ground level

It has a rotating head with cutting parts and runs on hydraulic or electric motors, though its power supply is 100% electric TBM bore through the hard rock, wet or dry soil or sand below the ground level A water is constantly flushes out from the cutting head of the TBM to make the soil wet and loose so that it

can be crushed easily. TBM can be transported to site with help of trailer. Skilled labours can only operate TBM. To construct the THANE-BORIVA-LITUNNEL there will be two TBM operational in each of the tunnel. Because the THANE-BORIVALITUNNEL will be constructed with the help of TBM the construction work will be completed faster.

#### **CONSTRUCTION METHOD**

#### 2) MUMBAI COASTAL ROAD

Proposed Plan By: BRIHANMUMBAI MUNCIPAL CORPORATION (BMC) INTERCHANGES

Phase 1: Princess street flyover (Marine Drive) – Bandra Worli Sea Link

Phase 2: Bandra Worli Sea Link - Kandivali

Length: 29.2 km

Status: Under construction (Phase 1) Existed: November 2023 (Phase 1)

#### **MAJOR JUNCTIONS**

South end Marine Lines North end Kandivali

Construction Company Contract: LARSEN &

**TOUBRO** 

#### **USE OF COASTAL ROAD**

If a person wants to travel from South Mumbai to North Mumbai through road then there is only one way that is WESTERN EXPRESS HIGHWAY (WEH). WESTERN EXPRESS HIGHWAY (WEH) is the most crucial road in Mumbai Metropolitan Region (MMR) witnesses average traffic congestion of around 4.39 lakh passenger car unit (PCU) per day as a result of Extreme traffic congestion. If a person travels during peak hours from Mahim

to Kandivali, it will take 1hr 10 mins for just 22Km, while Coastal Road will reduce the time from 1hr 10 mins to just 25 mins. Therefore to ease the traffic load of WESTERN EXPRESS HIGH-WAY, BMC planned to develop Mumbai Coastal Road which will help Western Suburb and South Mumbaikar's for faster transport. While the average speed on Mumbai's roads is around 20–21 kmph. On the Mumbai Coastal Road, it is estimated to be around 75 kmph for cars

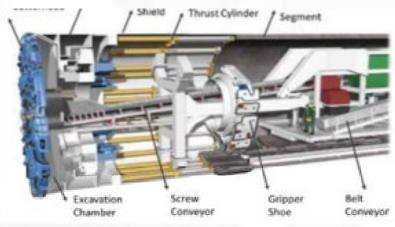
#### **DESIGN**

For 9.98 km (Phase 1) Coastal Road, BMC will Reclaim 90 Ha of area in Arabian sea

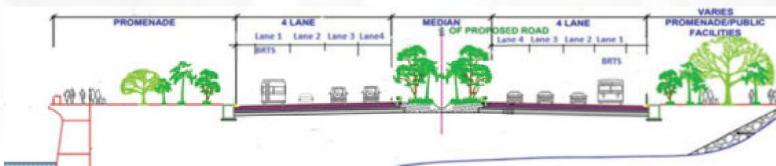
From which 70 Ha will have Green Space. In coastal road there will be 2 Promenade, 6 lanes for vehicle, 2 lanes for (BRT) Bus Rapid Transit which will be only for GOVT Public buses.

#### **INTERCHANGES**

The Coastal Road continues north on reclaimed land and a small sea link connects it with the Worli end of the Bandra-Worli Sea Link. This Coastal Road will also include interchanges at Haji Ali, Breach Candy, Amarsons Garden, Worli, and Bandra. A underpass will be constructed just below the coastal road which will not affect the existing pedestrian road in Arabian Sea going towards HAJI-ALI DARGAH.







## DRIVING PROGRESS

#### TECHNOLOGY AND INNOVATION



Innovation is a broad term that can encompass many processes and ideas. A new invention is a new technology that is being developed using new methods or concepts. Other ways to describe innovation include modifying existing technology, and the application of science and technology to new applications and fields.

ANUSHKA GUPTA FIRST YEAR (B.VOC)



**LITIKA SHAH** FIRST YEAR (B.VOC)



The impact of technology is all around us. From the rise of smart cities to the prevalence of self-driving cars, the world has changed a lot in the past few years. We rely on technology to improve our lives.

Technology plays an important role in today's society. It has positive and negative effects on the world and it impacts everyday life. It affects the way people communicate, learn and think. It helps society and determines how people interact with each other on a daily basis. Technology has increased our connectivity with others. On the other hand, our digital life can erode our sense of self and our ability to

understand others.

Technological innovation is also helping in terms of jobs and economic growth. It's estimated that the world economy could be more than double in size by 2050, due to technology-driven improvements.

The good news is that society as a whole is ready to embrace new technologies. It's a given fact of life really, that as technology changes, society will need to adapt. The senior generation is no exception, with 69% of seniors feeling confident that they will be able to keep up with future innovations in technology.

#### TECHNOLOGY INNOVATION

#### **Technology Innovation Cycle**



Finally, challenges such as sustainability and environmental change require innovative solutions. This will continue into the future. New greener technology solutions such as environmentally-friendly cars, solar power, and green-based products certainly help and will offer more advantages in the future, there is still more to be done, which is where innovation steps in.

We can easily conclude that technology is really important for the survival of humans in society but at the same time, it has so many harmful effects on the human being that lives in that society.

It is the technology that is shaping our society. It can make our life better and it can become a threat to our life too. The results that appear are as per the way we are using it. Our use makes technology favourable or awful.

# UNDERSTANDING ANTHROPOLOGY



AS A HUMAN SCIENCE AND ITS IMPORTANCE

Anthropology / Anthropological study is a very vast arena of debate & discussion. It's a study of Humans & Humanities, which may include Human Societies around the World and revolving around Time - past & the present.

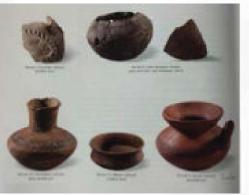
AR. RAJESH PARMAR ASSO PROF

This presentation is going to be a brief review of Human Settlements & linguistic study through tangible & intangible research. It shall highlight the development of Art & Architecture and its relationship to human life through case studies. And this, anonymously, has followed the SDG goals for centuries, which the modern world has realized and formalized, only at the start of the last century.

The Literal meaning can be interpreted as the study of what makes us human, that of human

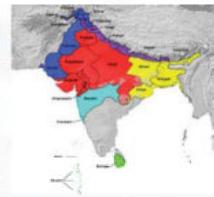
societies and cultures and their development, the origin and development of human societies and cultures. Culture is the learned behavior of people, including their languages, belief systems, social structures, institutions, and material goods.

There are many parameters of Classifying Anthropology, here we can take the following into consideration - Archaeology, Bio anthropology, Linguistic Anthropology, Social-Cultural Anthropology.









Remarkable progress in material science and metallurgy, including atomistic basis of chemistry

It is the window into the unknown. Anthropology provides the answer to our questions about ourselves, our past, present and future. Anthropology helps to connect everyone from around the globe. The study helps us imagine and design futures that attend to human and environmental complexity.

Out of the numerous vistas of anthropology, the Scope of this article shall be confined to Linguistic Anthropology, the language or rather the dialect, from the past to the present, converse and the Past which is going on, to become a Past.

One can understand the highest evolutionary order, which is denoted by the only letter N in the English script, but has multiple letters for the same consonants or expressions in thescript. The Asian version got bifurcated into Two Major Zones - The Devnagri Lipi & the Dravidian version.

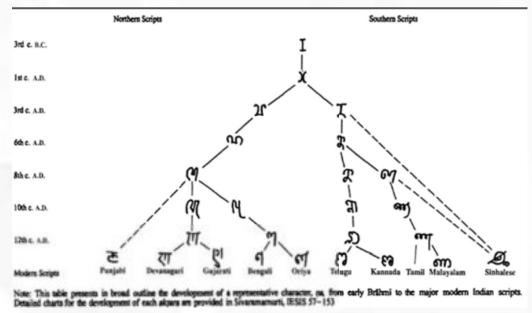
The Aryan version of numerals as compared to other foreign adversaries, gives a very comprehensive outlook.

One is trying to connect the anthropological connection by decoding and understanding the origin of the earliest recorded scripts or languages. A lot remains to explore though, this is just the tip of the iceberg.

#### The subjoined table will show the coincidences of the Aryan numerals.

i.	Sanskrit ekas	Greek	Latin	Lithuanian wienas	Gothic ains	
ii.	dvan	âria	duo	du	tvai	
iii.	trayas	TPELS	tres	trys	threis	
iv.	katvaros	τέτταρες	quatuor	keturi	fidvor	
		(Æolic, πισυρες.)	s.) (Oscan, petora.)			
v.	panka	πέντε	quinque	penki	fimf	
	-	(Oscan, pomtis.)				
vi.	shash	žĘ.	sex	szeszi	saihs	
vii.	sapla	erra	septem	septyni	sibun	
viii.	ashtan	διετώ	octo	asztůni	ahtau	
ix.	ната	lovia	novem	dewyni	niun	
x.	dasa	δέκα	decem	deszimt	taihun	
xi.	ekadasa	"e#86KB	undecim	wieno-lika	ain-lif	
xii.	dvadasa	бибеки	duodecim	dwi-lika	tva-lif	
xx.	vinsuit	EKOOL	viginti	dwi-deszimti	tvaitigjus	
c.	satam	έκατὸν	centum	szimtas	taihun-taihund	
m.	sahasram	χίλιοι	mille	tukstantis	thusundi	

The Aryan version of numerals gives a comprehensive outlook



The evolution of the letter "n" or "ana"

# POLICIES AND MISSIONS

### TOOLS FOR SUSTAINABLE DEVELOPMENT



**AR. ADITI SONTAKKE** ASSO. PROF.

The United Nations (UN) declared 17 Sustainable Development Goals (SDG 17) in the year 2015 and targeted to achieve them by 2030. These SDGs 17 are based on the humanitarian approach i.e. equitability, inclusivity, and participatory. To achieve these goals all 193 member states of the UN have agreed to work on these goals through policies and programs in their respective countries.

Policies, missions, and Schemes are the strategic approach for holistic development which leads to sustainability in terms of social requisites, economic progress, and environmental concerns with an inclusive, equitable, and participatory approach. These are formulated and implemented in every sector by the concerned ministries. Policies are on a much broader level to be followed for various programs, missions, and schemes initiated by public and private organizations.

#### **Policies**

Policies are the set of guidelines formulated by the governing bodies/ organizations for the well-being of the citizens, and stakeholders in a holistic way. These are the principles, and standards for individual, societal and national development with an idealistic approach. The objectives of policies are to achieve rational outcomes for the long term which will lead to sustainable development.

Public Policies are formulated by the Central Government, State Governments, and Local Governments in consultation with respective expertise, stakeholders, and actors with inclusive and participatory approaches. These policies are adopted by concerned governments/ departments for implementation with a strategic approach.

Policies cover the following:

- 1. Legal provisions
- 2. Institutional arrangements
- 3.. Generation of Database and Information system
- 4. Capacity building of all stakeholders
- 5. Resource mobilization (Financial, nonfinancial) Technical and other standards



#### **Missions**

Missions are time-bound programs with a approach to achieve holistic strategic development of the society and nation. The government of India has initiated several missions in various sectors: urban renewal and development, poverty alleviation, livelihood, protection and conservation of natural resources, and infrastructure development with technological and financial support, and capacity building of all the stakeholders of the mission.

Policies cover the following:

- 1. Legal support
- 2. Financial and Administrative Support
- 3. Technological Support
- 4. Capacity Building of the Stakeholders
- 5. Project Planning Tools
- 6. Project Management Tools
- 7. Social and Environmental Audits

#### The Way Forward

To achieve SDG 17 in a targeted time frame the Indian Government is working with a visionary outlook through policies and programs. They are effective and efficient tools for the holistic development of the nation: societal development. economic progress and environmental care. The success of these lies in good governance; the governance which accountable, transparent, responsive, equitable and inclusive, participatory, effective and efficient, follows the rules of law, and is consensus-oriented. In near future India will surely achieve the goals in all the domains of development.



# ENVIRONMENTAL CONSCIOUSNESS



BHAKTI R. GODAMBE ASSO. PROF

NEED TO CONSERVE THE STRESSED GREEN
COVERS OF MUMBAI CITY

Ecology is the study of the interactions between organisms and their living and non-living habitats. But in case of metropolis and developing areas, these natural ecologically rich zones remain as mere pockets interspersed with the dense city fabric and thus need to be especially protected in urban contexts.

Ecology is the study of the interactions between organisms and their living and non-living habitats

But in case of metropolis and developing areas, these natural ecologically rich zones remain as mere pockets interspersed with the dense city fabric and thus need to be especially protected in urban contexts.

Biodiversity significance and evaluation is not easy to define or quantify where development in any metropolis is required and inevitable.

The gap between supply and demand is ultimately fulfilled by using the natural environments for development due to growth of real estate as the pressures



The skewed Landscape of the city



Sanjay Gandhi National Park

Mumbai is blessed with a very unique setting as an island, with water soaking in the pollution and simultaneously moderating temperature, the single stretch of continuous green cover of the Sanjay Gandhi National Park, the Aarey Milk Colony and the Film City, located almost in the heart of the city, which ceaselessly filters the air and pumps in precious oxygen.

This stretch also houses the three fresh water lakes of the city and these crucial zones are under immense pressure, with the city sprawling, demanding more space, by



Aarey Milk Colony





Both, green zones and water bodies are finally invaluable to the city as sources of recreation and aesthetic sensitivity. They are a refuge from the noise, pollution and stressful grind of the city. The water bodies, forest and green hilly backdrops

are visual treats, a rejuvenating break from the monotony of built masses and busy crowds. If this kind of uncontrolled, short-sighted and haphazard urbanisation is allowed, it will be no time at all before the entire zone with its lakes and wetlands

Mumbai showing the Green zones along with the fresh water lakes

# RADICAL

## AND LOGICAL ARCHITECTURE



AR.DIPALI VADHAVKAR ASSO. PROF.

Since 2010, almost half of the architects to win the Pritzker Prize – the highest honour for architects internationally – have been Japanese. Let us look at what sets these architects apart from the rest of the world.



#### Tadao Ando

"I don't believe architecture has to speak too much. It should remain silent and let nature in the guise of sunlight and wind"

In 1969, Tadao Ando has won the Annual Prize of the Architectural Institute of Japan and, later after gaining international acceptance, the Pritzker Architecture Prize.

Church of Light, Water Temple, 4.4 house, Fabrica Research Centre

#### Kenzo Tange

"In architecture, the demand was no longer for box-like forms, but for buildings that have something to say to the human emotions."

In 1987, he became the first Japanese architect to earn the coveted Pritzker Architecture Prize. Tange was one of the most famous 20th-century architects.

St. Mary Cathedral, Shizuoka Tower, Tokyo Olympic Arena, Hiroshima Peace Memorial Park

#### Kisho Kurokawa

"One of my intentions with the design was to be fuzzy. Great art and architecture should be fuzzy."

Kurokawa was one of Japan's leading architects of the 20th century. He advocated a philosophical approach to understanding architecture.

Takara Beautillion, Toshiba IHI pavilion, Nakagin Capsule Tower.

#### Ito Toyo

"Architects have made architecture too complex. We need to simplify it and use a language that everyone can understand."

This Pritzker Prize laureate is well-known for his conceptual designs through which he attempts to connect both the physical and virtual worlds simultaneously.

Toyo Ito Museum of Architecture, Tama Art University Library, Mikimoto building

#### Shigeru Ban

"I'm not inventing anything new, I'm just using existing material differently."

He is known as 'People's architect,' the 2014 Pritzker Prize winner Shigeru Ban is a well-known ecological architect.

Cardboard Cathedral, Centre Pompidou-Metz, Naked House, Haesley Nine Bridges Golf Club House, Nomadic Museum

#### Sou Fujimoto

"My architecture thinking is to look for a combination between nature and architecture; and how they interact with people."

He established his own office, Sou Fujimoto Architects, in 2000, is noted for delicate light structures and permeable enclosures. In 2019, he was selected as one of 23 architects to "reinvent" Paris.

Musashino art university museum and library, Final wood house, Serpentine Pavilion 2013, L'Arbre blanc

#### Kengo Kuma

"Transparency is a characteristic of Japanese architecture; I try to use light and natural materials to get a new kind of transparency."

Kengo Kuma is regarded as one of the most important modern Japanese architects of the 21st century. Known for using wood as a material, he believes that it will become a key element in the 21st-century era of design.

The Exchange, Water/Glass, 2020 Tokyo Olympics, Suntory Museum of Art

#### Kazuyo Sejima

"As an architect, I feel it is part of our profession to use space as a medium to express our thoughts."

Sejima is the second woman to receive the Pritzker Prize in 2010. She has been part of the famous architectural firm SAANA.

De Kunstlinie Theatre and Cultural Centre, Rolex Learning Center







The inherent quality of respect for natural elements in contemporary Japanese Architecture sets it apart from the rest of the world. The innate use of light & transparency to beautify buildings, while retaining the value of the natural materials and creating harmonious spaces is commendable. Japanese architecture is logical in its execution bit radically inspiring. This architecture style draws one's attention through its conceptual purity, and spatial quality along

with its attention to detail and material usage. Contemporary Japanese Architecture efficiently amalgamates traditional elements such as sliding doors (fusama) and modular tatami floor mats and Zen gardens with western modern aesthetics and cutting edge technology. As expressed by Blaine Brownell in an essay about Japanese architecture, the essence of Japanese architecture is summarised in this statement. "In Japanese, one word for surprise is 'ihyou' (pro-

## HARNESSING NATURAL LIGHT

#### ILLUMINATING ARCHITECTURAL SPACES WITH JYOTIRGAMAYA



"Architecture appears for the first time when the sunlight hits a wall. The sunlight did not know what it was before it hit a wall."- By Louis Kahn.

AR. DHRUVIN SONI ASST PROF

In the realm of architecture, light is not just an accessory; it's an essential design element that can transform spaces, evoke emotions, and even tell stories. The concept of natural light holds a special place in architectural design, shaping environments that not only meet functional needs but also inspire and elevate the human experience. Drawing parallels with the Sanskrit phrase "Jyotirgamaya," which translates to "Lead me from darkness to light," this article explores how architects use natural light to create impactful and enlightened spaces.

The Essence of Natural Light in Architecture: Natural light has a profound impact on the ambiance of a space. Its dynamic qualities change throughout the day, casting different shadows and hues that affect the perception of form, texture, and depth. Architects recognize the importance of harnessing these qualities, using them to craft spaces that are engaging, comfortable, and visually stimulating.

Embracing the Jyotirgamaya Philosophy: "Jyotirgamaya" symbolizes a transition from obscurity to enlightenment. Architects can imbue this philosophy into their designs by focusing on



Padmanabhaswamy Temple: Where Architecture blend with light

the interplay of light and shadow. By thoughtfully incorporating natural light, they lead inhabitants from dimly lit areas to well-lit spaces, fostering a sense of progression and discovery within a building.

Creating Enlightened Spaces:

Architects today continue to draw inspiration from the "Jyotirgamaya" philosophy, harnessing the beauty and energy of natural light to guide inhabitants through spaces that evoke emotion, contemplation, and wonder. By strategically placing windows, skylights, and other apertures, architects can shape how light interacts with the built environment, creating environments that facilitate a sense of exploration and understanding.

In conclusion, the concept of "Jyotirgamaya" finds resonance in the realm of architecture through the thoughtful integration of natural light. Architects weave stories of transformation by leading inhabitants from darkness to light, crafting spaces that celebrate the beauty of illumination. Just as this philosophy seeks to inspire enlightenment, architects wield natural light as a tool to create spaces that uplift the human spirit, fostering a journey of discovery and connection within the built environment.





Natural light to shape the architecture of Ambara House, a sustainable home in Bengaluru

Stand anywhere in my office, you will be able to see the sky. (Ar Shailesh Devi Studio at Nashik)

## TRANSFORMATIVE TRENDS



Technology as it exists today is in a way one of the most unbiased and fair systems except for the fact that it divides via affordability, know-how and relation between the technology provider and the user.

AR. PRIYANKA CHURI ASST PROF.

In recent years, the architecture and construction industries have witnessed a fascinating array of innovative trends that are reshaping the urban landscape and redefining the way we design, build, and inhabit spaces. Four notable trends that have gained significant traction on a global scale include Biophilic Urbanism, 3D-Printed Designs, Modular Construction, and Adaptive Reuse Architecture.

Biophilic Urbanism stands at the intersection of urban planning and the natural world, promoting the integration of nature into urban environments. As cities grow denser, the inclusion of green spaces, vertical gardens, and sustainable landscaping has become crucial to enhance the well-being of residents. Biophilic design principles aim to reduce stress, improve air quality, and foster a sense of connectedness to nature within the urban fabric.

3D-Printed Designs have emerged as a revolutionary approach to construction, enabling the creation of complex and customized structures with unprecedented precision and speed. From small-scale prototypes to entire houses,



L & T, L&T sets new benchmark - Builds a 12-storey residential tower with 96 flats in just 96 days -July 29, 2022.

Ref: India's first 3D printed house by IIT-M- April 28, 2021 (Construction World)

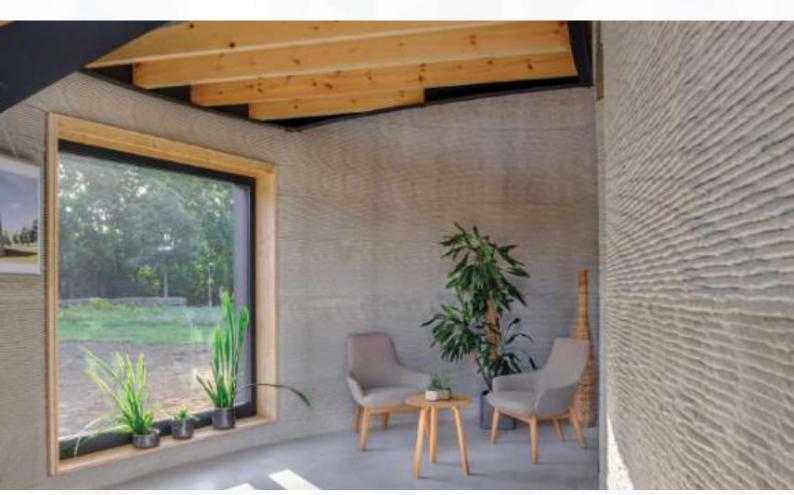
3D printing technology is challenging traditional construction methods by minimizing waste, reducing labor costs, and allowing architects to explore innovative shapes and forms.

Modular Construction has gained prominence as a solution to streamline the building process and address housing shortages. Modular units, constructed off-site in controlled environments, are assembled like building blocks on location. This approach offers efficiency, cost-effectiveness, and the flexibility to adapt designs to various contexts, from affordable housing to luxury developments.

Adaptive Reuse Architecture represents a sustainable approach to revitalizing existing structures by repurposing them for new functions. This trend aligns with a growing emphasis on pre-

serving cultural heritage and reducing construction waste. Abandoned factories, warehouses, and historic buildings are being transformed into vibrant community spaces, boutique hotels, or modern offices, breathing new life into urban landscapes.

These trends reflect a collective shift towards more sustainable, efficient, and people-centric approaches to architecture and construction. As the world grapples with urbanization, environmental challenges, and technological advancements, these trends exemplify the industry's adaptability and innovation in creating spaces that not only meet functional needs but also contribute positively to the well-being of society and the environment.



Two-storey home, Belgium, Kamp C

# AUTOMATION



Technology as it exists today is in a way one of the most unbiased and fair systems except for the fact that it divides via affordability, know-how and relation between the technology provider and the user.

**AR. SMIT GOGHARI** ASST PROF.

In turn, this leads to regulation usually by a panel which may or may not be necessarily be of tech enthusiast, but its true, technology needs to have a social obligation for which it is being propagated into.

Usually, though technology is what pushes the adoption and thus ultimately changing how society responds to it. Just look at electricity and how it has transformed our lives. Automation will probably do the same.

Simply put, automation is the act of executing a predefined function or functions at specified trigger.

Whenever the predefined trigger condition is met,

the task is executed, without intervention of human act. This amazing ability of pre-programmed execution makes automation a great system.

We already use automation, from the simple alarm clocks to water supply pumps to street lighting, all of them are great examples of how it can be efficient and how it frees us from the mundane. But usually most of these are mechanical or analog in nature and thus, defining a trigger or creating a trigger requires a physical attribute.

The current trend in automation is trying to change this.

Everyday, probably hundreds of phenomena are being coded so that they can be registered as a different



Control4 system, controlled by touch panel



Today, smart speakers/devices are already able to identify who is giving the command based on the voice profile and play accordingly. Home security, home cleaning, thermal and lighting ambiance are all in their nascent stage of being controlled via devices on the flick on an app in the phone.

Sometimes, all this can feel overwhelming, but so to speak to put any tiny effort in doing these seems futile. Humans, endeavors are all about of comfort and discoveries, or discoveries to make life more comfortable.

This is the crux of automation, giving you ease and making you reliant on service that makes you feel comfortable.

In future as the everything gets automated, it will become a subscription, then probably like a utility and something as common as a mobile or electricity bill.

The true advantage that automation give us is that it can ease our lives and reduce our physical interventions. Imagine you don't have to start the pump in the pump room but a flick on device will do it.

Now it will be up to us as to what we do with this additional freed time.



GE's Connected Appliances Work Directly With Google Assistant

# ARCHITECTURE

## BEYOND IMAGINATION AS A SPACE



Architecture's focus on unique forms often neglects functional, social spaces. Lefebvre's concept of space creation emphasizes intuitive, sustainable, community-building designs. Current trends prioritize imaginative, unbounded spaces fostering inclusivity, interaction, and connection.

AR. SHRADDHA KELJI ASST PROF.

Architecture is often recognised as the science to create functional built forms. The term 'functional built form' is now being reduced to the everyday term- 'Rooms', rooms are the compartments that divide the form in various functional spaces, rooms that follow particular geometry to serve to the best of its function, most often the square geometry consisting of four walls and the roof. Protruding ideas in the architecture make themselves stand out with their unusual forms, special construction technologies that they possess or the specific conceptual theme that they follow, architectural education however is also seen dominated by this ideology of creating forms or rooms that may stand out with any of the aspect given above, and hence sometimes the architectural innovations even after being unique and attractive, fail to contribute as a strong social space, the word 'space' being a very important factor here.

The Lefebvre argument over space production considers architecture to be a wide lens to create spaces that are not bound with the forms. It counts the space to be a social product that is formed with intuition, instinct and intellect. These spaces not only help in building the cities but they also help in building sustainable communities.

Field of Architecture, now a days is crowded with the terminologies associated with ideas beyond imagination such as-floating cities, Bio architecture, blobitecture, Biomimicry, space col-



Transitional spaces blur the boundaries between indoors and outdoors / Soori Bali

BLOBITECTURE The Sage Gateshead, Gateshead

onies etc. These ideas however are being most popular choices without understanding their application and feasibility to the environment & communities that we are designing for.

For example the Biomimicry is the recently coined term that analyses nature's best ideas and adapts them for human use, but the practitioners of Biomimicry tend to focus on creating new technologies but forget to also create them in sustainable way. Another example could be of blobitecture, where the buildings are rounded and curvy shapes, inspired from the organic forms of nature, however it is observed that the consumption of the space required to built the blob-form is humongous than the usable space, the large volumes are dominating the entire territory, also have an impact on social behaviour and overall spatial perception making the space visually uncomfortable, this is more likely to happen when the building is considered and designed to be an individual entity and not the part of architectural & environmental context in which, it is designed.

Recent trends of seeing architecture as a tool to create only built forms gives a boost to the need for thinking about designing the spaces rather than just the built spaces that fit-in the environmental social, communal and practical aspects & Hence as a designers, it makes us imagine spaces that might not have walls, roof, uniform levelled surfaces to walk upon & trendy furniture or decor to compliment themselves. These spaces might be fluid, natural-with the minimum human interventions, untreated and organic. The SPAC-ES can be imagined as platforms to perform activities, with the heights that serve to visual connections, light harvesting and ventilation. These SPACES Might not have openings as they allow the nature to flow within. The space designs lack of compartmentalisation rather they consist of transitional areas.

The ARCHITECTURAL SPACES therefore become a forum to break the conventional ideology of imagining spaces as walled or partitioned forms and promote the ideology of more inclusive, interactive and interconnected spaces.



Selfridges Building, Birmingham

Beijing National Stadium (Birds Nest), China

## ARTIFICIAL INTELLIGENCE

# AND ITS POTENTIAL IMPACT ON THE FIELD OF ARCHITECTURE



"Some people call this artificial intelligence, but the reality is this technology will enhance us. So instead of artificial intelligence, I think we'll augment our intelligence."

—Ginni Rometty

**AR. DANIEL D'SOUZA**ASST PROF.



AR. ESA SHAIKH ASST PROF.



Artificial intelligence (AI) is a field of computer science that focuses on the creation of intelligent machines that can perform tasks that normally require human intelligence, such as learning, problem-solving, decision-making, and adaptation.

#### The Potential Benefits of Using AI in Architecture

Improved design processes: Al algorithms can analyse data and generate design options based on user-defined constraints and preferences. This can help architects to save time and explore a wider range of design possibilities, leading to more innovative and efficient buildings.

Enhanced visualisation and communication: Al tools can generate 3D visualisations and simulations of building designs, helping architects to communicate their ideas more effectively and make informed design decisions.

Improved project management: Al-powered tools can help architects and contractors to monitor and optimise construction processes, reducing costs and improving project delivery. New forms of design: Al algorithms can generate novel design solutions that may not be possible for humans to create, enabling architects to explore new forms and styles of architecture. Generative design: One example of Al being used in architecture is through the development of generative design tools. Generative design algorithms can analyze user-defined constraints

Energy optimization: Al algorithms can be used to analyse building designs and predict their energy consumption, helping architects to

and preferences, and generate design options

based on this input.

#### **DALL-E**

DALL-E (pronounced "dolly") is a deep learning-based image generation model developed by OpenAl. It is trained to generate images from textual descriptions, using a dataset of text-image pairs. It is capable of generating a wide range of images, including photorealistic and highly stylized ones, and can generate images of objects and scenes that do not exist in the real world.









Keywords: Frank Lloyd Wright, Falling Water, architecture, modernist, house, natural, Pennsylvania, stream, waterfall, cantilever, organic, design.

#### Midjourney

As per their website, Midjourney is an independent research lab exploring new mediums of thought and expanding the imaginative powers of the human species. Midjourney allows for the generation of Keyword based images.



Prompts L - R: Cinematic Room, Church of Balloons (detailed), Falling Water Frank Lloyd Wright, Falling water + Zaha Hadid

#### Interior Al

InteriorAl generates an image using an uploaded image as a Base. It has a number of presets that considers different styles and attempts to apply those over the base image.







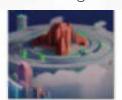


#### Blender Al

BlenderAl uses stable diffusion to create images based on the final render output and a text description to generate an image and variations. Stable Diffusion is a deep learning, text-to-image model released in 2022. It is primarily used to generate detailed images conditioned on text descriptions.

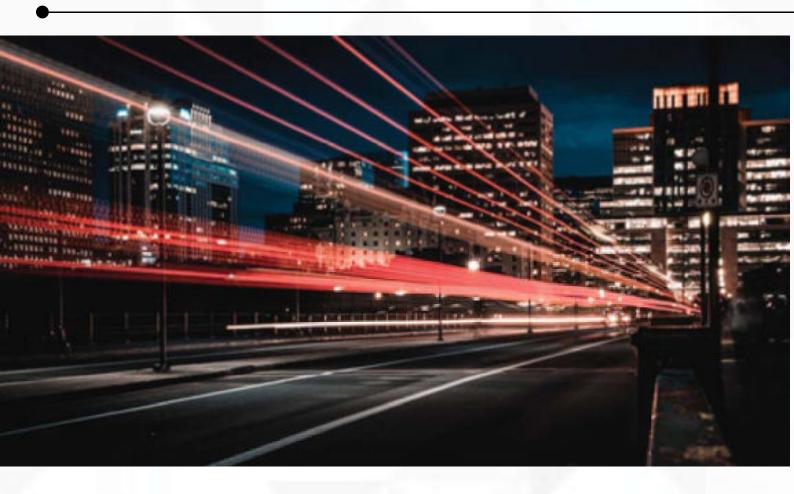








L - R: Blender Model, Variations generated using Stable Diffusion within Blender 3.2 (BlenderAI plugin)



# URBAN EVOLUTION

SMART, GREEN, HEALTHY



As humans keep getting more tech savvy, their lives and cities will keep evolving into being smarter. The ever growing urbanization will result in cities extending beyond their boundaries. With new possibilities come added despairs and hence requirement of new solutions.

AR. MITALI HARMALKAR ASST PROF.

#### CITIES WILL KEEP GETTING SMART-ER

As we recover from the COVID-19 pandemic, the health sector will evolve with advanced technologies. Smart solutions and systems will focus on not just the diagnosis and treatment but also in prevention and creating custom care for individuals.

The circular economy design is seen to be getting attention in the public transportation industry through use of low-carbon materials, encouraging smart public transport networks and shifting to remanufacturing and recycling materials.

Advanced connectivity, smart energy consumption and smart citizen involvement are said to be other areas to observe advancements.

#### **GREEN PLANNING AND URBANISM**

Green infrastructure, also known as green urbanism or planning is one of the prominent trends. It is the strategic design of multi-functional spaces within a city that delivers environmental benefits while also enhance quality of life.

Sustainable development and green building approaches are hence a need of the hour. Concepts like Biophilic Urbanism, eco-friendly districts and neighborhoods will remain trending and gain positive attention.

## BLUE ZONES AND HEALTHY COMMUNITIES

The concept of blue zones was born from the desire and need to help people live longer healthy lives. It's a human- centric approach to urban planning, with features such as creating walk able spaces for an active lifestyle, urban farming for plant- based diet, and so on.

Five "Blue Zones" have been identified, namely, Okinawa (Japan), Sardinia (Italy), Nicoya (Costa Rica), Icaria (Greece), and Loma Linda, California.

The rough duration all faced in the pandemic

has also proved how health should be nurtured through creating a stronger expanded healthcare system from smaller hubs to large hospitals.

#### **FUTURE IS MIXED-USE**

After living through lingering effects of the pandemic, areas that are mixed-use have been thriving. The benefits of living and working in multi or mixed-used districts and communities are being accepted by many. A mixed use area provides advantages like activated vibrant urban life, vibrant community spaces, balance between work, live and play aspects. Hence, many urban areas are predicted to take this approach in future development.

#### M FOR MOBILITY

The nature and character of mobility is constantly shifting within cities with addition of new layers and systems of transport networks. The need of improved inter-connected, seamless and larger mobility planning is being felt in urban areas. How people choose to travel within and between cities will affect and reflect many other factors to the likes to health and lifestyle.

Many such trends will keep emerging, so as to address climate change, natural resource depletion and various other issues that arise in cities and urban areas. There is a rising need to take a more regenerative and resilient approach



# TRANSFORMING ARCHITECTURE



EMBRACING SUSTAINABILITY AND INNOVATION

The world of architecture is changing, and it's changing fast. The standard model of the profession is being challenged by new ideas and concepts, and it's up to architects to embrace change, not resist it.

ASSHAD KHATRI SECOND YEAR

In the architectural industry, there are many trends and ideas that are currently being discussed. Some of these include renewable energy, sustainability and green architecture.

These are all topics that have been at the forefront of discussion for some time now and have led to significant developments in the architectural industry. Architecture has always been a creative field, but over the past few decades, this creativity has gone beyond the traditional bounds of design. As architects explore new ways to make buildings more comfortable for theirclients, they are also developing innovative concepts that can be used in other areas of design as well.

The recent trend in architecture is not only global but also localized. This can be seen in the way that the architectural industry is being shaped by the needs of local communities. In particular, the translation of architecture is evident in the work of architects who are working to address local needs and concerns.

The architectural industry is undergoing a renaissance, with recent trends suggesting that it is at the forefront of a global, and local, trend towards sustainability.

Regionalism is a trend that focuses on incorporating local cultural and historical elements into design, resulting in buildings that are unique to their location. This trend is a response to the globalization of architecture, which has resulted in a homogenization of design.



Localized Architecture

Regionalism is also a way to create architecture that is more sustainable and in tune with the local environment.

One key trend is the use of renewable energy in buildings. This has become increasingly popular over recent years as it has become cheaper to use this kind of energy than conventional forms.

It is also more environmentally friendly as it produces less pollution during its creation and use as well as during its disposal after its use has finished.

Another trend that has been gaining momentum over recent years is sustainability within architecture. This term refers to an approach whereby buildings are designed not only with an eye toward their aesthet-

ic appearance but also toward their environmental impact on surrounding areas such as forests, rivers, etc. It is therefore important that architects consider how their designs will impact these environments when designing them so that any negative effects can be avoided or minimized where possible.

In conclusion, these trends reflect the changing priorities and values of society, and the architecture industry is adapting to meet these new demands. Whether it be sustainability, technology, regionalism, flexibility, or nature, architects are constantly pushing the boundaries of what is possible and shaping the built environment for future generations.



Sustainable Architecture



# ARCHITECTURAL KALEIDOSCOPE MUMBAI'S HERITAGE



Mumbai's complex history is best reflected by its diverse architectures including the best of the Gothic Victorian, Indo-Saracenic & Contemporary Architectural Styles.

**OM SINGH** SECOND YEAR (B.ARCH)



Buildings also define a great history from the colonial eras, which is seen in Chatrapati Shivaji Terminus also back then known as Victoria Terminus. Also, Gateway of India built in the early 20th century was erected to celebrate the landing of King George V, the first British Monarch to

visit India.

One of the oldest and surviving buildings is Watson's Hotel located at Kala Ghoda. It was named after the owner John Watson, the building was constructed between 1867-69.

The design responded to the tropical environment by placing the access on external cantilevered walkways that surround the main facades, and incorporating a large light well behind.

first five star hotel in India and The Mumbai's most iconic landmark 'The Taj Mahal Palace', built in 1903 is a magnificent architecture that combines Moorish. Oriental. and Florentine Styles. It has many chandeliers, archways, domes and turrets. The Taj Mahal Palace was built by Jamshedji Tata and the designed original architects who structure was Sitaram Khanderao Vaidya, D.N. Mirza and the project was completed by an English engineer, W.A. Chambers.

Rajabai Clock Tower is one of the most

beautiful clock towers in South Mumbai. Modelled after the Big Ben in London, this tower stands at a height of 85mts with 25 storeys designed by Sir George Gilbert Scott, an English architect, and this tower was completed in 1878. The tower was built in a fusion of Venetian and Gothic styles. It is built out of the locally available buff coloured Kurla stone. The tower has one of the best stained glass windows in the city.

There were many famous architects during the colonial period of Victorian Era; Decimus Burton, Joseph Paxton, George Gilbert Scott, Augustus Pugin, etc. Designer of the Crystal Palace, Joseph Paxton, was a huge exponent in the use of iron frames in construction. Characteristics that can be found in most Victorian buildings: Steeply pitched roof.



# TRANSPORT

## THROUGH THE METROPOLITANS



It is estimated that by 2050, the world's 70% population will be living in cities. This evolution has been taking place since independence. We, as a country, have advanced ever since and survived the worst of circumstances. These development stages bring in urbanisation with it. Given the growth rate of India's population, the rapid urbanisation will present many challenges, one of them being - space crunch.

SONIA GAWDE THIRD YEAR (B.ARCH)

Infrastructure is needed to keep up with the population demands. Established cities must build, maintain and upgrade their existing systems to align themselves with development and population growth. Transport infrastructure is fundamental to our daily lives. Every class of people has access to it and major livelihood depends on it. The amount of load increasing is contrasted by a rather weak, crumbling and outdated transit system plagued by many other problems and factors like lack of space to expand in a less densely packed manner, almost zero planned development of areas which

developed later on, haywire growth, bottlenecks in roads, insufficient rail services and connectivity, extreme delays in execution of plans, rampant corruption, very high cost of land and execution and shoddy work by the agencies executing projects, big or small.

Everyday I observe a new development happening in the county. A road being constructed or a new metro line to be established. However, as a common man, it always boils down to - if this will affect the society on a huge scale pertaining to their living standards.





India's majority working class belongs to MIGs and have a massive control over the economy. Is the growth inviting economic development meant to have an impact on their daily commute?

Commute is the spine running through both of them. Without a proper network, it will create a vacuum that dampens urban growth. Current infra development focuses more on interlinking places within the city which see the greatest amount of flow of people between them and creating intermediate flow between two major modes of transit. Concentrating on public transport, rails have been making massive development in linking two cities. Rails help cover the distance between two cities fast and hassle free. Railways have proven to be a boon to the working class for their travel. Daily commute is made easy and affordable, inclining towards the average income lines throughout the country.

As a student when you decide to return to your home town, you prefer railways over any other mode of transport. Whichever part of the country you wish to travel, those long hour train journeys feel a safer option. Over the years, this system has grown extensively throughout the country. These developments will give industrialization a great boost, hence changing the urban scenarios.

Current government is focused on setting up -Make in India schemes. To uplift and support the many businesses next door and take them to international trades, India is fetching the market.

Transportation costs to be reduced and making quicker transport is the aim and initiatives are planned accordingly. The largest road networks are built in Maharashtra, specifically in Mumbai. The increasing market demands to be met seek for constant upgradation and innovation. The beneficiaries of which lie within the common people on a gradual scale. Urban stories are built daily by the people, for the people.

However, the direction these commutes are built on, aim for a progressive tomorrow.

# ARCHIVERSE



"Fantasy mirrors desires. Imagination Reshapes it" - Mason Cooley Imagine for a moment that you could erase all concepts of architecture as it already exists from your brain and replace them with designs you found fun and exciting.

Archiverse brings alive a world where illusion is reality.

**SONIA GAWDE** THIRD YEAR(B.ARCH)



**SOHAM BEDEKAR** THIRD YEAR(B.ARCH)



However fanciful and fantastical they may be, concept designs that aim to break free from the constraints of societal standards can help us wrap our minds around whole new ways of constructing the world around us.

As designers, we are bound to make statements and define zones. Living in a space where none of these boundaries are respected will make you yearn for a whole lot more creativity in real-world architecture.

ARCHIVERSE - The Multiverse of Architecture, is a parallel universe that makes you crave for defying the existing.

ARCHIVERSE is a conceptual world built based on impressionistic ideas about reality and existence. It is a space that escapes realism and pragmatism and is dedicated to exploring ideas that oftentimes can be neither adapted to the existing reality nor implemented.

Looking at our surroundings, we find solids to be the only proximity. But what if fluids did the talking? Fluids flow through an entire city, acting as shades and roofs, protecting us from rain. Paints being replaced by cement and bubbles being your joyride, all the way back home.

Imagine lying on the ground looking at a verse, painted by emotions and sentiments. You can control your own little space by owning up to your sensations. This will make you feel safe and respected in your space - well, that is our job as a designer.

The alternative world of the archiverse is constructed in the absence of limitations and standards. It is an experimental space that at times borders between dream and reality- made of illusions. It creates a universe around the fantasies and breaks them towards a perpetual existence that may vary from our world, especially when compared to our world, but make sense within the Archiverse.

On the contrary, a world full of imagination comes with no controlling forces. Reality proves itself time and again, especially to the questioners. It is fantasy that goes on without contradiction or having to prove itself.

Living in a world full of ifs and buts is fanciful, but with no limit in sight, you might as well invite an unprecedented tomorrow.

A tomorrow so beautiful, I crave my existence in reality.







## ARCHITECTURE AND FASHION

CUT FROM THE SAME CLOTH (?)



"Fashion is architecture: it is a matter of proportions."

— Coco Chanel

ROSHAN MATHEWS THIRD YEAR (B.ARCH)

Two art applications— one that inhabits you and one that you don on yourself. Their relationship is so simple yet fundamental in how they share the use of geometry, design principles, material trends and structural techniques to create various forms. The fashion and the architecture industry are hugely impacted by mass production, the latter being more permanent for being inhabitable than the former.

Architectural Fashion, also known as Wearable Architecture, is a style that is widely experimented on since the days of open expression of architectural works. Just like how materials such as glass, concrete or steel are utilized by architects to construct buildings, fashion designers who get inspired by

architecture use their materials to create wearable forms.

The Art Deco in the 1920s which was characterized by its symmetry and geometric shapes, often went hand in hand with smooth and glossy materials that resembled gold in appearance. The accompanying fashion style was the flapper girl style which was characterized by its androgynous silhouette. Outfits of this style were made faux silk and jersey. The Flapper Dress had its origins as early as 1915 when a young Coco Chanel, dropped her designs to below the waist and tied with a loose belt and created the drop waist look. Steel boned corsets were discarded. The overall silhouette along with the bead ornamentation in geometrical patterns reflected the architecture of Art Deco.

Zaha Hadid, the late architect, despite having a portfolio full of magnificent architecture also had a hand in bridging the architectural world and the fashion world. The handbag collaboration between Hadid and Fendi is a reminder of her iconic layering of construction materials, using layers of leather all over the bags.

At the Met Gala 2022, the co-host and actress, Blake Lively donned a shimmering copper gown, the front— wrapped by an oversized satin bow—was inspired by the Empire State Building. As the bow was released it transformed into an aged copper blue. Thus, paying homage to the transition over twenty to thirty years of the copper that makes the Statue of Liberty and the constellation decor on the train of the dress paying tribute to the constellation under the ceiling at the Grand Central Station. She also wore a sev-

en-tier crown that symbolized the patina of the Statue of Liberty.

Lively's intention was to look into New York City architecture and the Classic buildings instead of fashion to influence the outfit.

Two industries— fashion and architecture — continue to defy their real purpose which is practicality and simplicity. While doing this, they end up becoming the intersection between the humdrum of daily life and the animation of art. Although the connection between them was faint before, these days fashion designers are directly or indirectly inspired by the creative spirit of architects.







# SPACE ARCHITECTURE

## SHAPING OUR FUTURE



If you belong to Elon Musk's mindset and think humans have to become a multi-planetary species to survive, we are going to need a place to live and work there - in space - on another planet.

RAKHI VISHWAKARMA FOURTH YEAR (B.ARCH)



We're going to need somebody, a lot of somebodies, to build us houses and apartment buildings and offices and space Walmarts and modes of transportation to haul us between all those places. To do everything you do here on your home planet that is rapidly crumbling, you need to build a lot of places. We've had Starchitects. Now we've got Space Architects.

Since the inception of nuclear energy, dramatic advances in rocketry, and the desire to

send humans into space and the moon for the first time ushered in an era known as the "Space Age." After the end of World War II, the Soviet Union and the Allies were at odds with each other in a space race. This era gave way to rapid technological advancements and tremendous accomplishments including the moon landing in 1969. Space age aesthetics have had a dramatic impact on architecture and interiors, completely changing the way designers visualize new worlds - a new vision of futurism and prosperity.

#### So What is Space Architecture?

Space Architecture is the theory and practice of designing and building inhabited environments in outer space (it encompasses architectural design of living and working environments in space related facilities, habitats, and vehicles) These environments include, but are not limited to, spacecraft, stations, habitats, moons, planetary bases and infrastructure; and earth based control, experiment, launch, logistics, payload, simulation and test facilities.

Earth parallel to space applications may include Antarctic, airborne, desert, high altitude, underground, undersea environments and closed ecological systems. The design of these architectural styles presents specific challenges of ensuring and supporting safety, sustainability, habitability, reliability and efficiency, productivity, and crew comfort in extreme environments.



#### **Role Of Architects**

Space architects are tasked with designing edifice, habitation, offices, and bunch of other stuffs that humans need to survive. Find ways to get between them, both here and in space, such as an interstellar Walmart. All this is not in vain as earthbound architects tackle problems they never dreamed of. Don't need to dream about. Maybe I can't dream about.

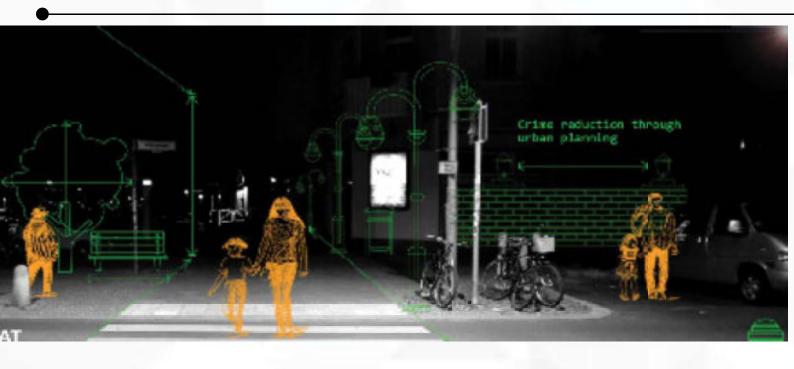
Rendering a space in space where our species can survive is perhaps the most audacious undertaking humankind has ever attempted. It must be what the possibility of flying to the moon, of human flight at all, must have felt like to Galileo. Meta-conceptually, architecture wreaths both art and science together. It deals with how we build and how we

live in the spaces we inhabit.

No library can be built without understanding how we move in the library, where the books go, and where the light shines. If our habitat is going to be outer space ahabitable space that humans have been learning about, up close, for at least 20 years then, we better start cracking the books.

Hope this does not intimidate the budding space architect, because we are going to need a lot of forward-thinkers to stand up. We have been on the International Space Station for 20 years and counting. We're exploring Mars and other deep-space outposts at this very moment. We can definitely soar towards the sky, literally.

Having trouble finding your new home among the stars? Space architects are on the job.



## URBAN INFRASTRUCTURE

### THE CRIME PERSPECTIVE



KHWAEESH DESAI FIFTH YEAR (B.ARCH)

With a majority of the world's population now living in cities and the rise in urbanization due to migration, better living opportunities, natural calamities, and more, urban infrastructure and planning have their own blind spots that are left unnoticed and become easy spots of breeding crime.

Be it potential victims to attack, large numbers of stores or homes to break into, questionable safety of women and minors, etc. The high rate of urbanization has coincided with an unwelcome increase in criminal activities in urban areas. As a result, several problems have emerged, including socioeconomic inequality, marginalization, and segregation. The advantages of this process appear to have been reduced significantly.

Since ancient times, cities and towns have always had a defensive purpose by building walls along

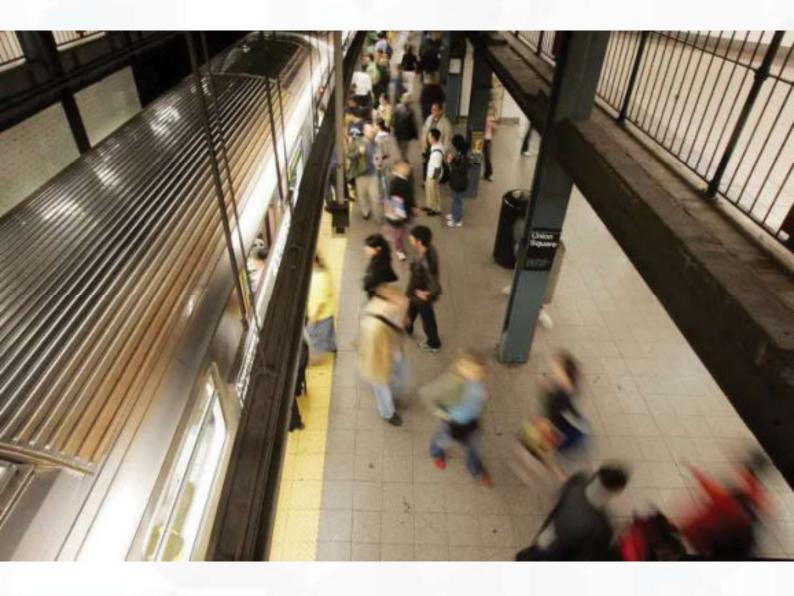
with moats. When the medieval walls fell, cities became more porous, benefiting mobility within and outside the city's extent. These two factors have boosted urbanization on the positive side but also have had negative impacts on the safety of these urban cities.

Crime is not something that can simply be 'designed out' - rather, it is the result of a complex interplay of social and environmental factors. With development, one wonders how to eliminate crime or at least reduce it to great extents through planning to keep in mind the

behavioral aspect of various users. Criminal activities tend to be obtuse in places where there is not enough lighting, in vacant lots, or in abandoned buildings. Also, in streets with difficult access, as well as in areas with little surveillance or with reduced visibility where it is easy to hide.

Improving the design and management of the urban built environment and landscape features are preventive actions that can help to reduce crime within an urban area. Architects, planners, and designers should keep in mind the behavorial aspect of the people and accordingly make modifications for a better living environment for all.

Urban planning and architecture are not the only ways to stop crimes from being committed in a city but it surely does act as a medium. Thoughtful and willful interventions in urban planning and design strategies that strengthen societies and individuals, make way for safer communities. But to eliminate urban crime and fear of crime post-well-designed and maintained urban infrastructure is also the behavior of an individual, reactions, and actions towards such crimes taking place is what will actually bring about the desired change.



# ANALYZING

### RESIDENTIAL FACES OF MUMBAI



Architecture is the knowledge that once gained, helps the architect to change the face of the earth.

It is the amalgamation of science and art. Hence said where there is art, there is perception.

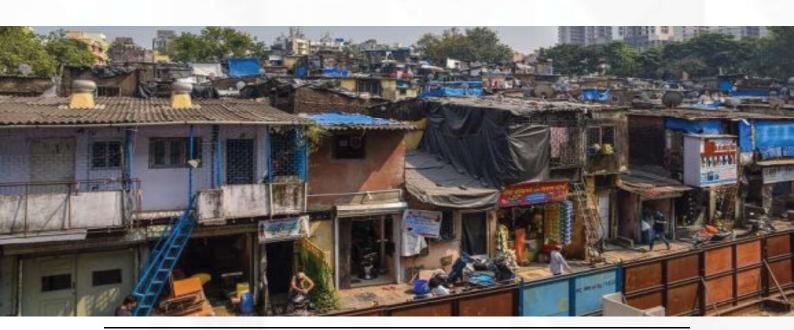
**ARYA TIPRE** FIFTH YEAR (B.ARCH)

Architecture forever faces perception of concept, ideology, imagery and even form thus rendering the architects through constant scrutiny even after their death. A similar kind of criticism is experienced by the architects of Mumbai daily. A city that has completely forsaken its sleep, has been a constant forum of competition and comparison of architectural design.

Contrary to the case of the Western world, it is the residential structure here rather than the commercial and institution to witness a myriad of compliments and criticism.

It is a common teatime discussion among families, neighbors, office colleagues, friends and even acquaintances on local trains relating to residential apartments meeting or not meeting the range of the requirements of their residents.

If an apartment has good amenities, it is not spacious enough, if the apartments are spacious enough, they do not provide good views from their balconies, if it has good views then it isn't ventilated enough, and the cycle of expectations goes on and on. The demands made on the other hand are not even unjust for one always wishes to enjoy a peaceful night after the agitating hardships of the day.



The proletariat however fails to understand the restrictions any architect faces while designing a residential structure. They are very much aware of the expectations to design a perfect residence but also need to abide by the regulations set by the urban planning authorities.

The residential architects moderate their design as per the insufficient FSI, meager height limitations and many other rules ending up just stacking up flats vertically like matchboxes and manicuring the structure's facade without giving regard to any of the previously mentioned basic expectations. In the end who is left to blame, one would say the urban planning authorities for enforcing these scanty and unmerited regulations, but will that be considered just?

Urban planning authorities have worked for decades to come up with better development plans for the city of Mumbai. Unfortunately, the inevitable changes that a metropolis faces every day ranging from the constant migration, increasing pace, transport advancement and never-ending demands have rendered an exorbitant amount of pressure on this reclaimed land.

Authorities hence are left with no other option but to mandate unthinkable rules on architecture firms and leave them helpless to design mediocre structures.

Thus, the question finally remains with the architecture firms to follow their dream design, abide by the norms set by the planning authorities or succumb to the endless demands of the populace, for all three to be possible still a dream, or is it? Only time shall tell...





# TECH DRIVEN

## ARCHITECTURAL MARVELS



In today's fast-paced technological era, architecture realizes once unthinkable ideas, exemplified by Dubai's Burj Khalifa and Palm Islands. Technology enhances design, enabling sustainable development in harmony with Earth.

SARATH NAIR SECOND YEAR (BVOC.)

lechnology a medium that has been vastly applied across various arenas that has led to materialization of the once unthinkable. Today in the Era of fast paced technological development, Architecture is such a field that has been milking the benefits of the same.

The once conceptual just a Utopian far fetched idea of how a structure should be has today been translated into reality all because of the vast frontiers that technology has opened for us. Our predetermined notions of how a Structure should be and what it can house or withstand in an environment that was deemed next to impossible has been shattered.

The most famous examples come from the land of oil, DUBAI. The Burj Khalifa a staggeringly tall building made within the vast desert landscape of Dubai, consisting of 163 floors, with state of art facilities. The most astounding part about Burj Khalifa is not just its sheer Luxury or magnanimity. But the resistance and forces acting on the building Winds at 250+km/h on the top most portion the Burj Khalifa was designed to sway up to two meters in back-and-forth sway from its 163rd floor. All made possible by dampers and the expansion panels between the glass.



Another such notable feat from the land of oil and extravagant luxury is the Palm Islands that was built on the sea. The Palm islands which was built on the ocean a complete man-made island right down from a single pebble is now home to over 80,000 people. The National Geographic documentary is a great testimony on how the Palm Islands was conceptualized and made into a reality.

To sum it up technology has enabled us with augmented reality and the boon of access to data by analysing across various frontiers via simulation helps in amplifying our ideas and lets us visualise, how far can we stretch across the hori-

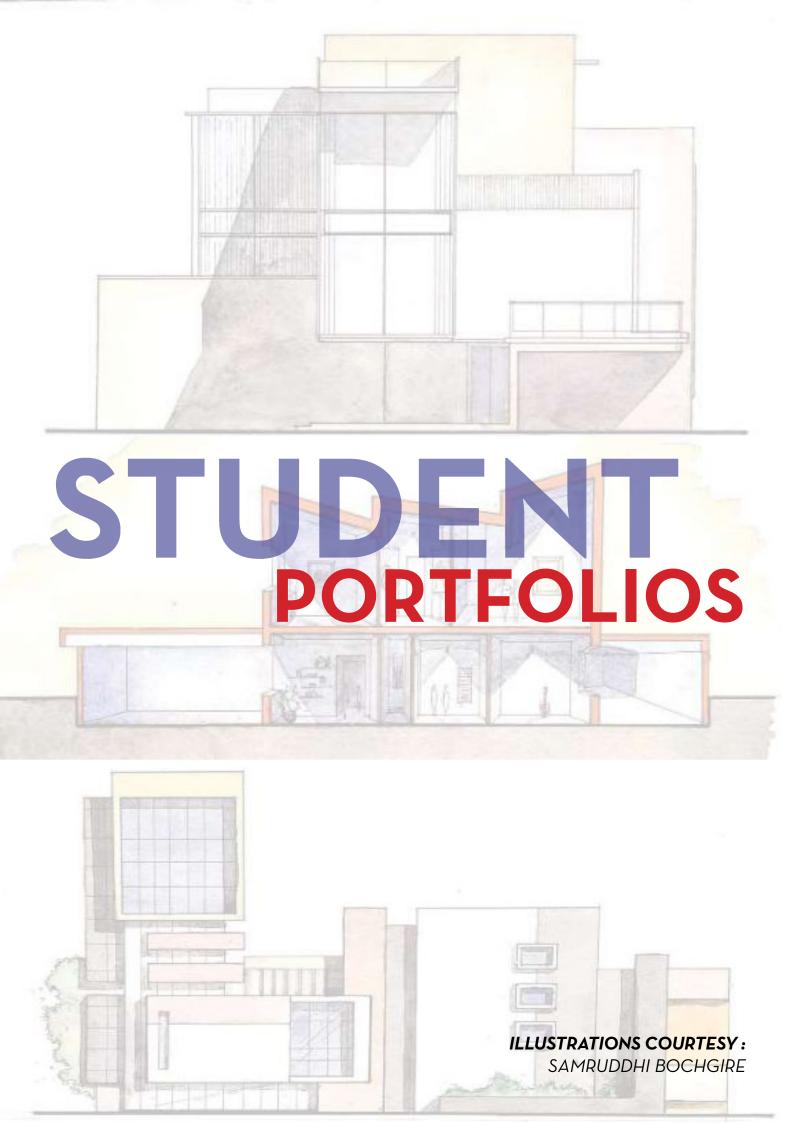
zon in terms of Architectural design. Opening up Various frontiers and possibilities that may aid in the rehabilitation and well being of human kind along with unhindered preservation of our nature and mother earth.

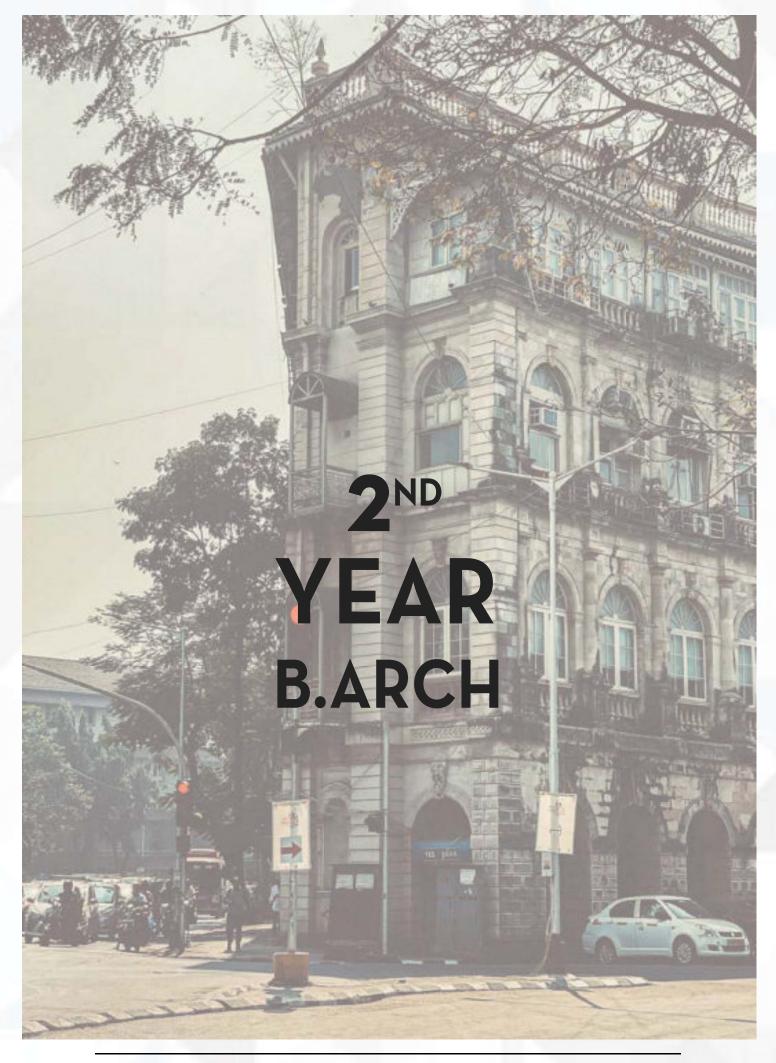
Not to sound like a G20 summit speech but let us all take this advantage of our know how of structures and design collate it with technology and grow towards a SUSTAINABLE DEVELOP-MENT THAT IS IN TANDEM WITH OUR HOME - EARTH











# SEM 3

#### The Second Innings Home, Uttan

The Sem 3 design program dealt with designing a inclusive retirement community for elderly, aligning UN SDGs (health, sustainability), empathetic spaces encouraging engagement, safety, convenience. Varied programs foster holistic well-being, harmonious urban living.

#### Interior Design for a Beach House

The sem 3 allied design program invovled designing a beach house that seamlessly integrates relaxation and functionality. Embrace coastal aesthetics, maximize ocean views, and create adaptable spaces. Prioritize comfort, space efficiency, and a soothing ambiance for a versatile and rejuvenating coastal living experience.

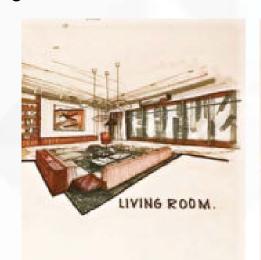
# SEM 4

#### Proposed Primary School And Learning Center, Murbad

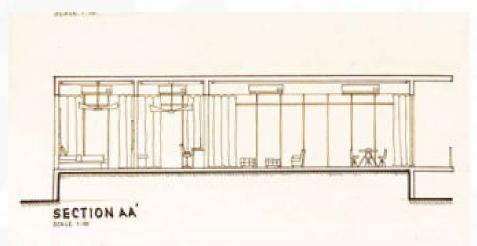
The Sem 4 design program dealt with designing an inclusive education center blending indigenous wisdom, sustainability, and industry readiness.

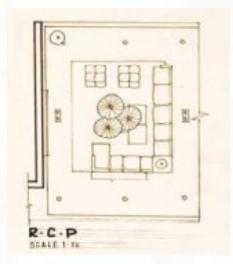
#### Proposed Interior Design for a Digital Media Organization

The sem 4 allied design program involved designing an innovative office space for a digital media organization fostering social interaction, collaboration, and adaptability. Challenge conventional corporate structures, create a dynamic, creative, and versatile environment for young entrepreneurs.



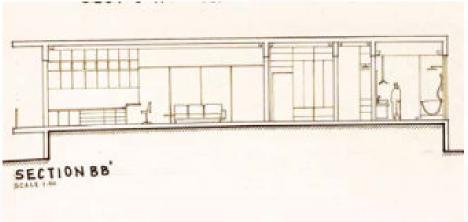






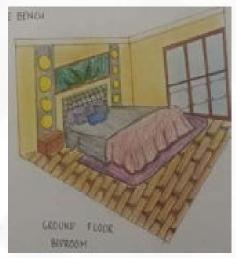










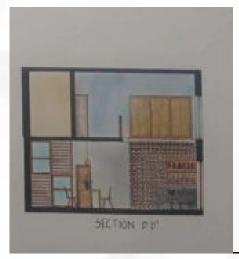






























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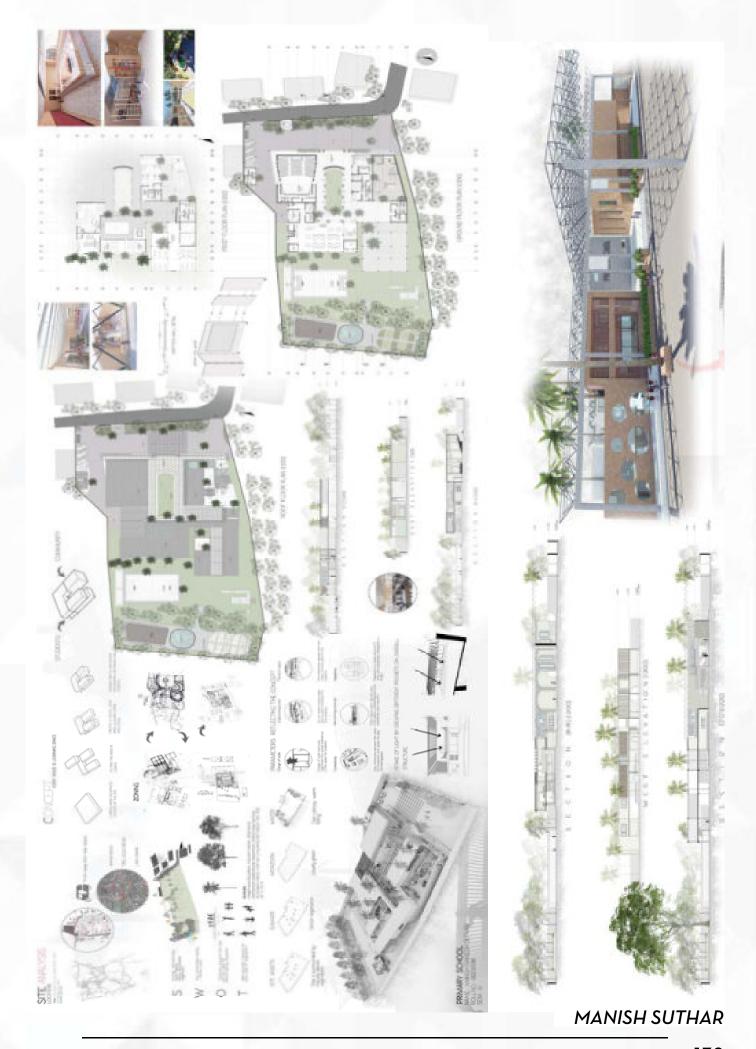
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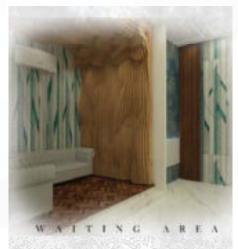


















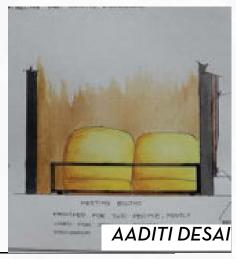




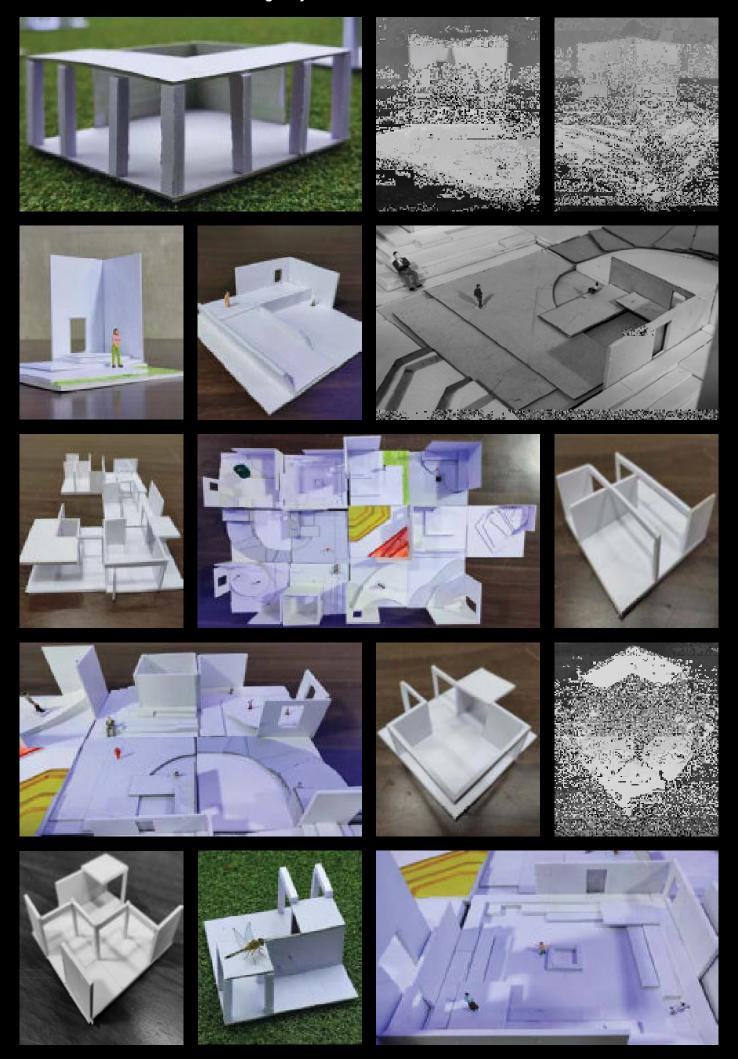






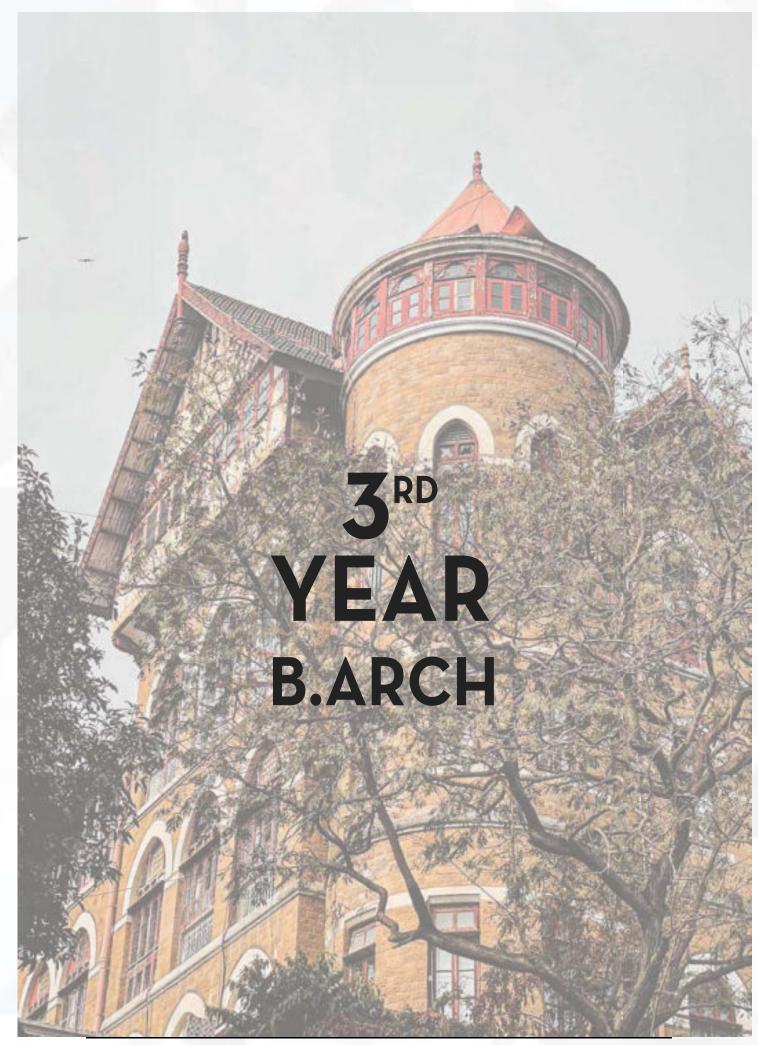


ELECTIVE - HOW TO ARCHITECT by Prof Anshul Sinha



### ELECTIVE - CLAY WORK by Prof Harita Patil





# SEM 5

#### Proposed Performing Arts Centre, Mindspace, Malad (w)

The semester 5 brief dealt with designing a sustainable, state-of-the-art Performing Arts Center in Mumbai's Mindspace, Malad. Incorporate cultural festivities, inclusivity, and efficient spatial optimization whilist utilizing advanced technologies for efficient construction and consider site constraints.

#### Proposed Landscape for a Private Bungalow, Uttan

The allied design brief dealt with environmentally responsive landscape for outdoor spaces. The aim was to analyze site conditions, user needs, and sustainable techniques. Create stress-free, barrier-free, socially and environmentally conscious design while embracing local ecosystem, fostering a mindful connection to nature.

## SEM 6

#### Proposed Student Hostel, Thakur Village, Kandivali (w)

The semester 6 design program dealt with designing a sustainable student hostel in Thakur village, Mumbai, accommodating 300 students aged 18-35, Fostering social interaction, diverse backgrounds, and inclusivity by prioritizing environment-conscious architecture, integration of infrastructure, services, and urban context.

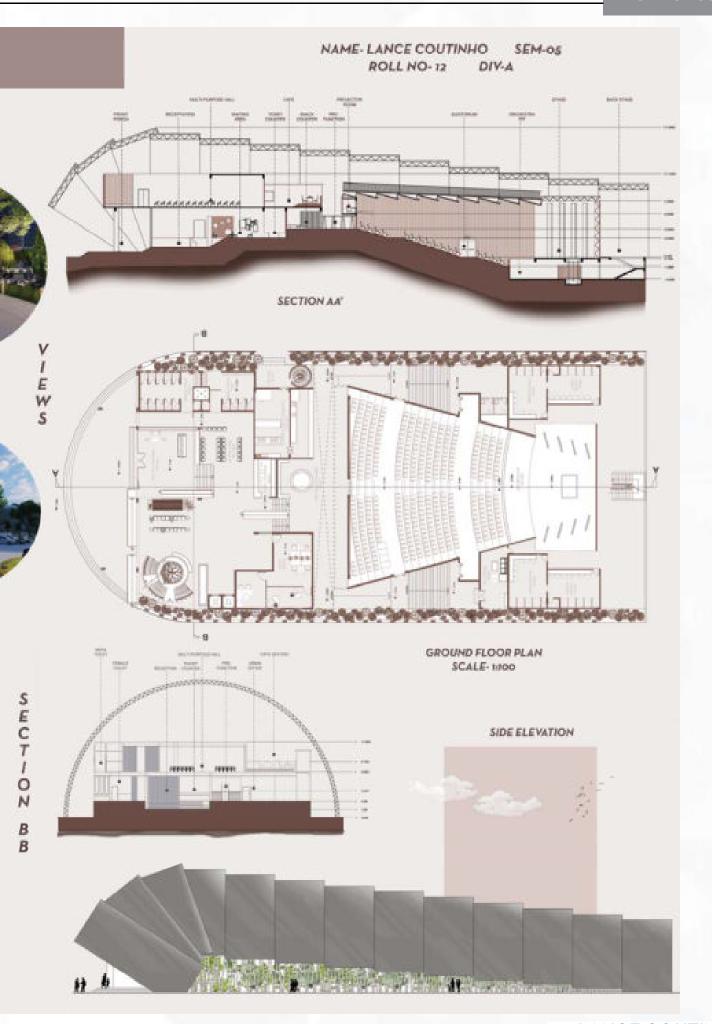
#### Proposed Landscape Design For A Residential Podium, Thane(W)

The allied design brief dealt with designing outdoor spaces on urban podium considering diverse user needs. Analyze site conditions, apply sustainable strategies, biodiversity-friendly planting, and integrate lighting, drainage, materials.

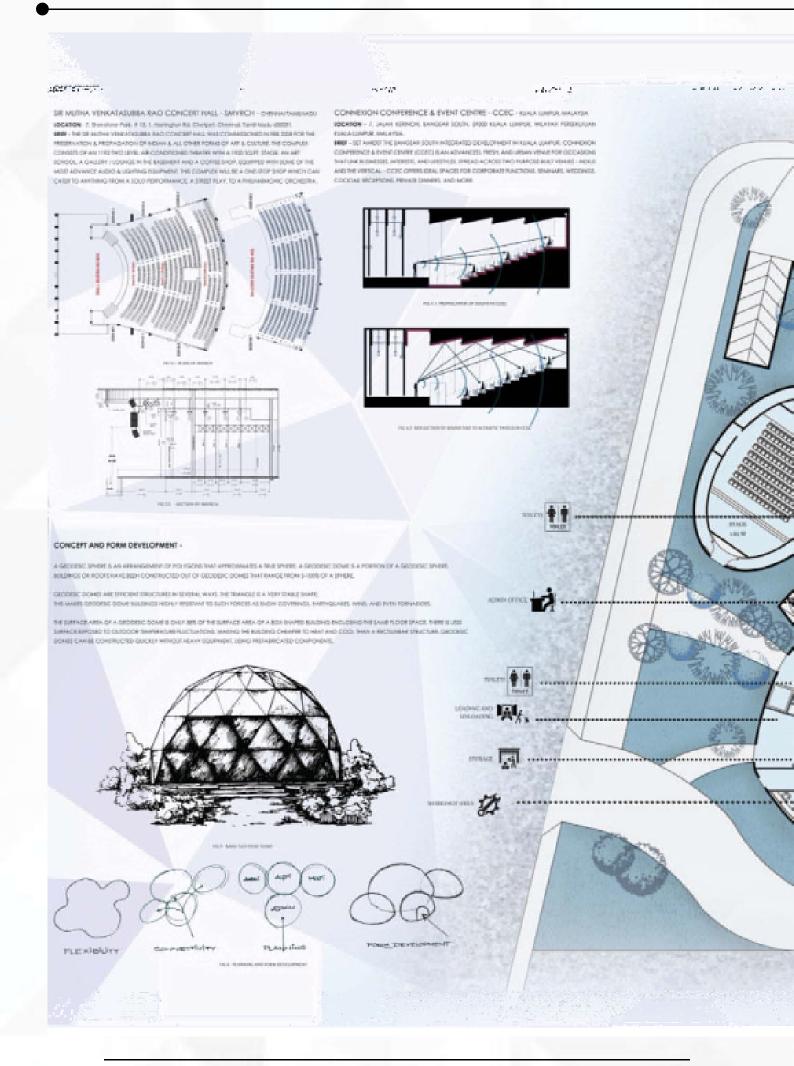
This also involved addressing challenges of user diversity, artificial ground, sustainability, maintenance of landscape in an urban environment.

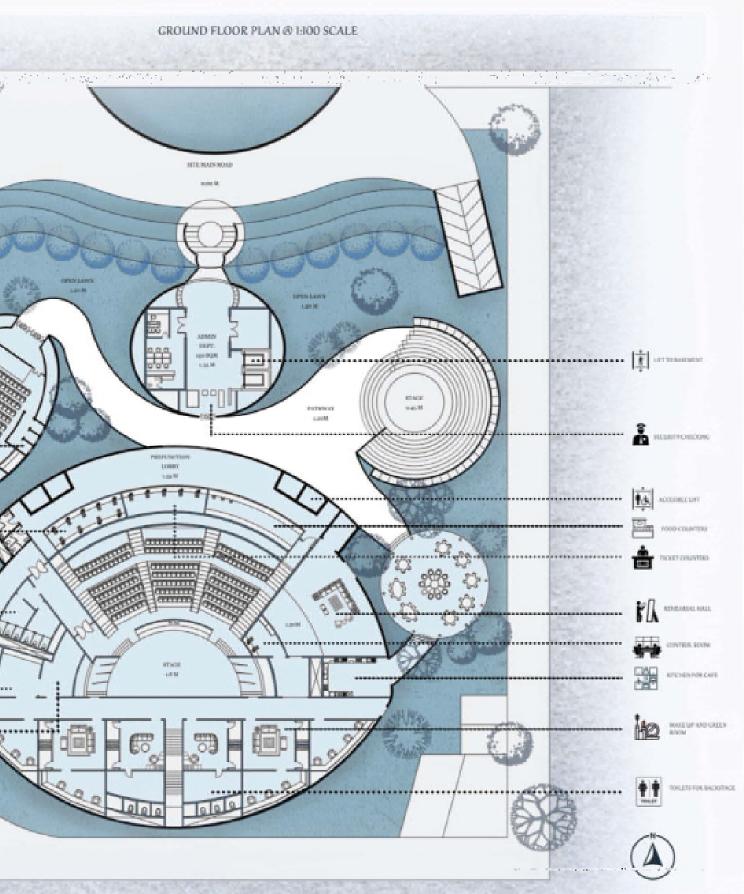
### DERFORMING ARTS CENTRE-MUMBAI





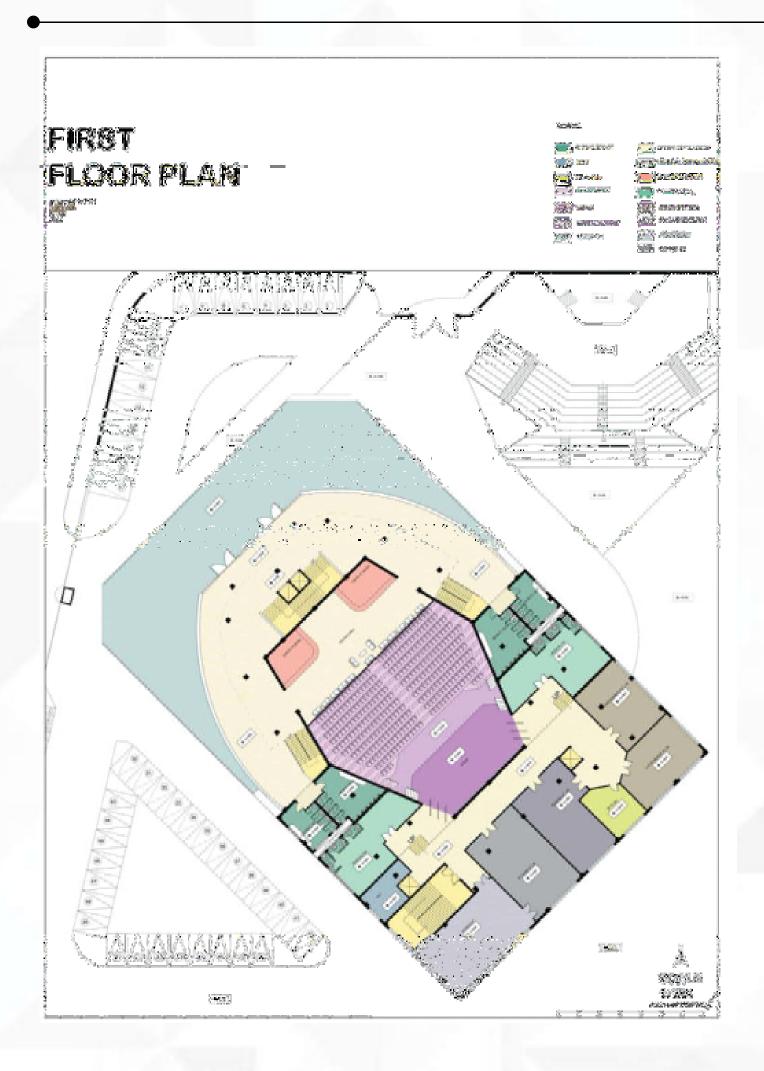
### LANCE COUTINHO

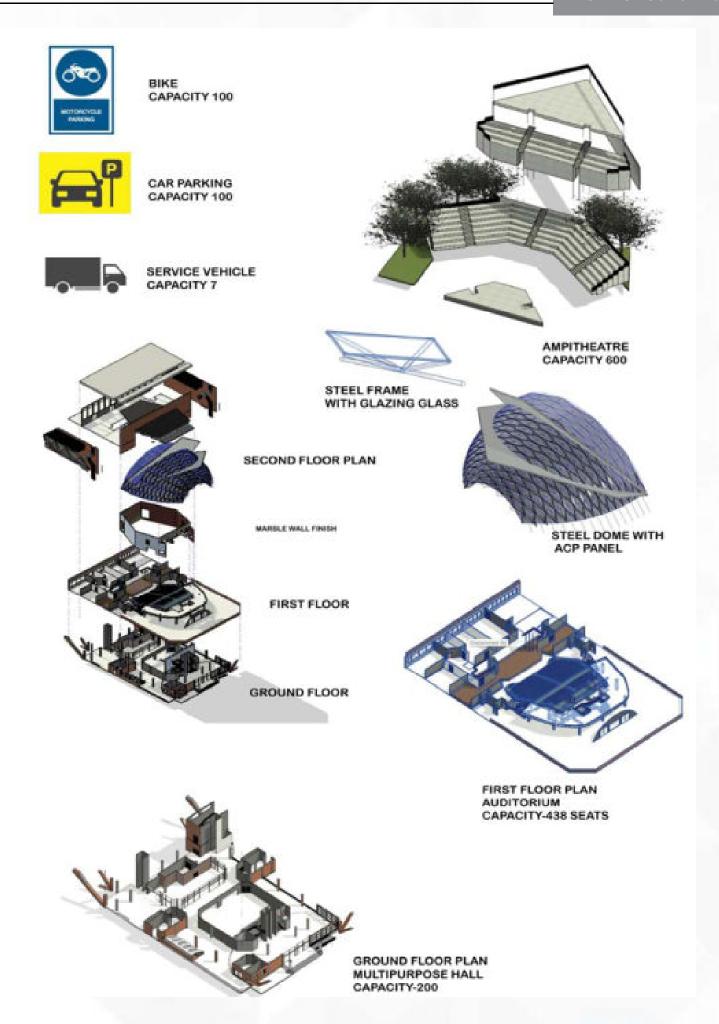




| BEDEKAR SOHAM AMOD MRINMAYEE | ADS 501 | TSAP MUMBAI | 72020004 | PROPOSED PERFORMING ARTS CENTER AT MINDSPACE, MALAD

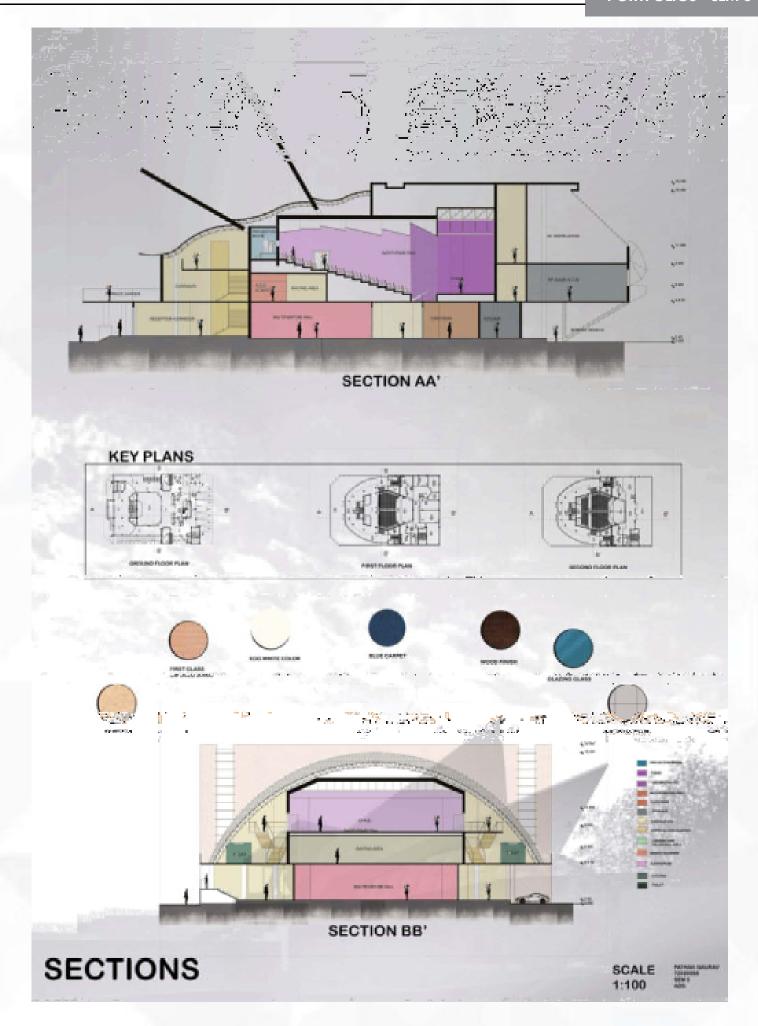
SOHAM BEDEKAR





**GAURAV PATHAK** 





**GAURAV PATHAK** 





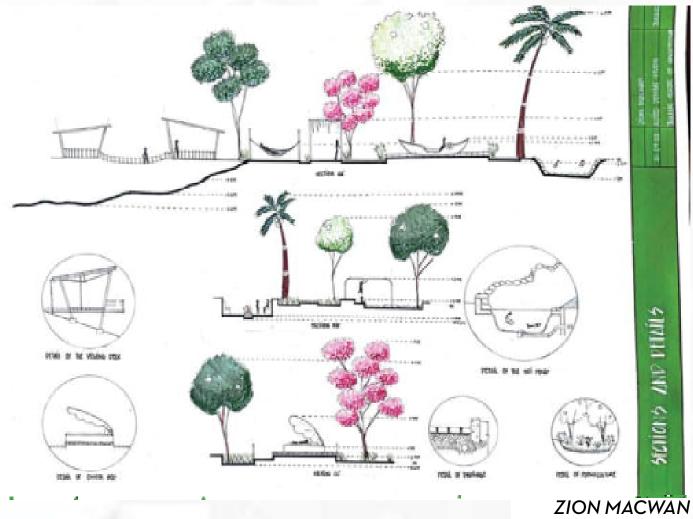


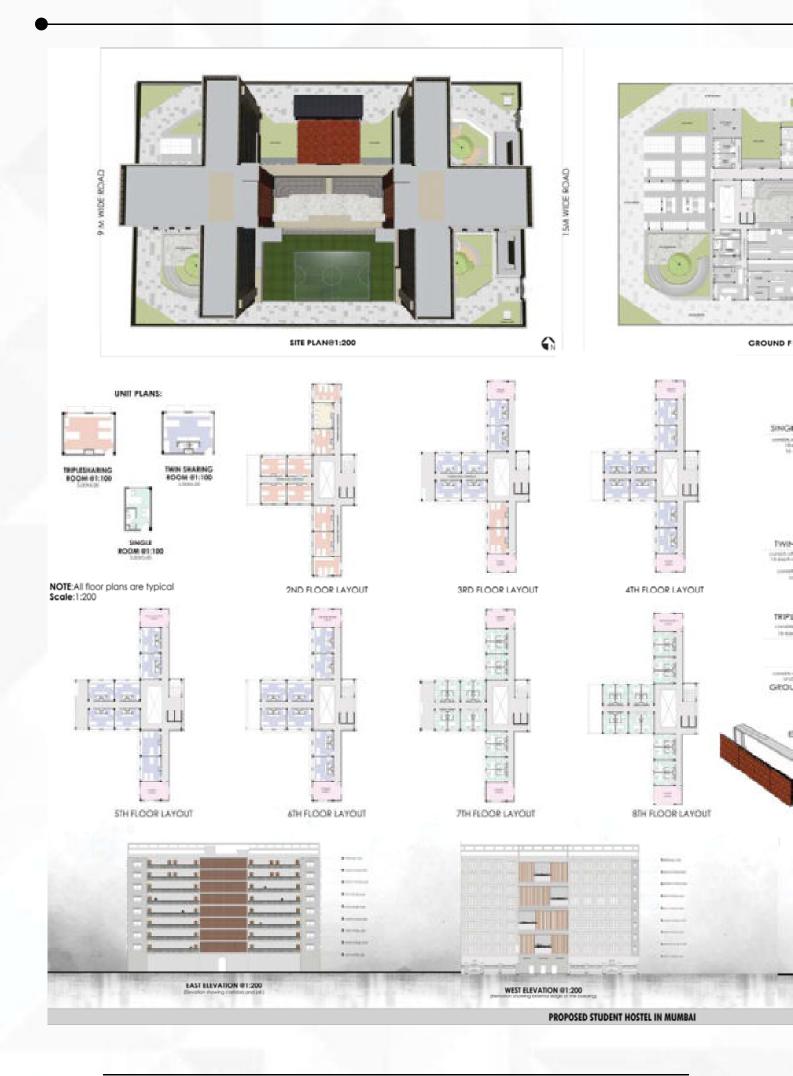






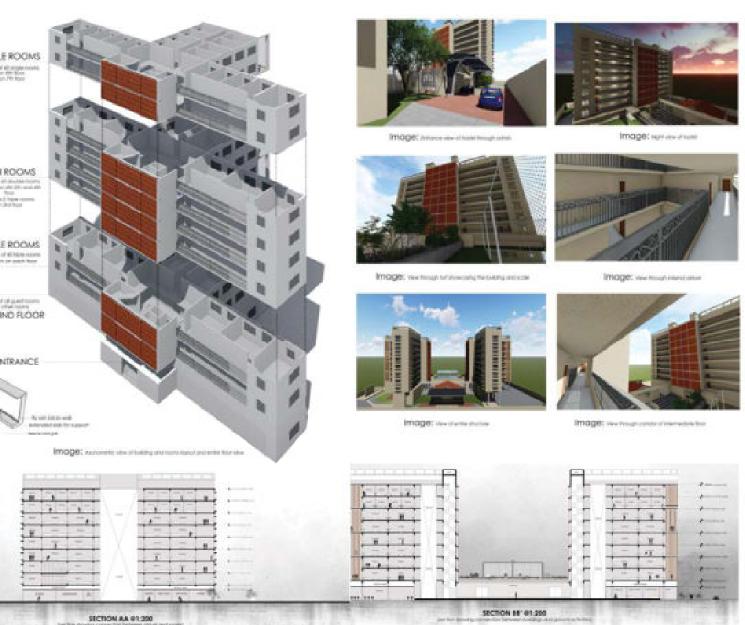






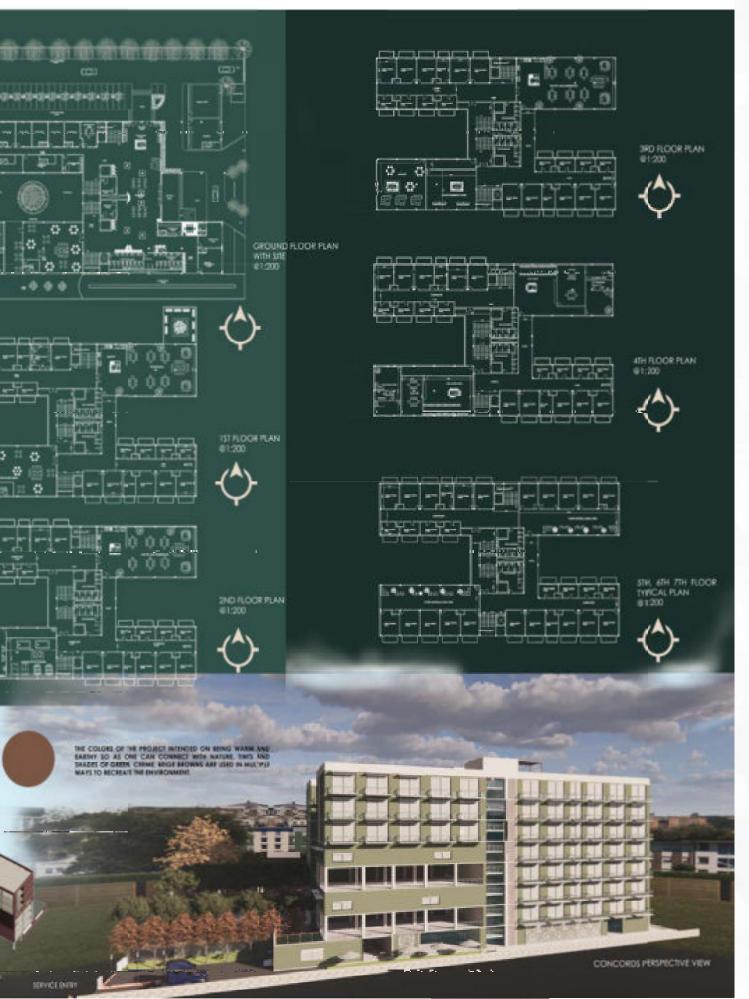




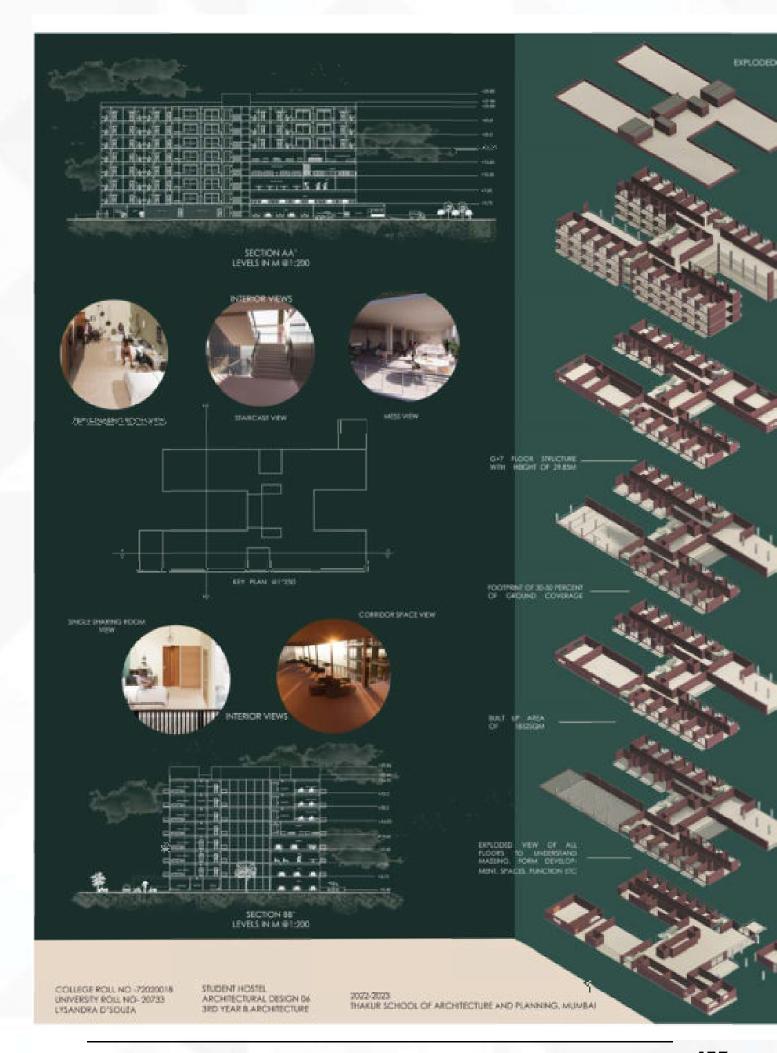


SAYYAM SANCHETI





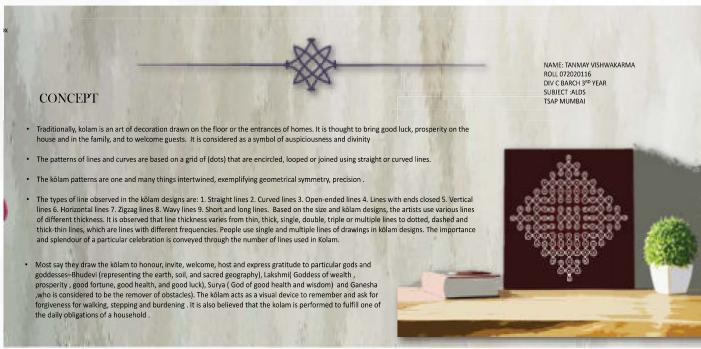
LYSANDRA DSOUZA













2022-23



# ELECTIVE -FACADE DESIGN by Prof Atul Phoujdar

















# ELECTIVE -INTERIORSCAPING by Prof Saylee Soundalgekar























# SEM 7

## Proposed Retirement Housing at Alibaug, Maharashta

The semester 7 design program revolved around a Mass Housing Project considering urban context, economics, and user needs. Balancing density, planning, light, ventilation for authorities including Economical viability for developers, and comfort, personal value for end-users aiming for a unique, site-specific solution.

## Urban Design, ALDS

The semester 7 allied design program revolved around street design in an urban context.









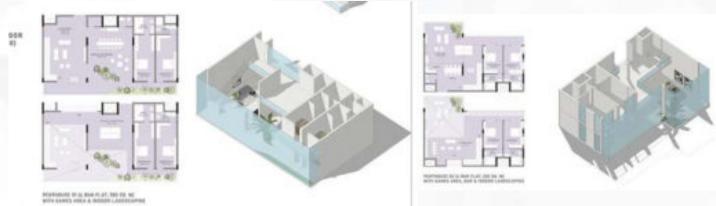




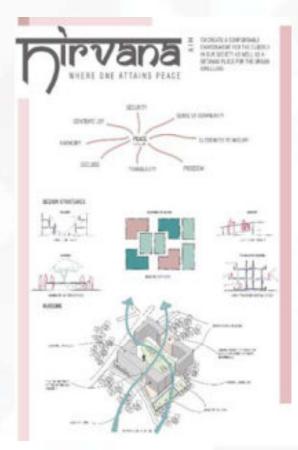
**DEVKI DHURI** 





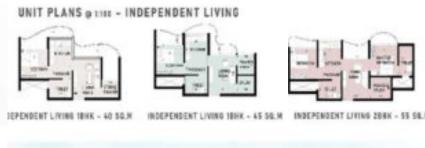


**DEVKI DHURI** 

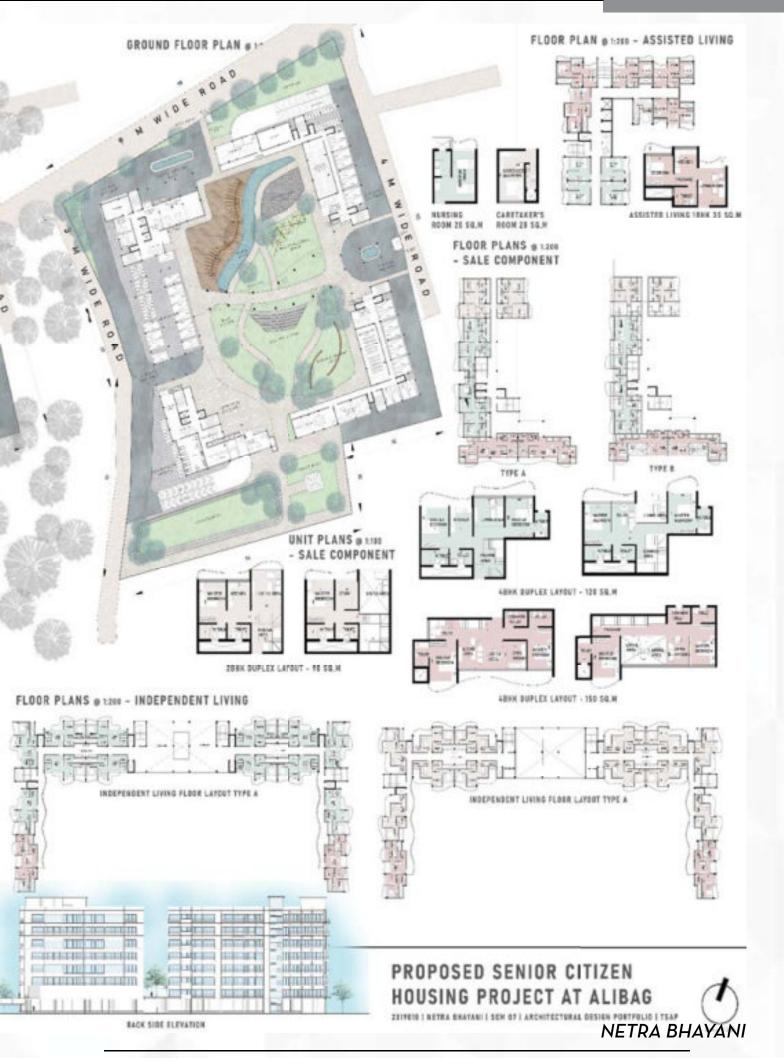








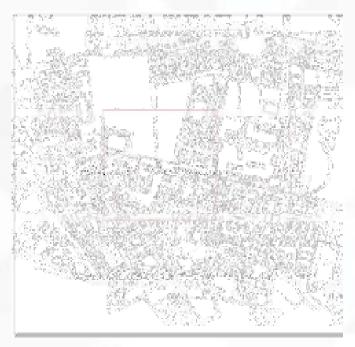


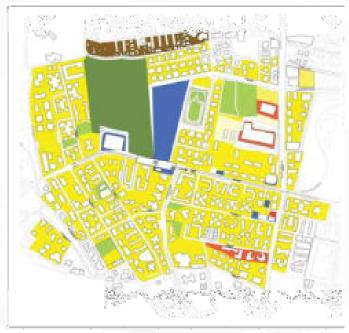


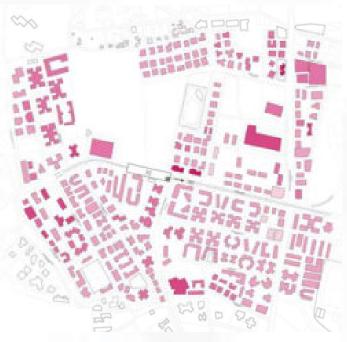


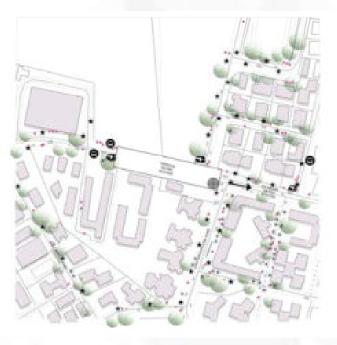


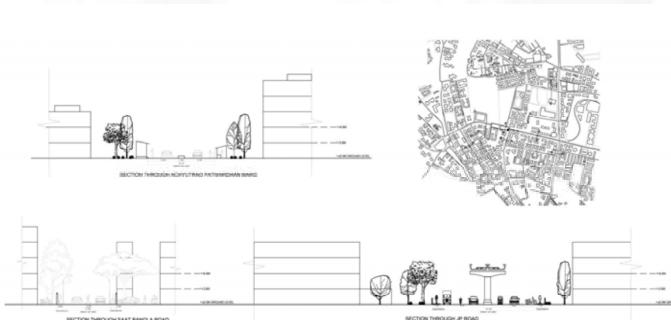
NETRA BHAYANI



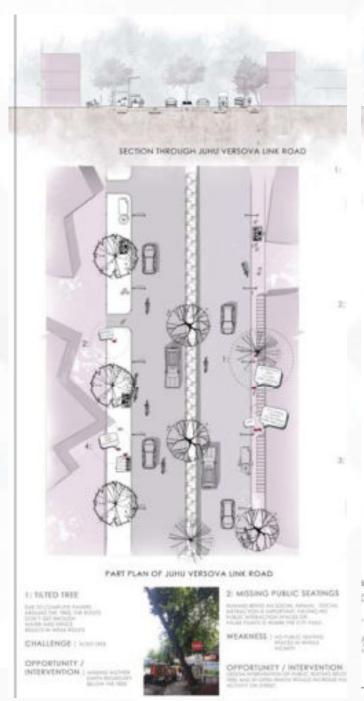


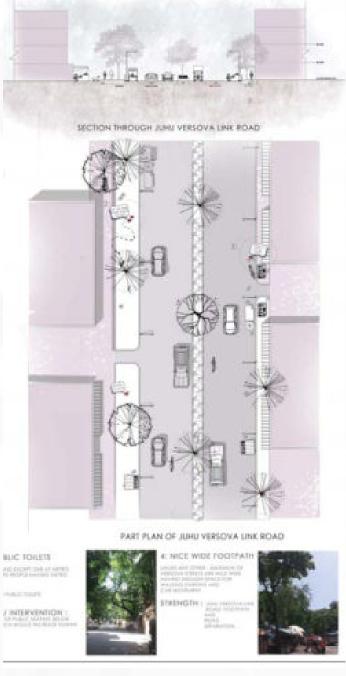






DISHA DODIYA, SANJANA MALODE, PRIYANSHI MEHTA



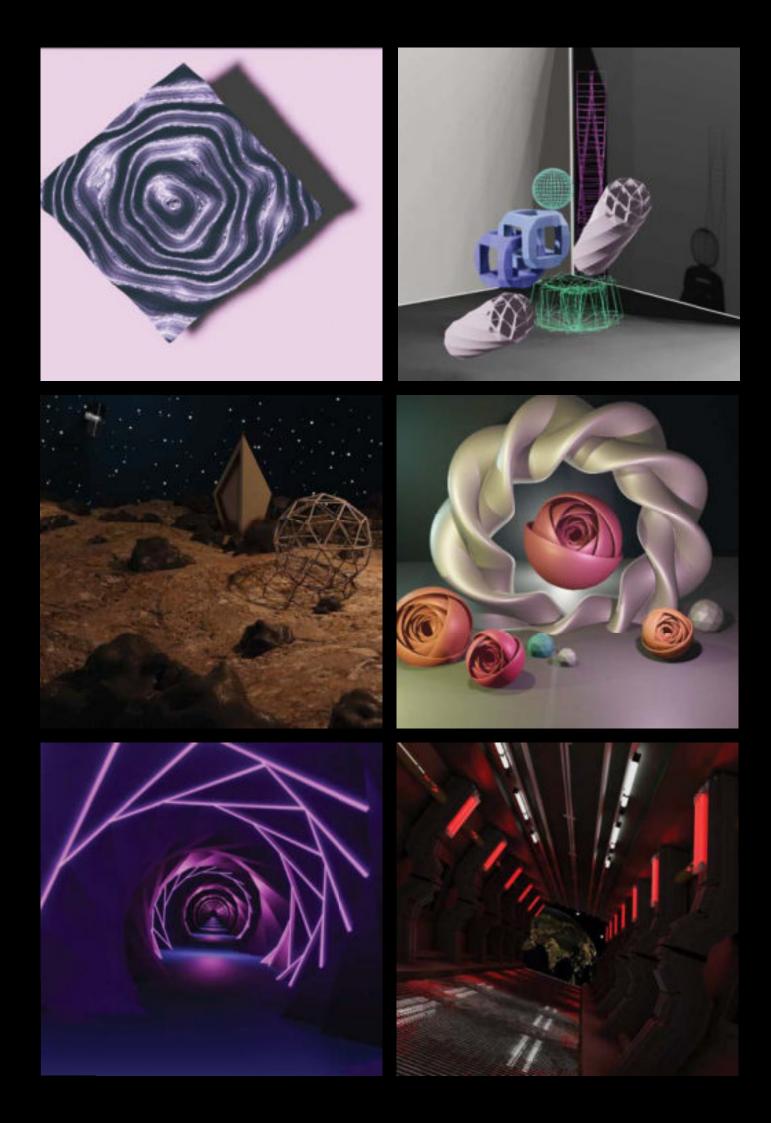




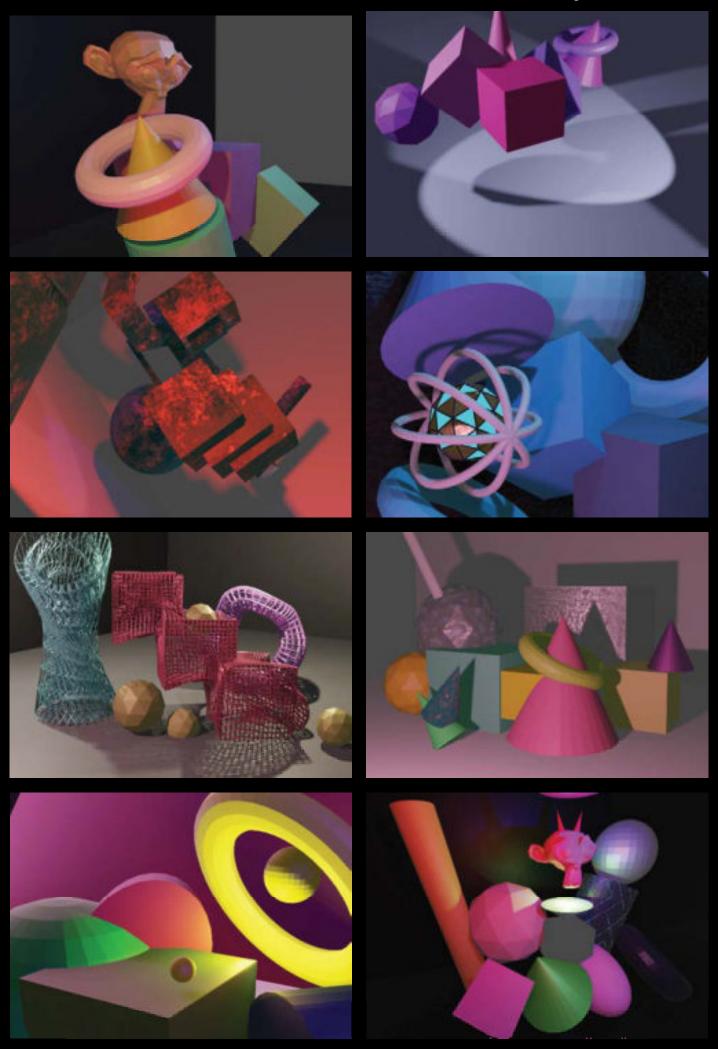


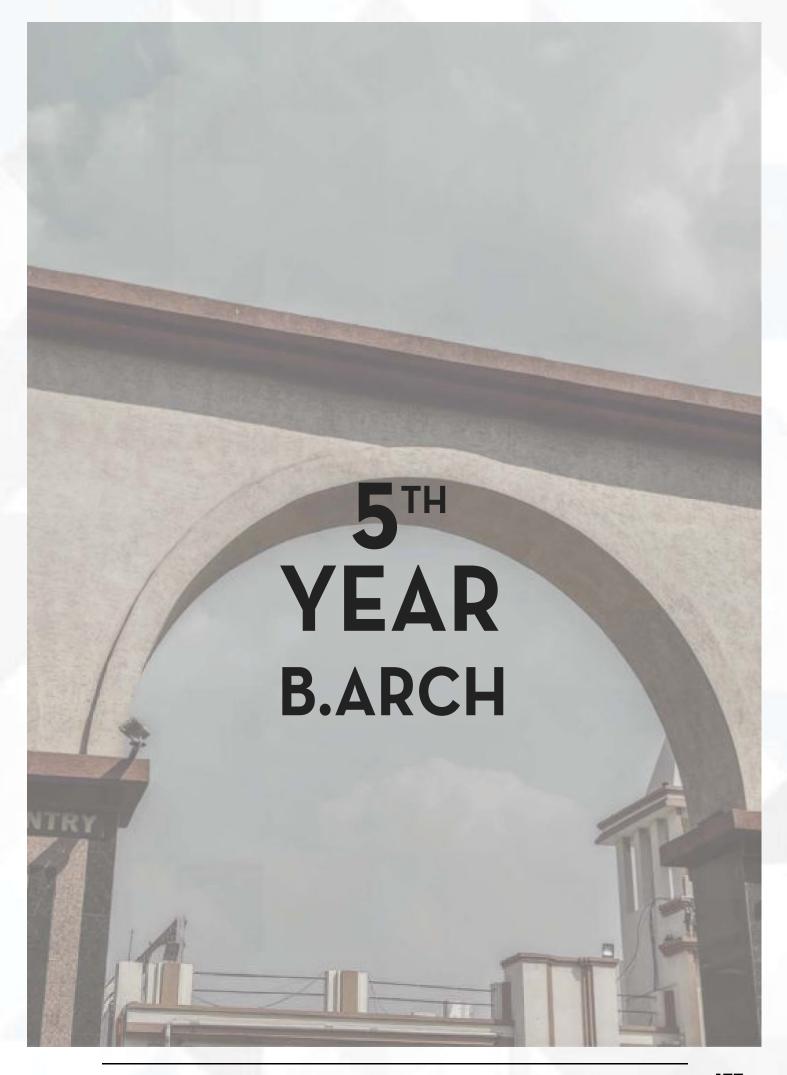






ELECTIVE - BLENDER by Ar. Daniel Dsouza



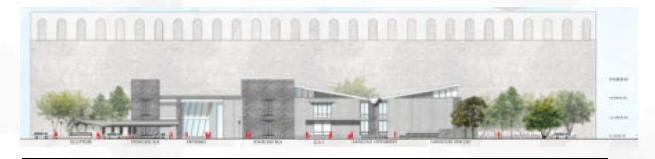


# **SEM 10**

Semester 10 involves the culmination of the academic journey with a thesis on a design intervention selected and curated by the students themselves.













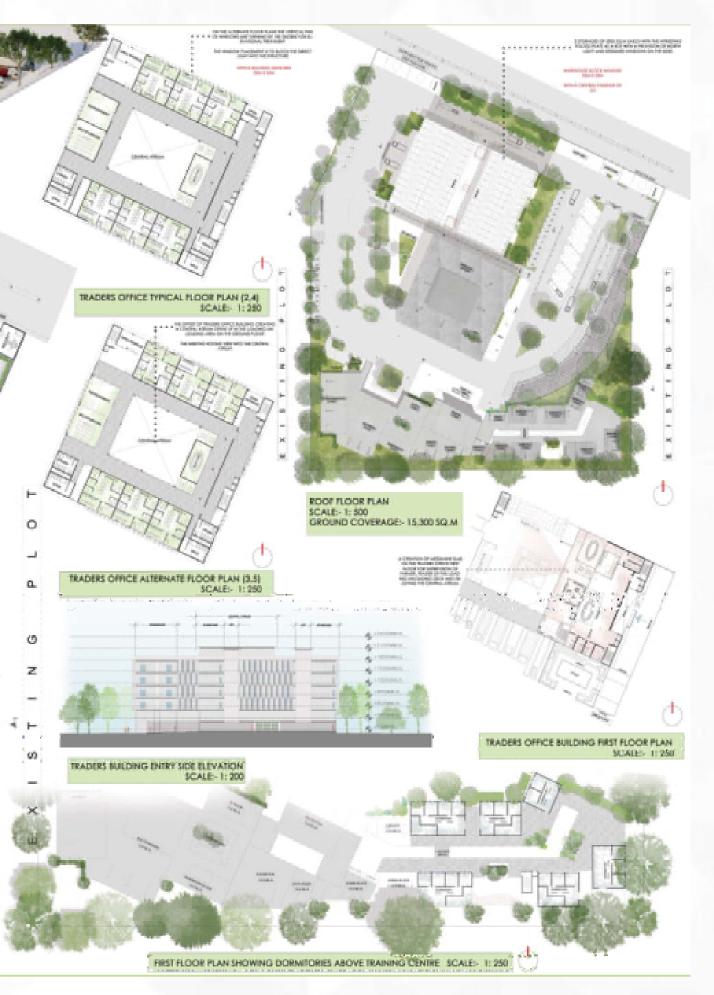


DISHA SALHOTRA









**DINESH JAILWAL** 



STUDENT NAME

MAITRI VIPUL

RUDANI

SEAT NO. 5201861

**GUIDE NAME** AR. DURGESH SHANBHAG

PRN NO. 2018016401646471

## A MULTI-SENSORIAL SPACE IN REMEMBRANCE OF THE COVID-19

## CHALLENGE

Our challenge is to design a public memorial to honour those who have departed as a direct result of the COMD-19 outbreak and to ping some dusure to those who are sultering the bas of thericles, ranny, overwhere, and pived ones. It will be a outbrille remind or host present and future general tions and a symbol of hope that mankind can withstand and overcome any obstacle.

## PERSONAL IMPACT

Good design has the ability to impact the individual in a personal and special way. This is an ex-tremely important part of a memorial design that should be able to speak to different members of society on a personal level. Personal impact scores should reflect how well the designer considered the designs affect on the individual their memories, doubts, feats, hopes, and dreams.

### COMMUNITY IMPACT

Design does not live in a vecuum. It should have a positive effect on the individual user and, ideally, us society as a whole. As you credit, did the designer consider how their design may impact an individual and their committy foll of ey activities to wholege that their membraid estign will lase an effect or soci-dry and the specific community it is but to 70 Community impact scores should reflect row with designer consistent than a segret institute of the community of tage. Free in the design is ment or intrividuals, its all-sation should still help that and which be a better, healthier, or smarter member of society.

Once again, consider the words of Deter Rams, "A product is bought to be used, It has to salistly certain offeriar not only functional but also psychological and assitiation, Good design emphasises the usefulness of a product whilet designating anything that could possibly deteration in it." A memorial designs should be practical for the community it is but for will the community as able to build it, marriant it, or otherwise interact with 70 Aky ourself of the designs on consider the complexity, cost or in operating the control of the designs of the 1% FF Hactically scales should resid the designs of the above the 1% FF Hactically scales should resid the designs of the above the third of the designs of the state of the 1% FF Hactically scales should resid the design of the above the third of the designs of the state of the 1% FF Hactically scales should resid the design of the state of the 1% FF Hactically scales should resid the design of the state of the 1% FF Hactically scales and the state of the 1% FF Hactically scales should reside the state of the 1% FF Hactically scales should reside the scale of the 1% FF Hactically scales should reside the 1% FF Hactically scales should reside

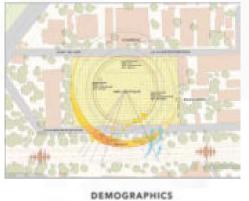
## DESCRIPTION

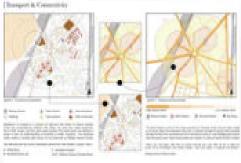
The Covid-19 pandemic is far from being controlled and has already claimed over 600,000 deaths around the world. This incredible loss is compounded for many families who were not able to say goodupe to their bard ones in person due to hospital safety measures or notd proper funerals be-cause of the incredible scale of the situation.

For the design category, consider the words of Dieter Rams. The aesthetic quality of a product is integral to its usefulness because products we use every day affect our person and our vell-being. But only well-beacaded objects can be beaufulf, freely common ity and out turn were affected differently by Could's 10.1 order to reliable this cally to momental so add to follow the outline and reflect to local control and the impact this pandemic has had, I low can you turn this adversity into momentalising the commitment of the fertile welfers? Ask you settle, of the designer consister how their mamorial design may bring peace, honour, attachment, and often positive feelings to the community it is in? Or an apsersor understand fits purpose and belief pitted welf. Design scores should reflect the designer's mastery of shape, scale, assifietos, proportion, and functionality.

It is recommended to choose a location that is publicly available and accessible to all. This ensures that every person that has been affected by the global COVID-19 pandship can visit the memorial and share in the remembrance of those who have departed as a result of COVID-19.







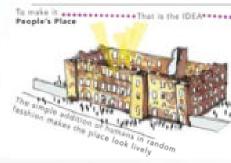


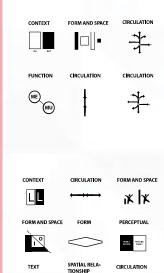






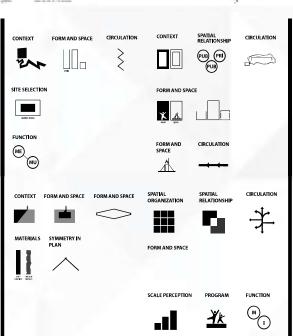
**STRUCTURE** 





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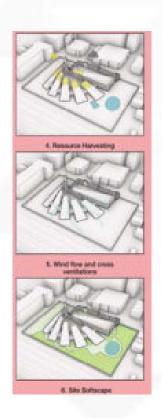
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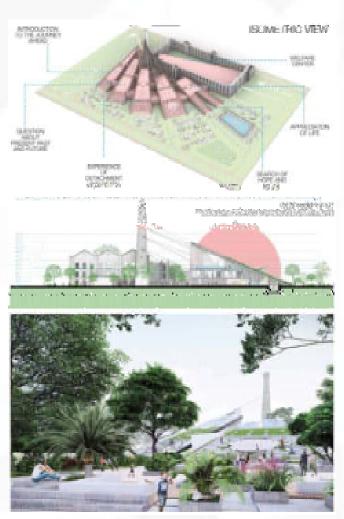
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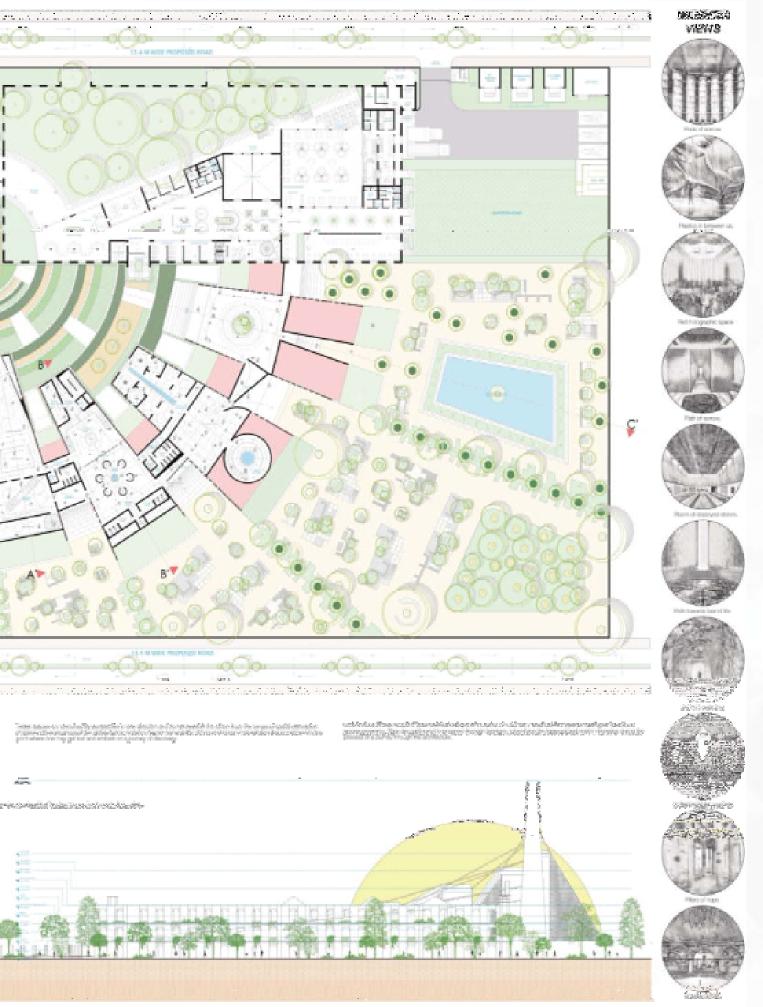
MAITRI RUDANI



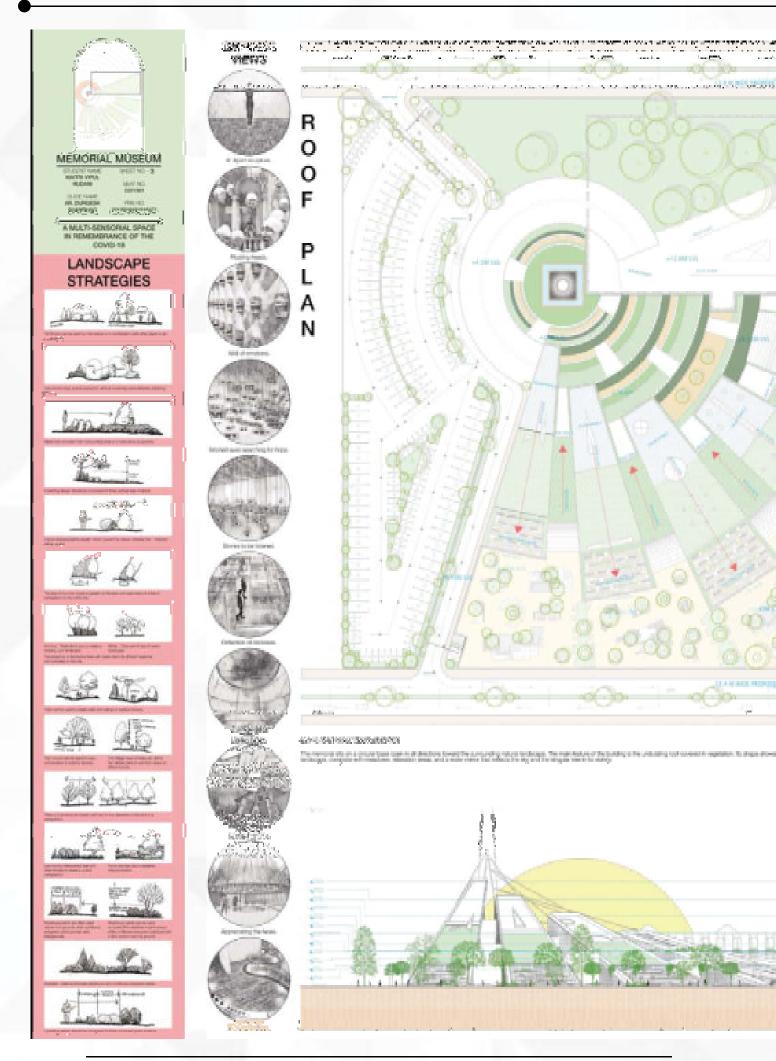




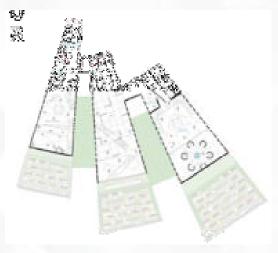




MAITRI RUDANI

















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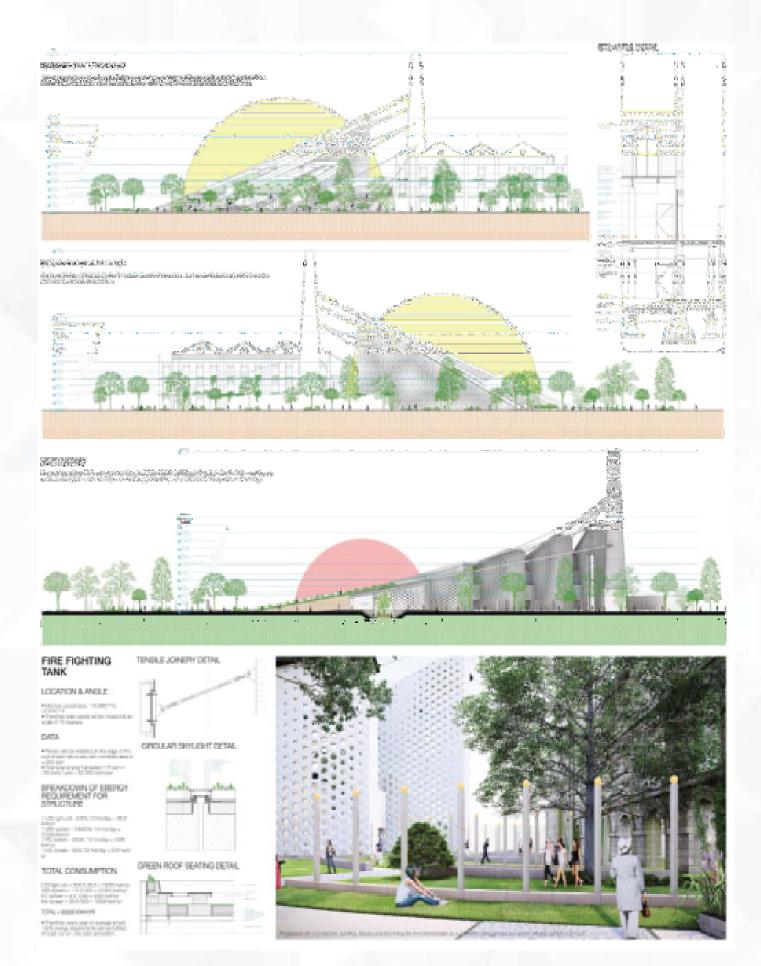
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## TOTAL - SOUD KNAME

 Transfers, twenty pair or mention served 100%, energy respectively. For the following recognition on

от объедінедня устаніцького добого





MAITRI RUDANI





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**DEVWRATT KAGNE** 







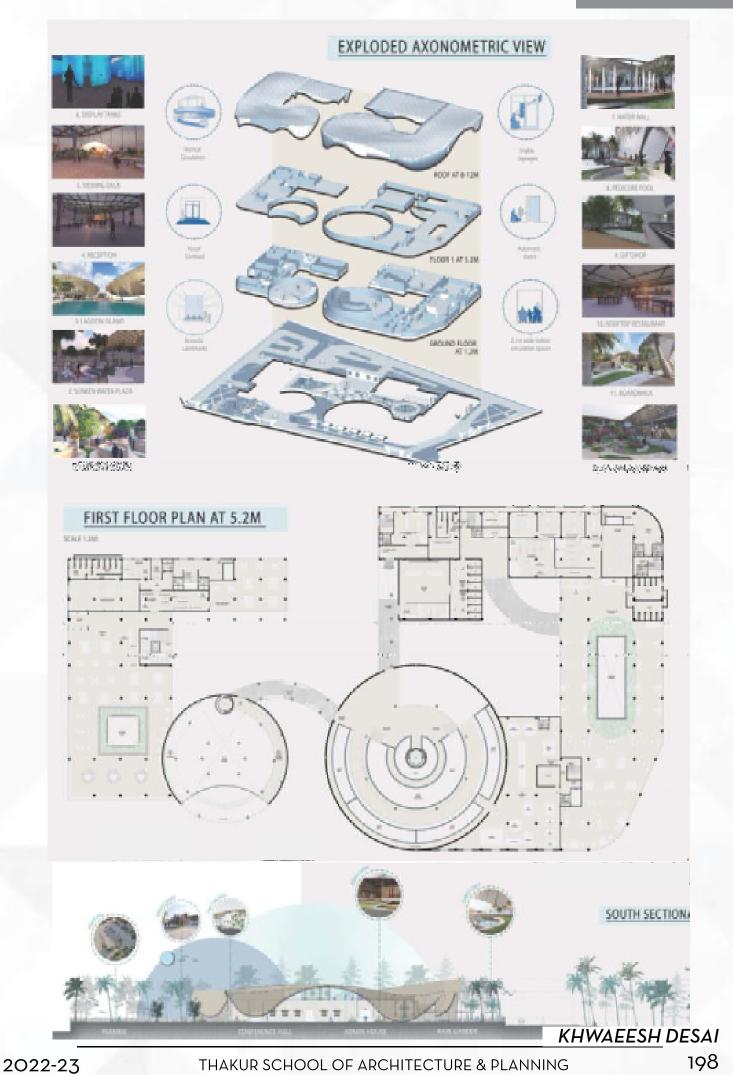


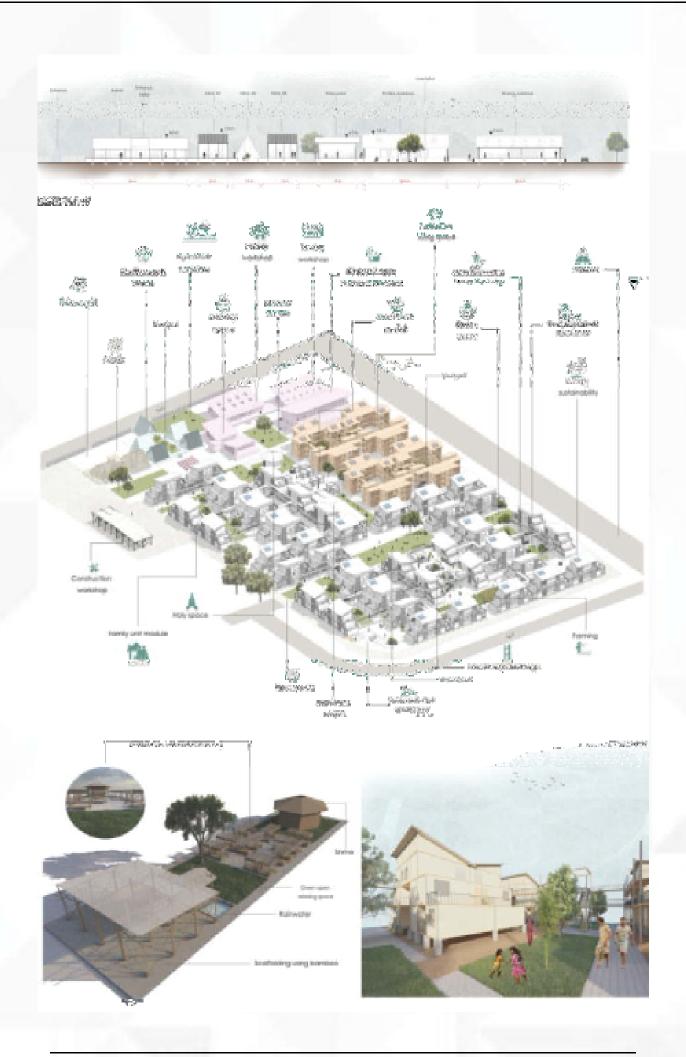
























RASHI PATIL

















LITIKA SHAH







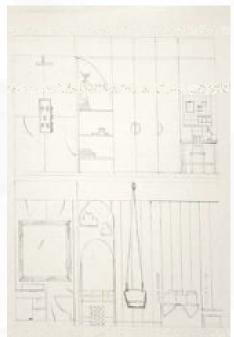






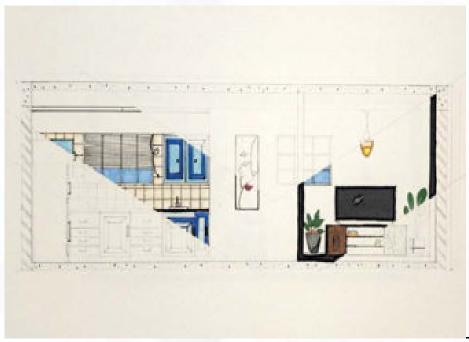


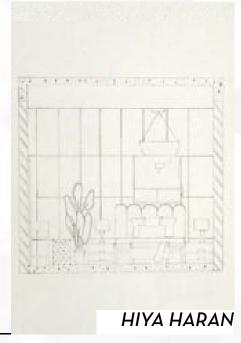










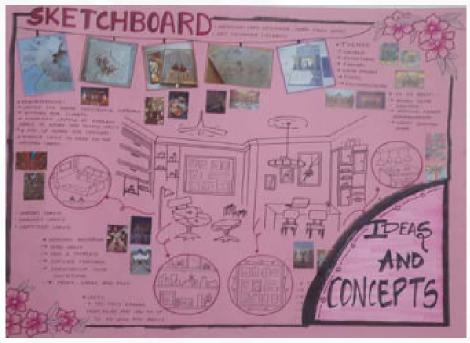








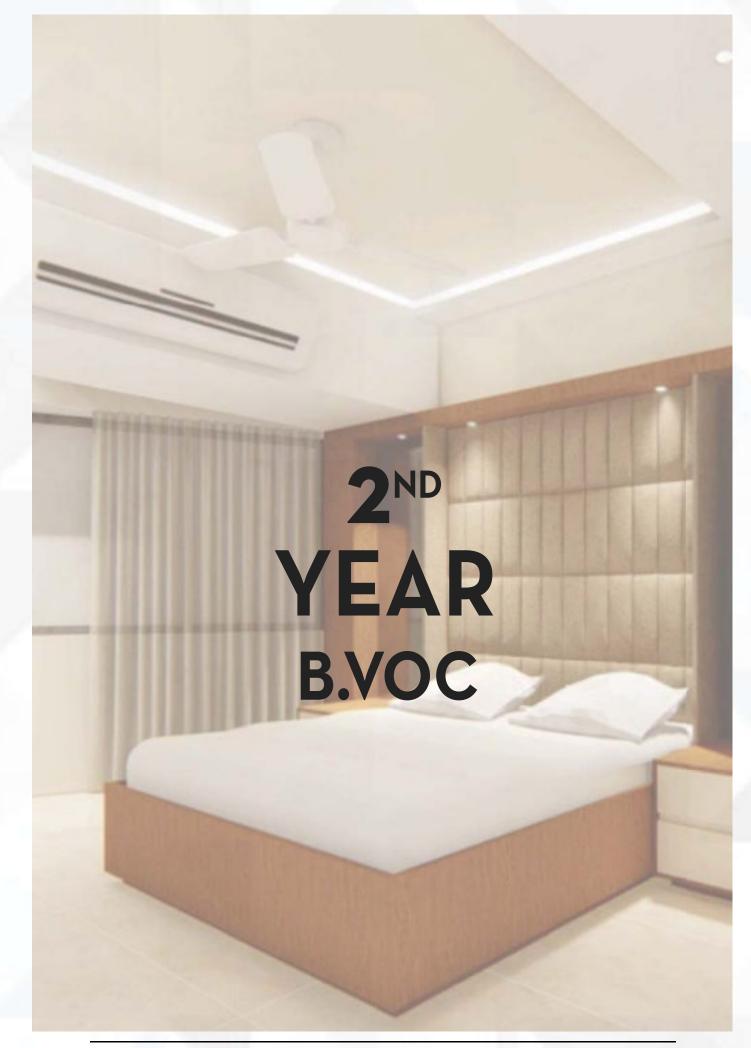






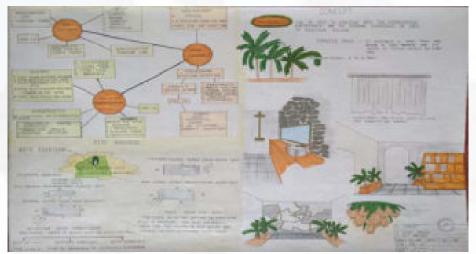








2022-23









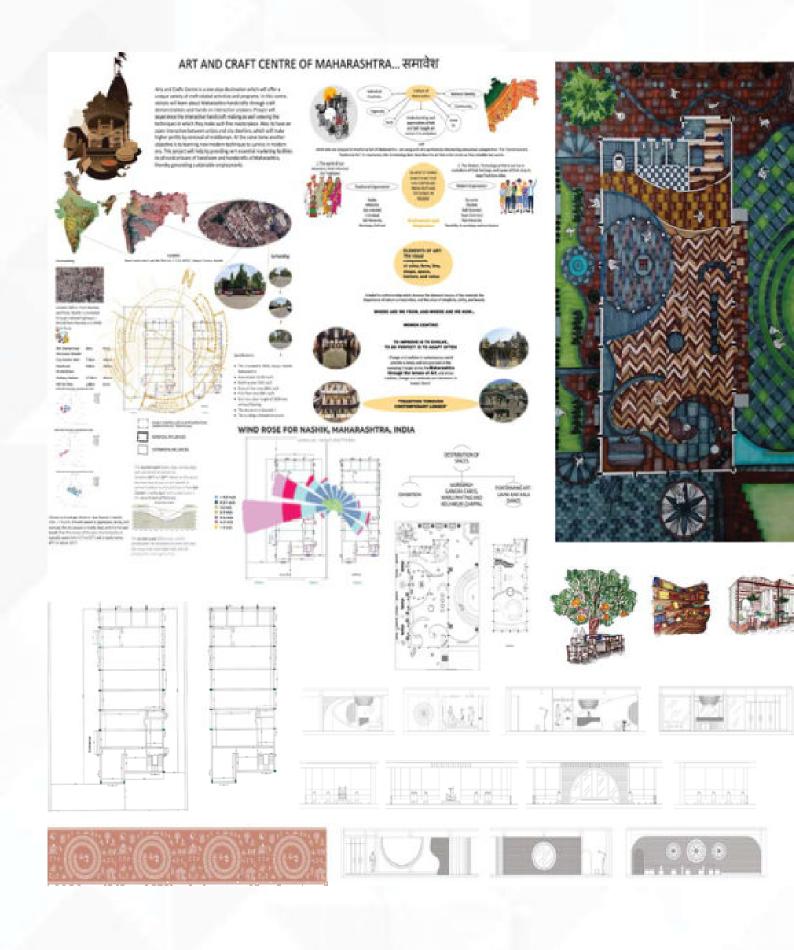


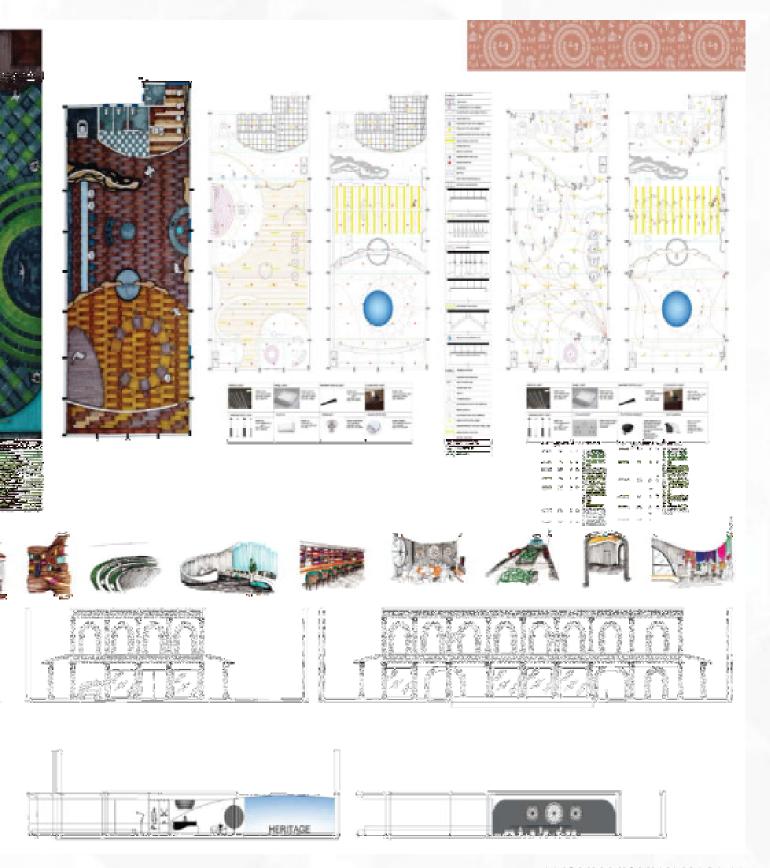




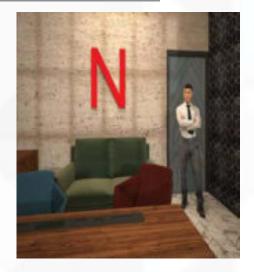






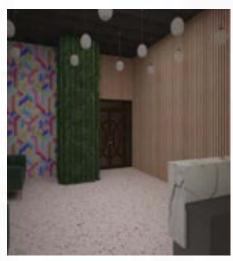


ANSHU VISHWAKARMA





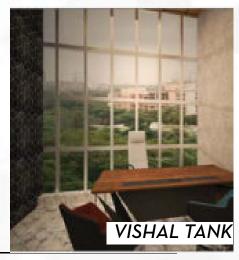










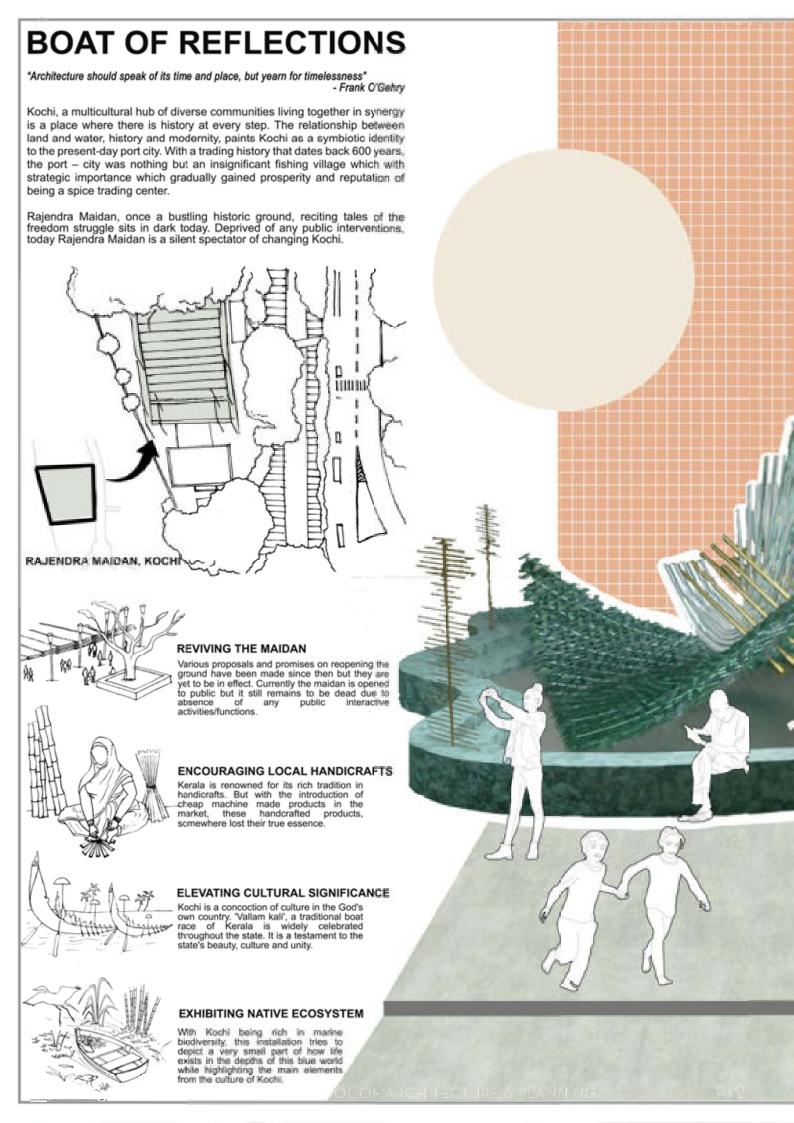


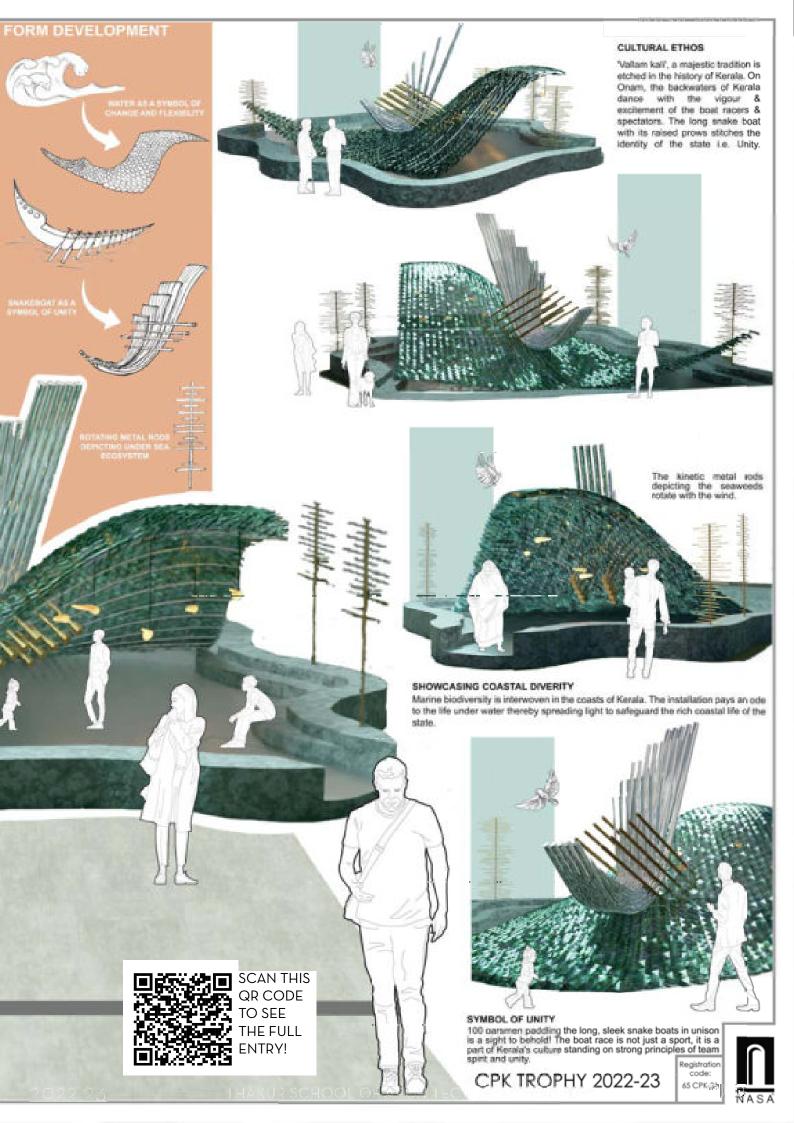




## COMPETITON ENTRIES











## इaghatayati

We started off as immigrants this place is known after us now The sweat and toil we put in has gotten many heads to bow

We jump into our errands with ardour with our zeal having no paucity We strive with smiles on our faces cause this job is our identity

We never perceive this as an exertion

Hence we slog with grace

Aiming to achieve perfection

having mastered all the knacks in this race

We're bound to time, unbothered by hassle running in paradigm,
Working for others
nothing seems to stop us,
nothing gets in the way
Not even the scorching heat
that makes us frazzle

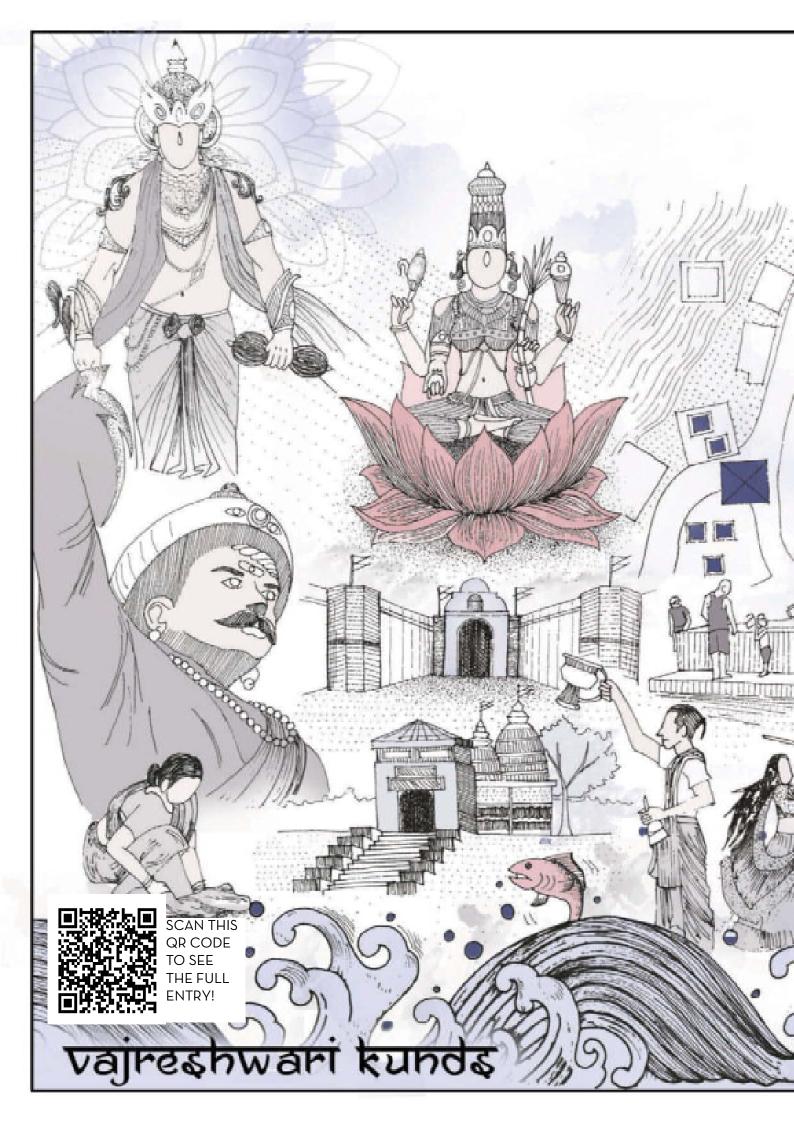


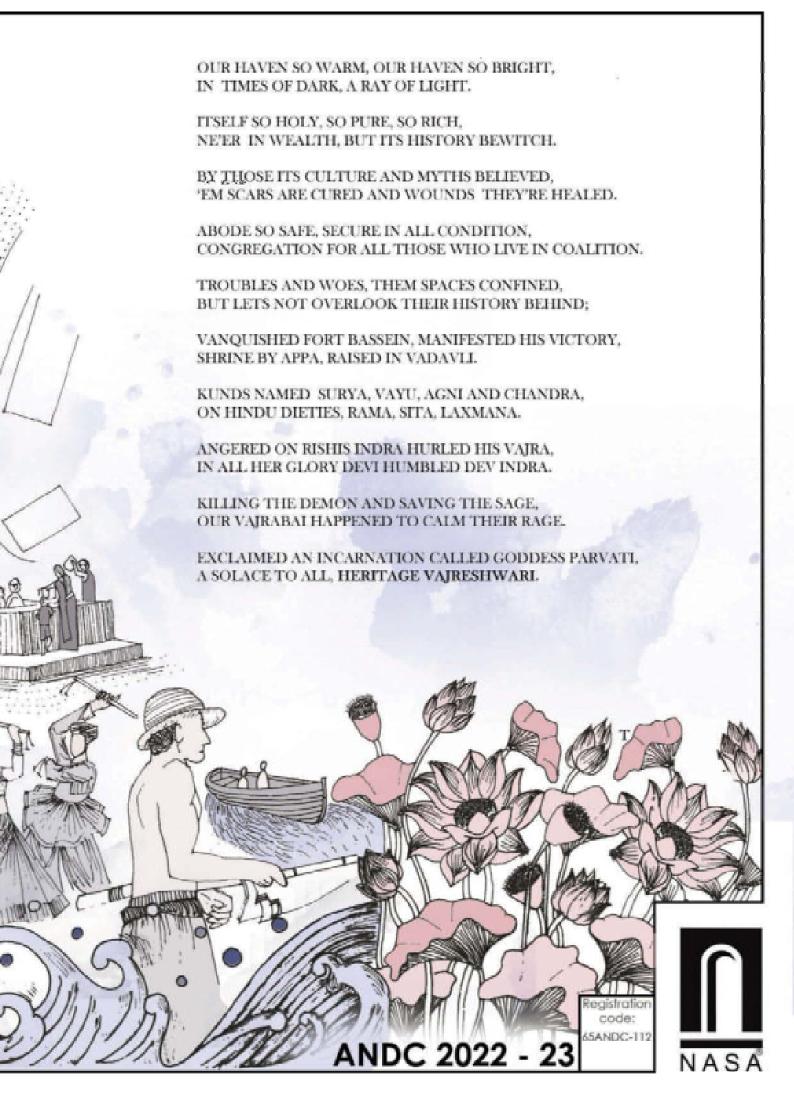
SCAN THIS QR CODE TO SEE THE FULL ENTRY!

Registration code:

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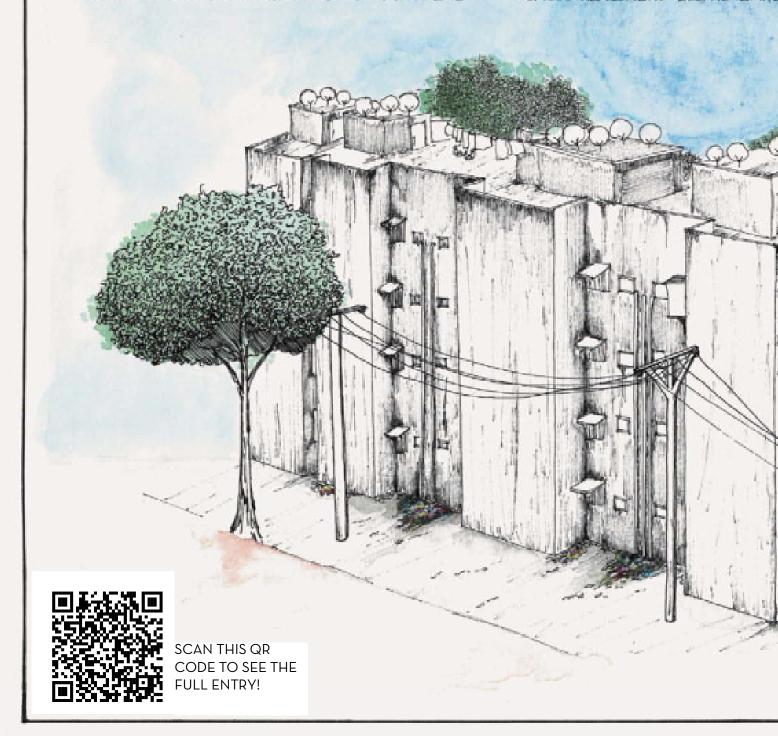


## MADRASI COLONY, BHOP

IN THE LAYOUT OF DEVELOPMENT OF 21st CENTURY IT INDIA TO OVERCOME. A LOT OF REH. 15 VERY NECESSARY FOR A NATION TO BE DEMOCRA-TIC & SOCIAL INSIDE OUT, BEING GENDER NEUTRAL. OPPORTUNITIES FOR EMPLOYMENT, PROMOTING ENTRE-PRENEURSHIP, BETTER LIVING ENVIRONMENT ETC ARE FEW FOOT STEPS TOWARDS IMPROVING THE NATION'S INFRASTRUCTURE.

SLUMS AND ITS PROBLEMS ARE ONE OF THE MOST TESTING TASKS FOR DEVELOPING COUNTRIES LIKE

ES HAVE BEEN TAKEN INTO ACTION TIMES THE PROJECTS FAIL TO RES OF THE PEOPLE LIVING THERE . TH REQUIRED TO BE MULTIFUNCTIONAL ADAPTIVE & SHOULD BE ABLE TO PROBLEMS IN ORDER TO SERVE TH OF THE SOCIETY. IN THE LOCALITY WI COPIOUS NEWCOMERS DESPITE LIMITE



## AL

ABILITATION ACTIVITI-I IN . BUT MANY PECT THE NEEDS E SPACES ARE , INTERACTIVE, TIME-TACKLE THE CORE HE CHANGING NEEDS HICH ACCOMMODATES D SPACES & OTHER

AREAS IT BECOMES A PRIME NECESSITY TO USE THE AVAILABLE SPACE WISELY.

THE IDEA IS TO PROPOSE DESIGNING SOLUTIONS FOR UPMOST UTILISATION OF SPACES NEGLECTED TILL NOW & THE NEGATIVE POCKET AREAS WHICH ARE USED FOR MALPRACTICES WE NEED TO CONNECT PEOPLE WITH EACH OTHER 4 GROW THE COMMUNITY VALUES & CULTURE. THAT WOULD INCREASE OPPORTUNITIES FOR THE GROWTH & DEVELOPMENT AS A WHOLE.



01. INTRODUCTION

LBT 2022-23

NASA





"The Best way to find yourself is to lose yourself in the service of others." - Mahatma Gandhi

Ayuh Aarogya Sadan is a general hospital incorporated into Noida's city centre that is being converted from a corporate structure to a 150-bed facility hospital using adaptive reuse techniques.

Our design approach includes integrating strategies climate-responsive techniques and passive/active features to ensure carbon footprint reduction.

It is essential to shape sustainable design by taking into account the needs of users, various sustainable techniques, and the site's and climate's current characteristics with the help of a variety of active and passive techniques, such as natural lighting and shading, since the construction sector accounts for more than a third of total energy usage in both industrialised and developing nations.

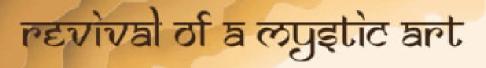
Therefore, with energy conservation planning and the implementation of strategies to limit potential emissions, lowering CO2 emissions is our major focus. Hospital is a major necessity for all and Ayuh Aarogya Sadan being the the only health center in the vicinity helps the neighborhood which is a commercial area is vital.

Water and waste management strategies, strategies for improving occupant comfort and well-being universal accessibility, safety and security, environmental awareness, social impact.

> Registration code:

65GRI-36

GRIHA Trophy 2022-23



Through the mystic valleys of heaven on earth.

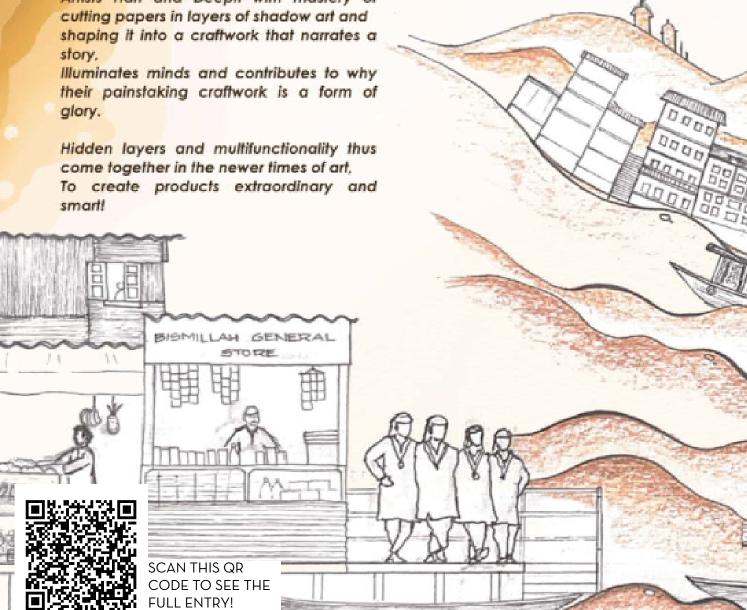
An art so beautiful and unique took birth.

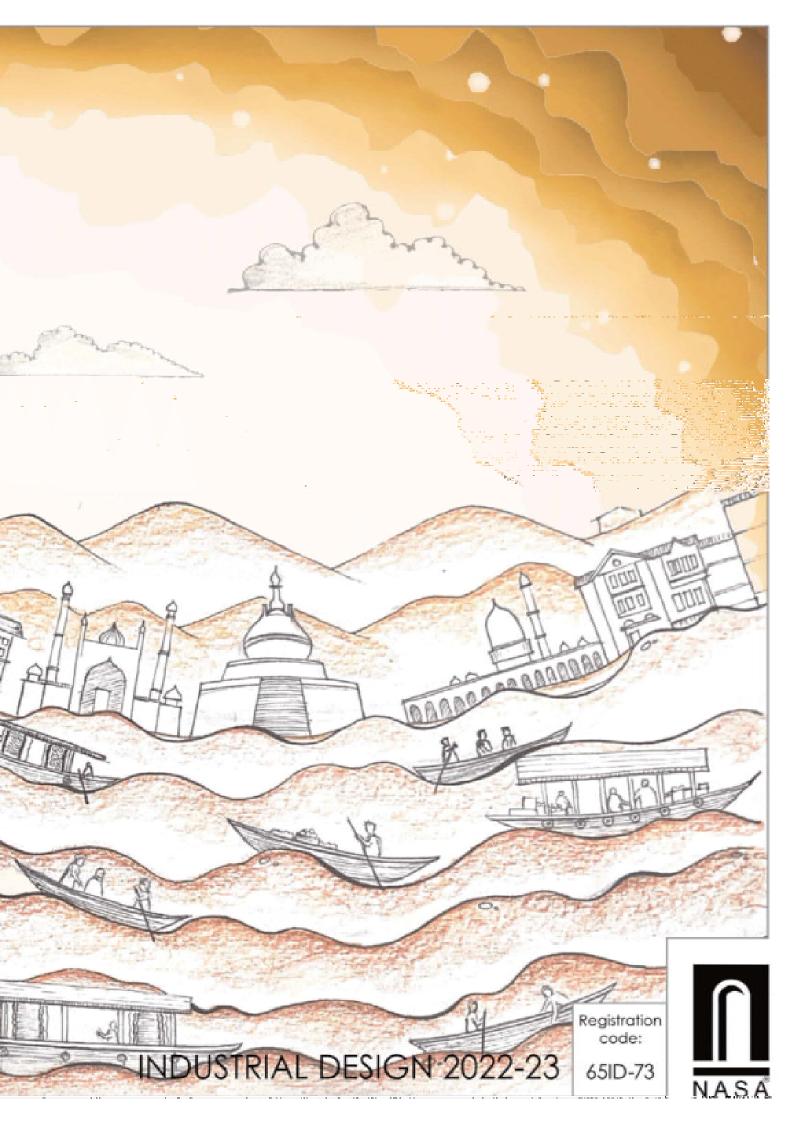
Bits of paper moulded into a work of art, The papier mache community comes from the core of Kashmir's heart.

In the modern world, as the form's slowly witnessing it's doom,

The designers take responsibility of ensuring it's bloom.

Artists Hari and Deepti with mastery of







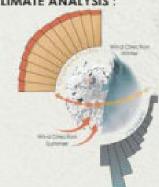
#### and matrix!"

aused a drought prone situation in axe. Significant human exploitation, apporation rate has shun its natural Zero will occur. If we mitigate these face water shortage. Cholovaram of the nearby rural areas will get ur-

e tree of life", it is found in the desert ares around 1.00,000 litres of water in of dry seasons to survive, letting the

i like extrusions made up of ECC on sea where extracted water vapour toring excess rainwater. Hence, the ering to climatic and site factors.

#### **CLIMATE ANALYSIS:**



#### CONCEPT:







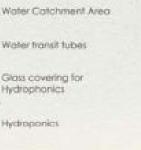
Baobab - "Ray of Hape" in desert region

The DNA represents development, growth, reproduction and functioning of all its.



ECC water transit tubes

Solar Panels - To provide energy to LED lights provided in Precast Base



Solar Panels

Stoinless Steel Poles -Support to the mesh

Mesh (Zeoltes, Slica Gel. MDF) - Water Vapour to Water Droplets

Stainless Steel Cover - To stop excess water from faling off

ECC Base - To support water catchment members



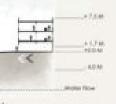
Hydroponics - Vertical forming

ECC Supporting Member

ECC Water transit columns Capacity of extraction -45000 L



- The tree of life



- 4,00m - 1,75 m - 1,75 m - 1,70 m - 1,

make displats, should and then expelled by the recody recitation areas.





## LIFE BEGINS IN A POT OF WATER (AMNIOTIC SAC) AND ENDS ON THE SEASHORE

#### "தண்ணீர் குடத்தில் பிறக்கிறோம், தண்ணீர் கரையில் முடிகிறோம்"

·वर्य जले कलवी जाता: वर्य जलतीरे अनते गयकाम:

Life begins in a cauldron of water and ends on water's edge.

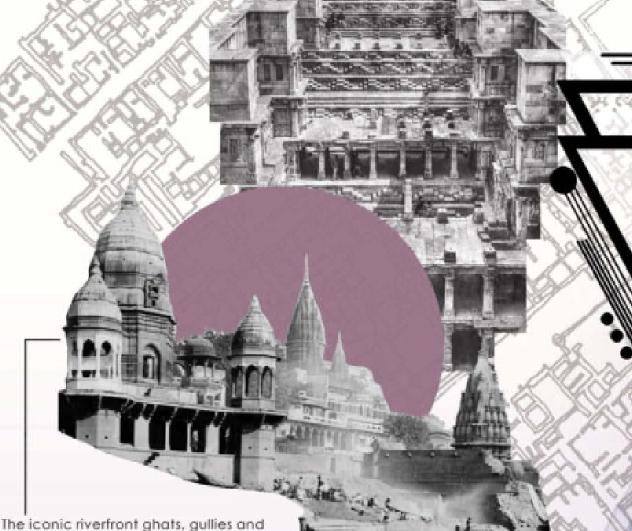
In six words, Tamil poet Vairamuthu epitomized the existence of humans on Earth. 'We arise from water; we return to it.' Our cultures have travelled with us along it. Civilizations were born along the rivers, be it the Indus Valley, Ancient Egypt, or Mesopotamia.

Religions around the world endorses the eternal human connection with water. 'In the beginning, when there was darkness, the world was covered by water; there was water alone".

#### - STEPWELLS

"Descending into the experience, one in which enveloping cool, and re Victoria Lautman

Scattered across India's architecture including palaces are an often or infrastructure called steps



Religious centres are built around ar near water-bodies like tanks, stepwells, rivers and seas. For centuries, these have served ritualistic, spiritual as well as social functions.

the River Ganga in Varanasi have been a repository of culture and

wisdom from ancient times

The Ganges, the patron river of the city bears testimony to this cycle of life and death. A dip in the river guarantees a good life, absolution from sins and attainment of nirvana.



#### AL DHAROHAR SANRAKHSHAN





earth is a profound a sweltering heat turns to loises become hushed."-

vast landscape of ancient temples, mosques, and verlooked relic of historic wells. MOHENJODARO

Mohenjo-Daro, a major urban centre of the Indus Civilization, dating to the third BC has produced evidence of a sophisticated system for supplying water and sewage. Water came from more than 700 wells and supplies domestic demands, also a system of private use.

"I, in rains that fall, waters that travel through rocks, flows that touch your feet.

Do I sit or flow. Meander or piped in. What will it be today?

I trickled, tumbled, Atop the hills ground, Until I was held.

Centuries later, To drink, dive, rest or pray, My stillness beckons.

Your hands carve my paths, My course reflects your power. Flaws no more my own.

Paved walkways for people to go. Reads over rivers for traffic to flow, Bridges stand sturdy for trains to pass.

Pillars for the Metro coming up fast. You seem to forget that when you build.

You cross over, while I stand still.

Travel straight lines Hidden within your pipes I lose my rights.

Be a bit wiser, Wash hands, use sanitizer, Waterless taps, dried wells, we all fall down.

- CHAVVI MISHRA



SCAN THIS QR CODE TO SEE THE FULL ENTRY!





#### INTRODUCTION

Approximately 100 km from the south of Mumbai City, in the outskirts of Alibaug District, there lies an ancient village named Chaul. Chaul has been mentioned in Mahabharata as Shiva's and Parvati's favourite coastal city. In medieval times, it was governed by various rulers. Peshwas, Portuguese, Mughals enjoyed the richness of Chaul. Various structure and archaeological landmarks dating to various centuries are found in this village. Chaul is also known as the village with 360 Temples along with their Kunds, where 22 kunds are active, till date. Rameshwar is one of the oldest, architecturally finest and largest temple complex in the village of Chaul

#### TEMPLE

Rameshwa Chaul and Rameshwa nath Rajara 2325 sq. mt where any

#### EVOLUTIO

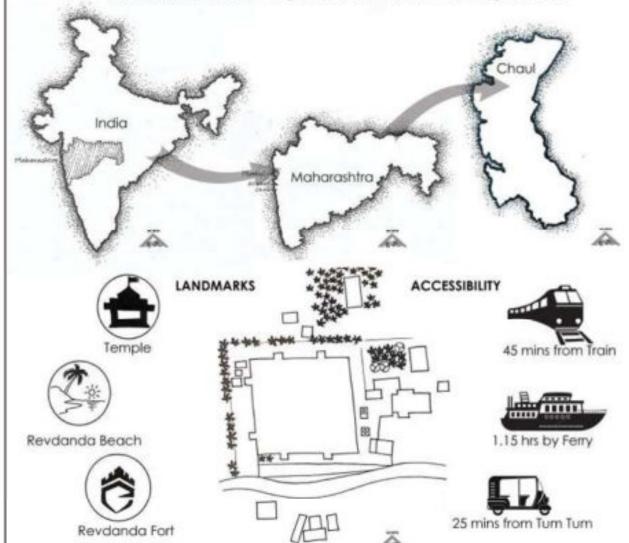
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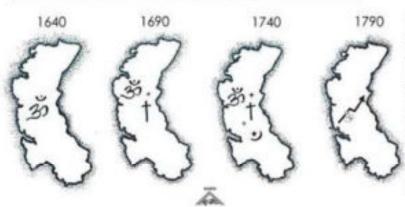
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People celebro season with Pr



#### HISTORICAL EVOLUTION OF CHAUL



The Egyptian Mamluks, allied with the Gujarat Sultanate vanquished the Portuguese in the Battle of Chaul but later the very first Portuguese settlement at Chaul. The town was destroyed in a slege by the Nizam Shahi Sultan of Ahmadnagar, but a treaty was concluded which lifted the slege, and the town was rebuilt by walls and bastions. Portuguese India's Northern Province of Chaul was an area along the coast of what are now Gujarat and Maharashtra that stretched from Chaul in the south to Daman in the north. Chaul as a town was widely tamous among traders around the world for quality cotton production.



Lord

UNVEILING THE PATRIMONY OF CHAUL, THE RAMES

#### COMPLEX OF RAMESHWAR

r temple is one of the oldest religious structure in currently its managed by a temple trust called Shri Mandir trust, while the land is owned by Raghuım Aaglave. Rameshwar temple covers an area Rameshwar Temple is seen as a sacred place one from village or outside is allowed to worship.



#### ON OF RAMESHWAR TEMPLE COMPLEX

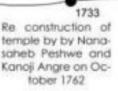


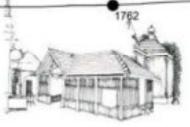


Peshwas signed the peace treaty with Portuguese, hence temple was constructed to celebrate the victory in 1733.

Completion Deep Stambh

1600

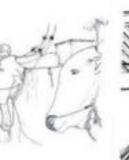




1820 The nagar Khanna was built in 1816. It functioned as the entrance area where the kings greeted music.



#### E'S CONNECTED WITH RAMESHWAR TEMPLE



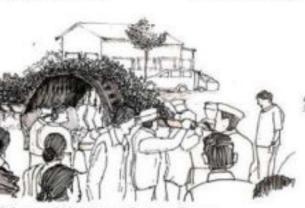
ting first harvest of aying to Animals



People singing spritual Songs in Temple Complex



Every Sunday morning people agglomerate for bhajan



Shiva palki is taken all over village on Mahashivratri



People celebrating Shravani Shanivar



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Igniting deep on

Deep Stambh



### HWAR TEMPLE.



## Solar <sup>™</sup> Decathlon India

# INTERMEDIATE DESIGN DEVELOPMENT REPORT FEBRUARY 2023







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#### PRE-DESIGN ANALYSIS AND CONCEPT REPORT

MULTIFAMILY HOUSING NOVEMBER-2022









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# GUEST TALK-Ar. Rahul Manohar







He talked about how the design of auditoriums has evolved over the years.

The implementations of acosutical aesthetics was thought to us.

The value addition helped students assess in their upcoming semester projects.



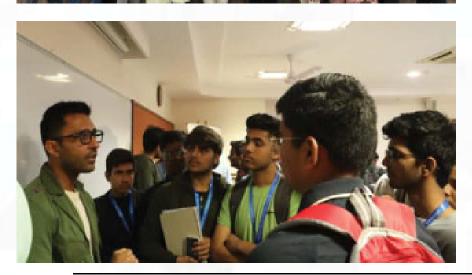
# GUEST TALK - Ar. Karan Desai



Ar. Karan Desai guided students through his journey and educated them to learn the job, the process well before diving into the market.









# SEMINAR Ethos







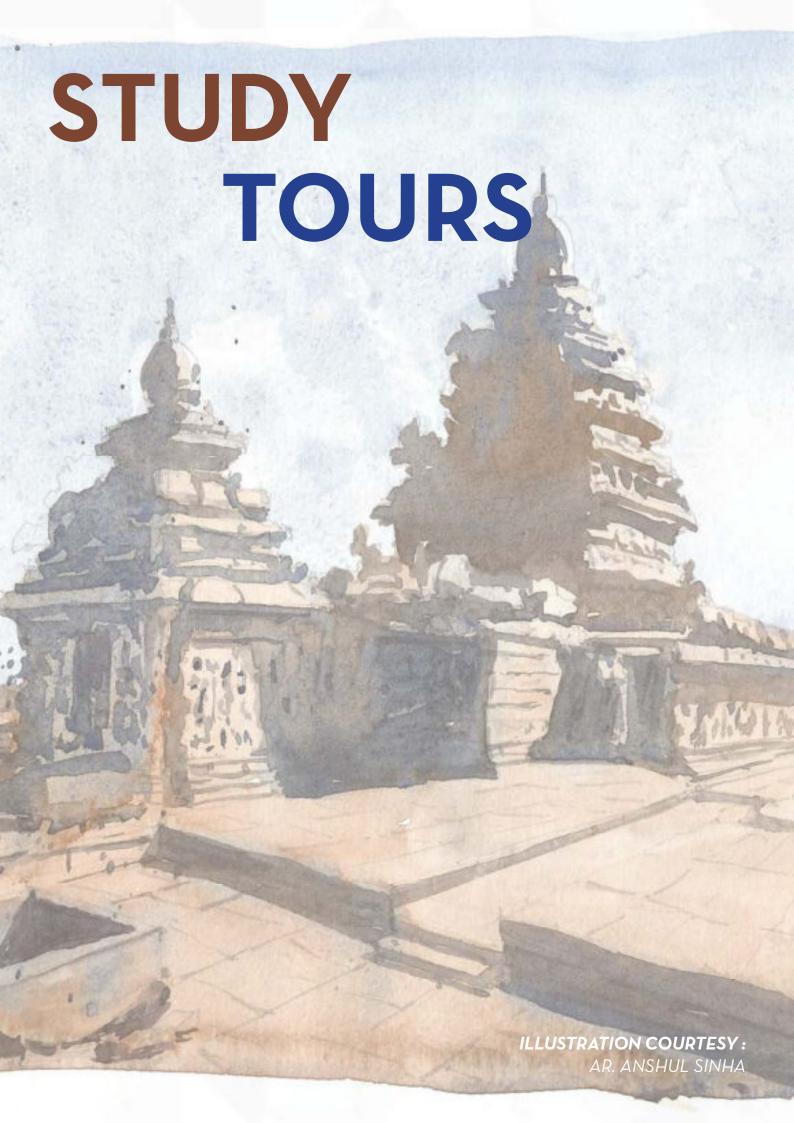


# HITACHI Seminar

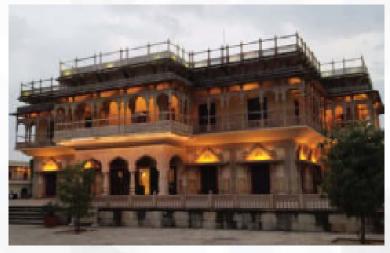
Hitachi organized a wonderful seminar for our B.Voc. srudents. They gained insights on working of a HVAC system and how can it benefit the interiors of a space.







# JAIPUR - 2<sup>nd</sup> Year









# AHMEDABAD - 3rd Year















# HYDERABAD -4th Year













# AMRITSAR- 5th year











The yearly study tours encourage students with experiential learning where, at the end of the day students gain knowledge through peer learning.







# SPORTS ACHIEVEMENTS



"Dynamic motion: Sports weave stories of triumph and teamwork."

PHOTO COURTESY:

PRAKET SAWANT

SK SOMAIYA COLLEGE OF ARTS, SCIENCE AND COMMERCE CARROM TOURNAMENT PARTICIPANT: GOVIND Desai

#### GOVIND BAGGED THE 1ST PRIZE IN THE SHUFFLE BOARD CARROM TOURNAMENT





NMITD, DADAR CARROM TOURNAMENT, APRIL 01, 2023



IGNITRA CARROM 2nd Prize: Govind Desai









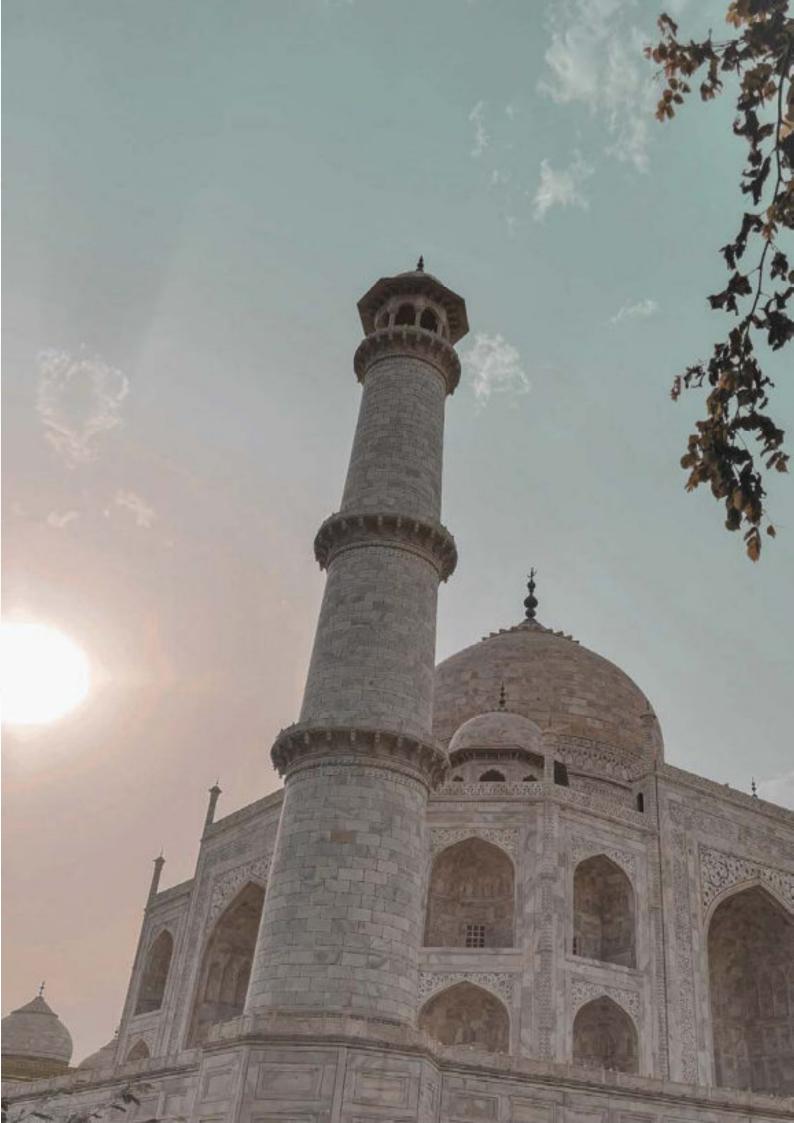






**BOX CRICKET TOURNAMENT:** 

MAYURESH SHELAR, FARHAN, VANSHITA SHAH, GOVIND, SAKSHI PALAV, YATISH, PRAVEEN SUTHAR, JAYMIN, GOPAL, SAHIL  ${\sf Q}$  .





"City's heartbeat: Rajabai Clock Tower marks time in Mumbai." PHOTO COURTESY: DEEPAK NAGAL

# FESTIVALS, EVENTS AND **FESTS**

"Tranquil serenity" Ghorai Beach Pagoda, Mumbai **PHOTO COURTESY:** 

DEEPAK NAGAL

# ONAM & CHRISTMAS 2022



















# EPOCH 2022



The year 2020 turned our daily lives into a prison. Our homes into jails and it left us startled as to how we had to cope up with this war that was going on between us and an unknown virus. It changed our basic lives, and tuned us into virtual world. We had no other solution but the world had to come together to fight for our lives. And now when we're past the pandemic and we all come out as glinting Superheros we're happy to announce that we were back with our college fest - Epoch 2022. Pandemic taught us that if we all come together and have each other's back, we can fight and overcome any muddle that comes in our way, hence celebrating the unity and oneness of us all and we name it - Aikyam, the theme for Epoch 2022.









AIKYAM -the spirit of oneness











epoch is an annual college fest at TSAP organised by the student council in coordination with the faculties. The fest showcases talent of each student - academic and beyond. The fest is divided in three different days and is followed by a theme each year. For year 2022 we celebrated the spirit of oneness - AIKYAM. It wasn't just union of the faculty and student council but also two different

It wasn't just union of the faculty and student council but also two different departments joining hands in unity to make this event a grand success.

Clockwise, from top right - Ar. Tushar Desai and Sapna Lakhe appreciating the student work displayed;

(below L-R) The honourable dignatries at an installation; IGBC student chapter commencement ceremony;

(below L-R) Students enjoying a discussion with faculties; Faculties guiding students











Day 2 - Workshops

where students take charge to teach a hands on skill to their fellow mates and faculties. The workshops are thoroughly enjoyed by the students and faculties as well. Everyone participates enthusiatically and learns a new skill.

Clockwise, from top left - students enjoying Lippan art workshop; students conducting a texture painting workshop; faculties immersed in learning the sculpture art;

(below, L-R) A fourth year student explaining concept development; A beautiful nukkad play arranged in unity by the students of B.Arch and B.Voc. under the initiative oour socials department;











Day 3 - Cultural Day not just the students but faculties too share the stage and tap on the feet to the sweet notes of music. Its an entertainment show put up by the students, for the students.



clockwise, Top left corner - Faculty walks the stage gracefully with the student at fashion show; a snap from B.Arch combined batch dance:

(below L-R) girls strike a pose at the fashion show; Fourth yearites kill the stage with their moves;

(below L-R) Anchors won the stage by constantly entertaining the audience; a jaw-dropping performance by fifth yearites; (below L-R) Dance by B.voc; followed by a funny musical perfomed by B.voc.















# CLEAN-UP DRIVE 2022













# TRADITIONAL DAY AND YOUTH DAY 2022-23





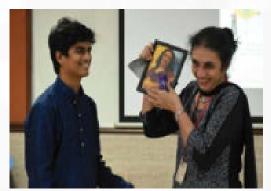








# TEACHER'S DAY 2022















## PLANTATION AND EYE-CHECKUP

















## BARTER BAZAAR













## PHOTOGRAPHY AND ARTWORKS



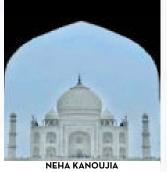










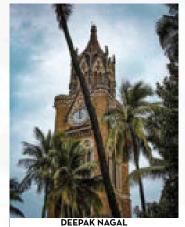


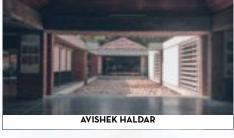










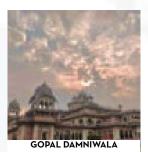










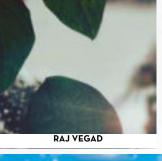


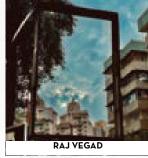














JAINAM SHAH





AVISHEK HALDAR

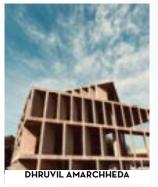
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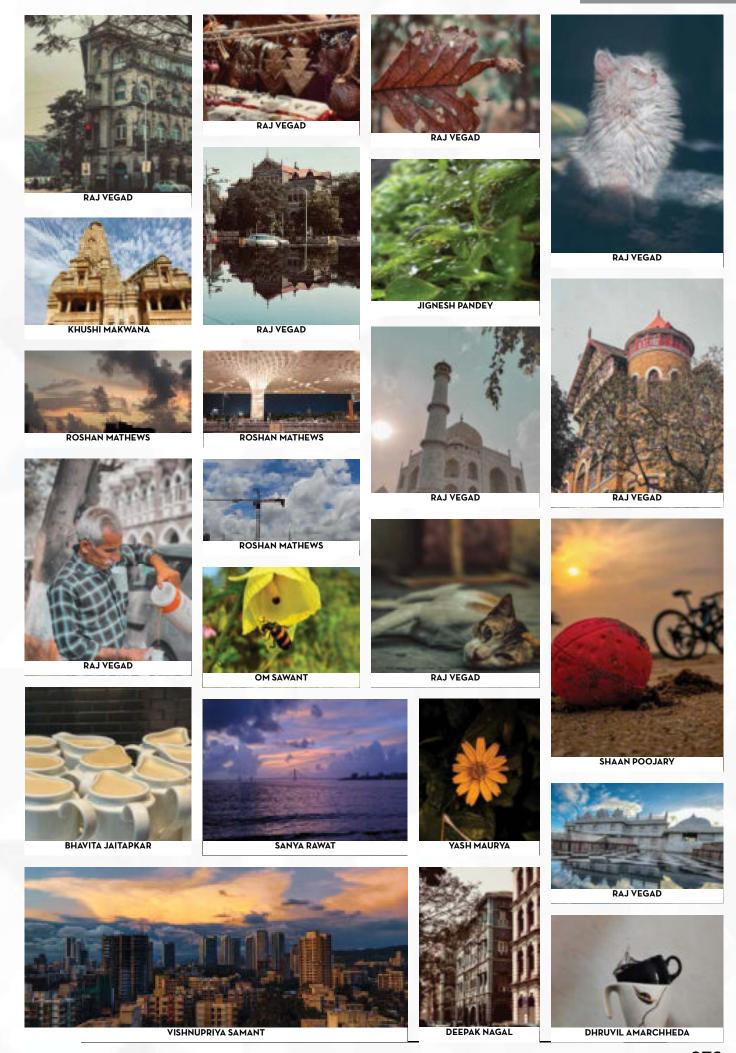


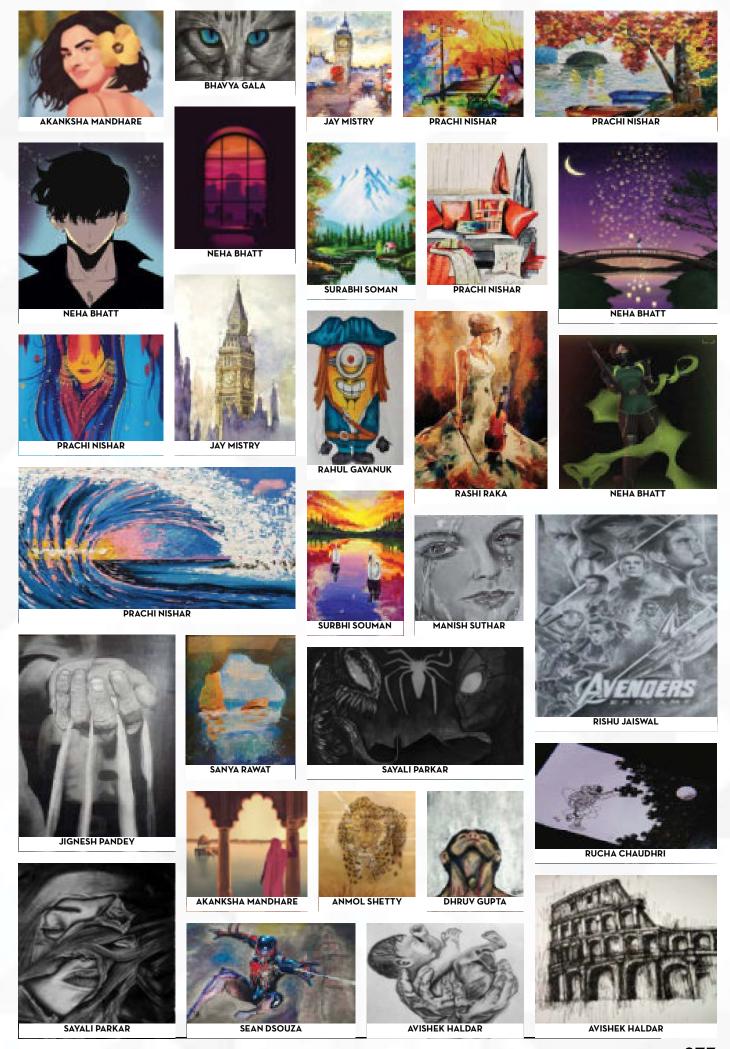








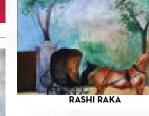












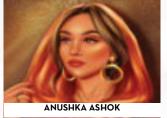


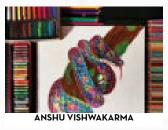




SURABHI SOMAN































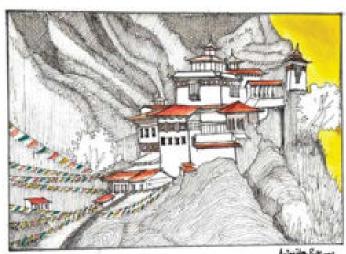




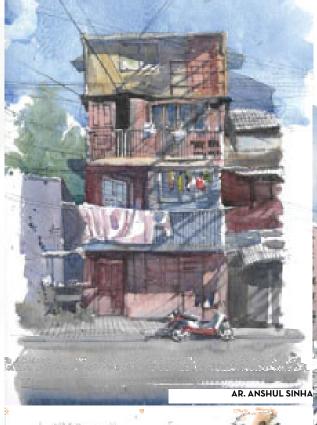


AR. ARIMITA ROY

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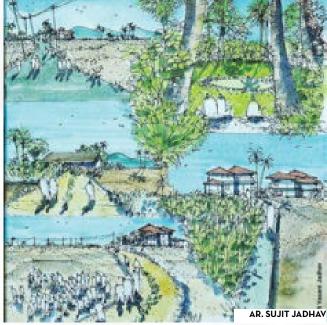
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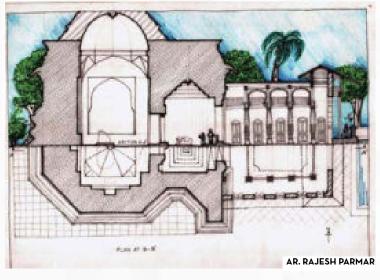




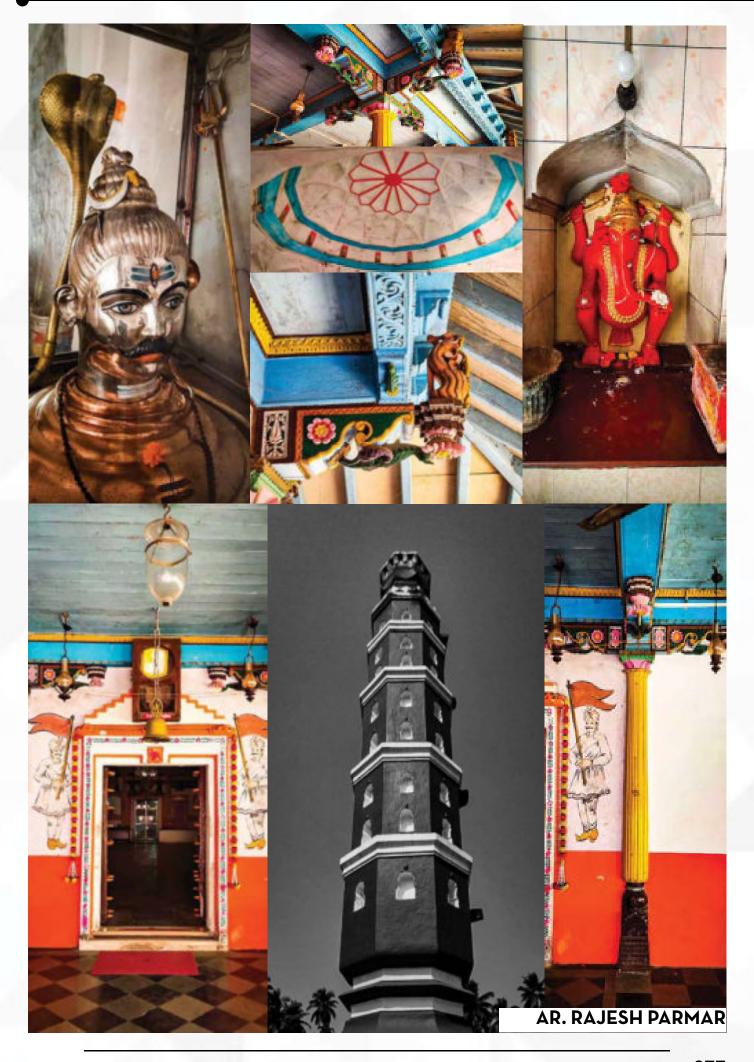


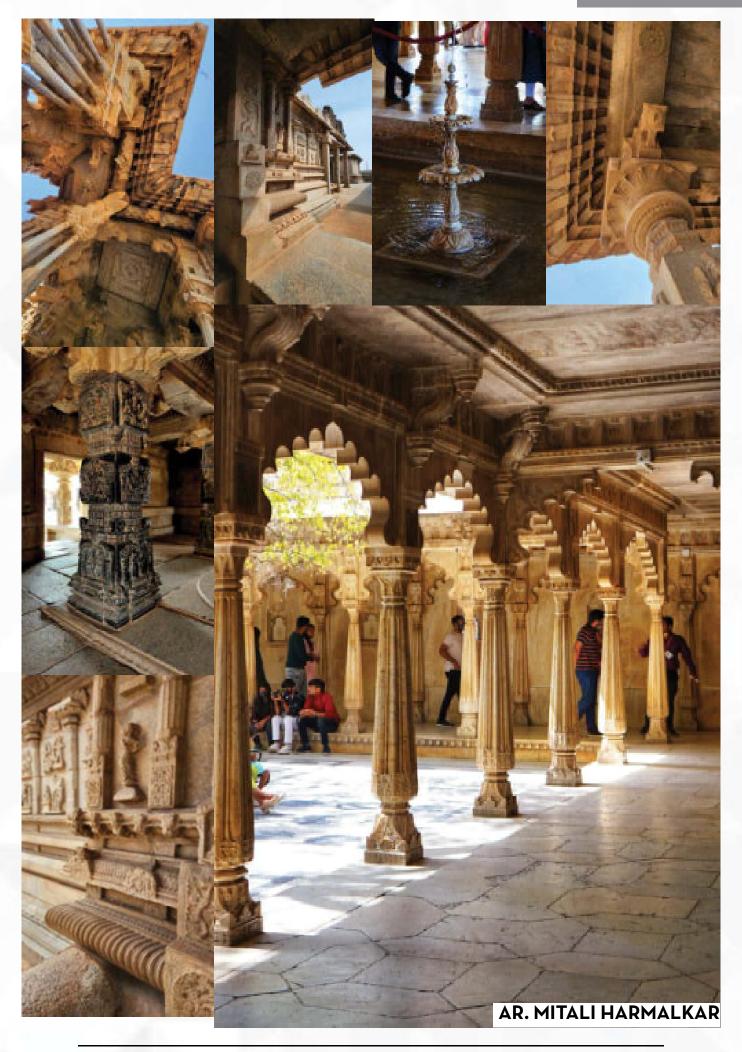












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