STUDENTS

PORTFOLIO

(2021-2022)

SRM INSTITUTE OF SCIENCE & TECHNOLOGY

DEPARTMENT OF ARCHITECTURE

DEPARTMENT OF ARCHITECTURE

MESSAGE

STUDENTS ARCHITECTURE PORTFOLIO 2021-2022 takes our students journey of learning and discoveries of their academic path in the year 2021-2022. Our faculty is a community of dedicated scholars and teachers whose research expands the boundaries of our knowledge and imagination and their teaching prepare students for wide ranging careers and lifelong learning. Our goal is to equip learners with usual skills and knowledge they need to succeed though. The portfolio follows the pedagogical approach includes both comprehensive in class instructions and the field experiential learning providing students with ample hands on practical experience and skills.

I invite you to explore the Student's Portfolio 2022 to learn more about the brilliant learning environment at the Department of Architecture.

Dr. PRADEEPA C
HoD, DEPARTMENT OF ARCHITECTURE

MESSAGE

STUDENTS ARCHITECTURE PORTFOLIO is the academic collection of the students – 2021 – 2022. This is a collection of work on the qualitative and quantitative analysis and research with the guidance of the faculties attained in the previous semester.

Students Architecture Portfolio – 2021-22 is also focuses on the research, innovation, sustainable solutions of design problems presented to students with direction and encouragement from HoD and Faculties – Department of Architecture.

We wish to present you to take you on a aspiring journey of the architectural works of our brilliant minds.

Ar. POOJA KRIPANITHI
STUDENTS PORTFOLIO COORDINATOR

DEPARTMENT OF ARCHITECTURE

UNDERGRADUATE

The school offers the Bachelor of Architecture (B.Arch.) program of 10 semester duration. The B.Arch degree program at SRM is recognized as one of the India's premier and the most comprehensive programs in Architecture due to the thrust on contemporary issues such as sustainability, urban redevelopment etc. and continuous interaction with practicing architects of repute. It also offers a large number of elective studies, ensuring flexibility and a choice based education tailored to their areas of special interest which may be urban design, landscape, architecture, housing, project management, urban planning etc. The program is approved by the Council of Architecture, New Delhi and was the first one in South India to be accredited by the National Board of Accreditation (AICTE) in 2001.

POSTGRADUATE

The 4 semester M.Arch (Architectural Design) degree is one of the most innovative programs in India and it prepares graduates to meet the challenges thrown up by the ever changing needs of contemporary society. This professional degree is structured to educate those who aspire to create masterpieces of complex architecture including large scale infrastructure projects and metro level urban facilities. It aims to train scholars specifically in the design & construction of tall buildings, airports, mass rapid transportation terminal, stadiums and environmental planning.

CONTENTS

UNDERGRADUATE - B.ARCH

POSTGRADUATE - M.ARCH

SEMESTER 2

B.ARCH

RESIDENTIAL & FURNITURE DESIGN

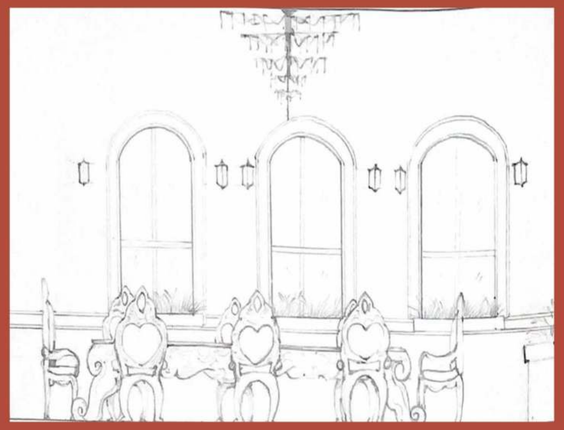
Semester 2 aims at understanding the human ergonomics with reference to human needs, spatial anthropometrics. To faciliate and interpret the influence through the theme of regionalism, art deco and stone age. Introduced to sustainable approcheds with regards to residential design.

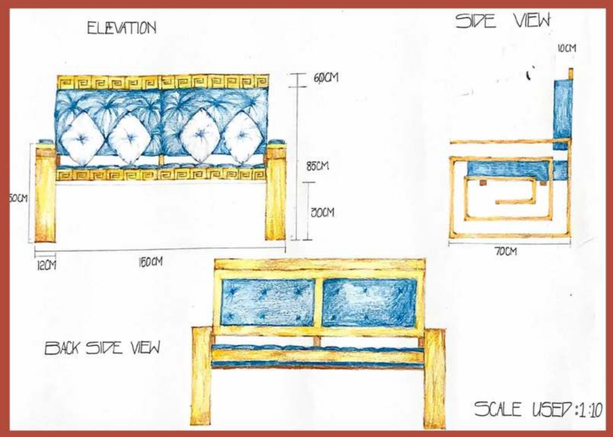
FACULTY TEAM

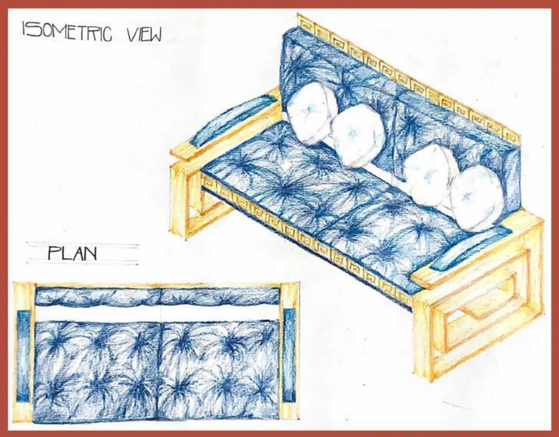
1. Prof. Suriya Prakash
2. Ar. Balamaheshwaran
3. Ar. Nivetha Devi
4. Ar. Deepika

SEMESTER 2

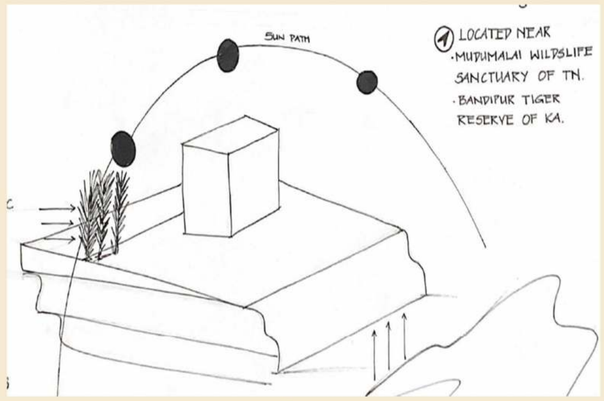
B.ARCH

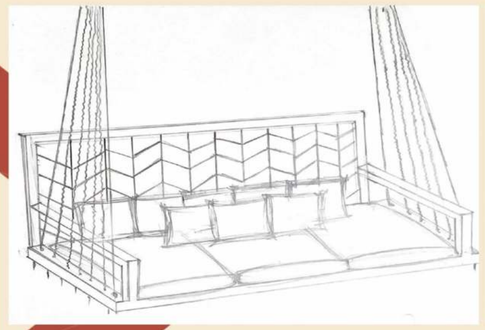


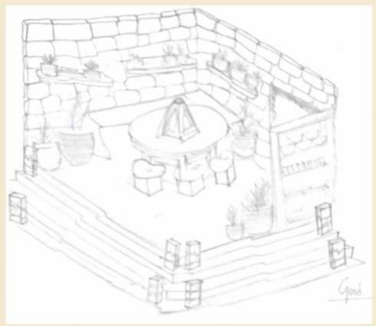




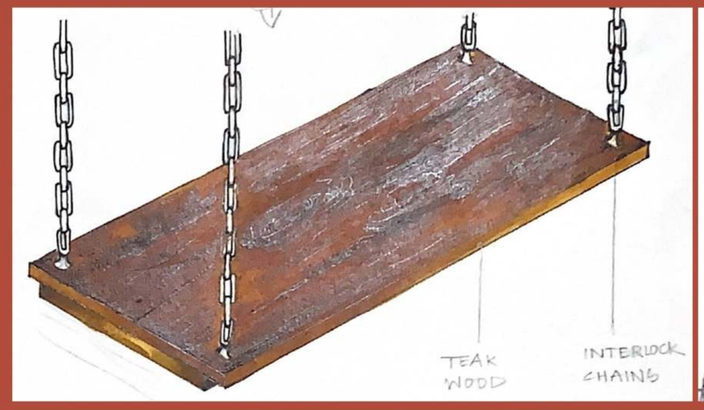
BY NANDHU

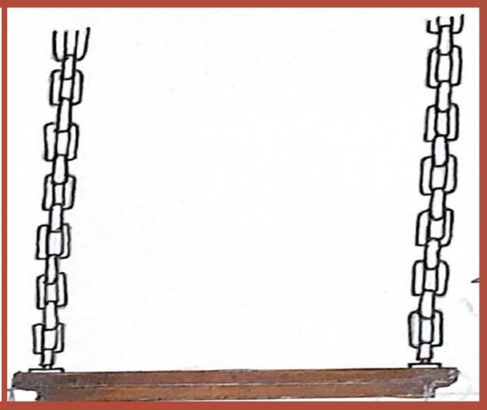


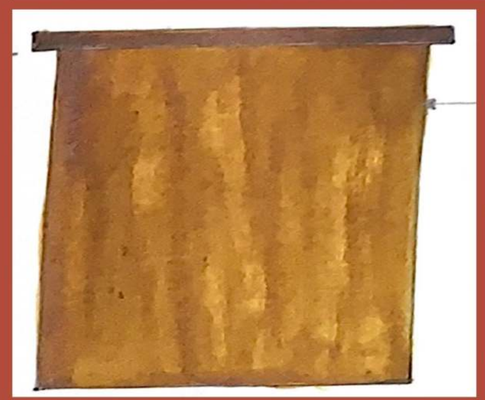


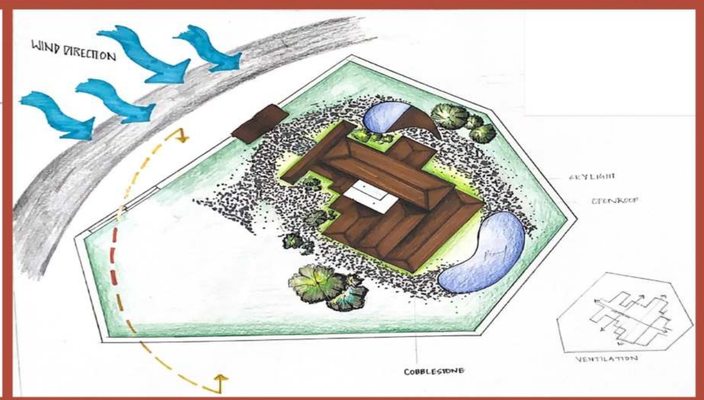


BY SHUBHASHRI J P

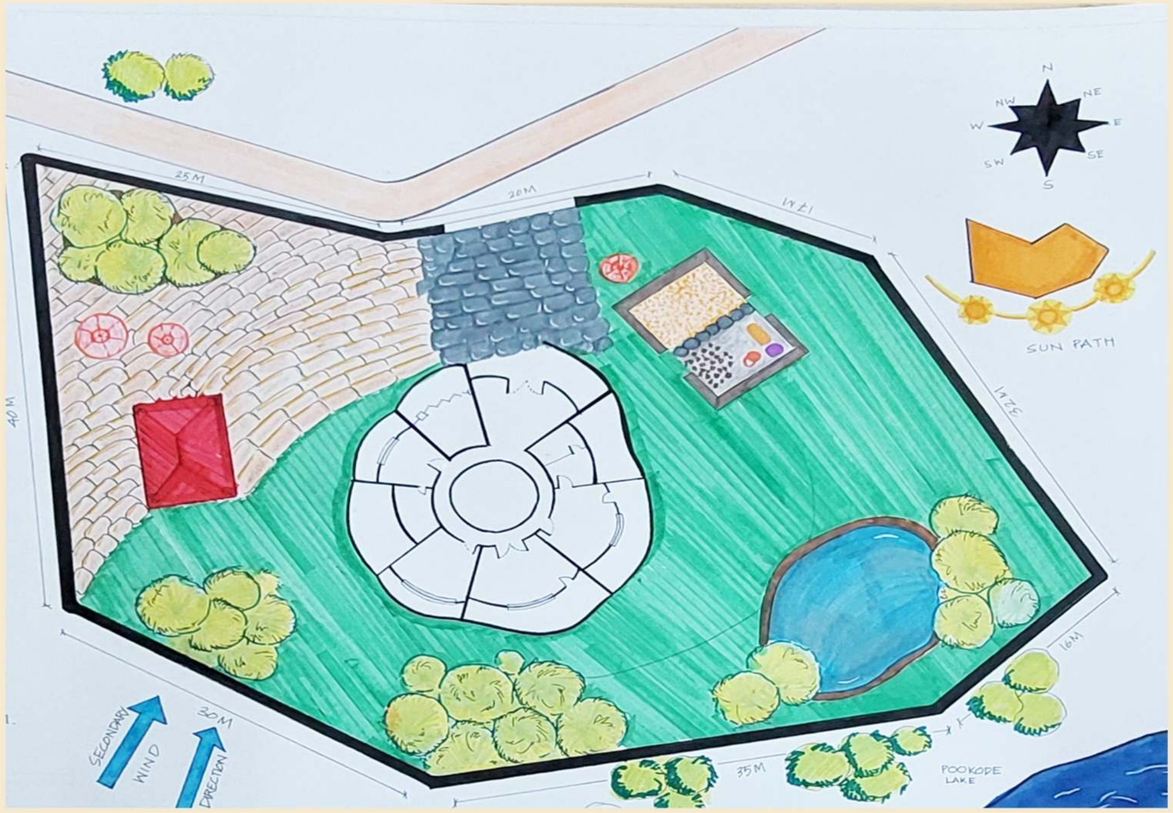


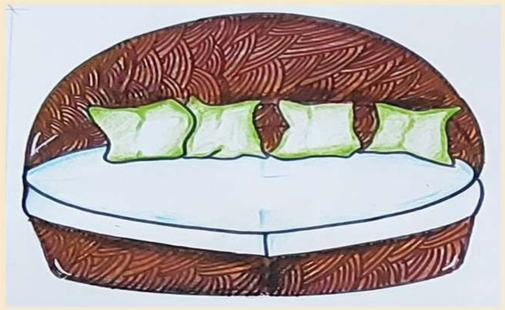


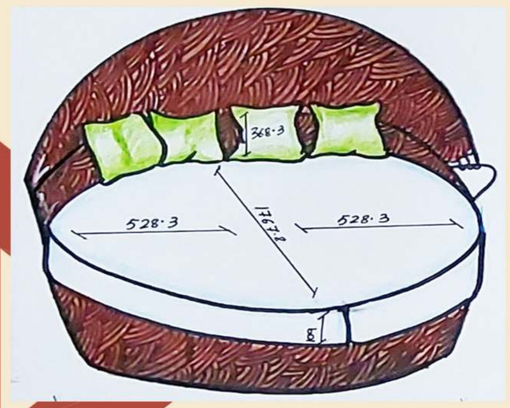




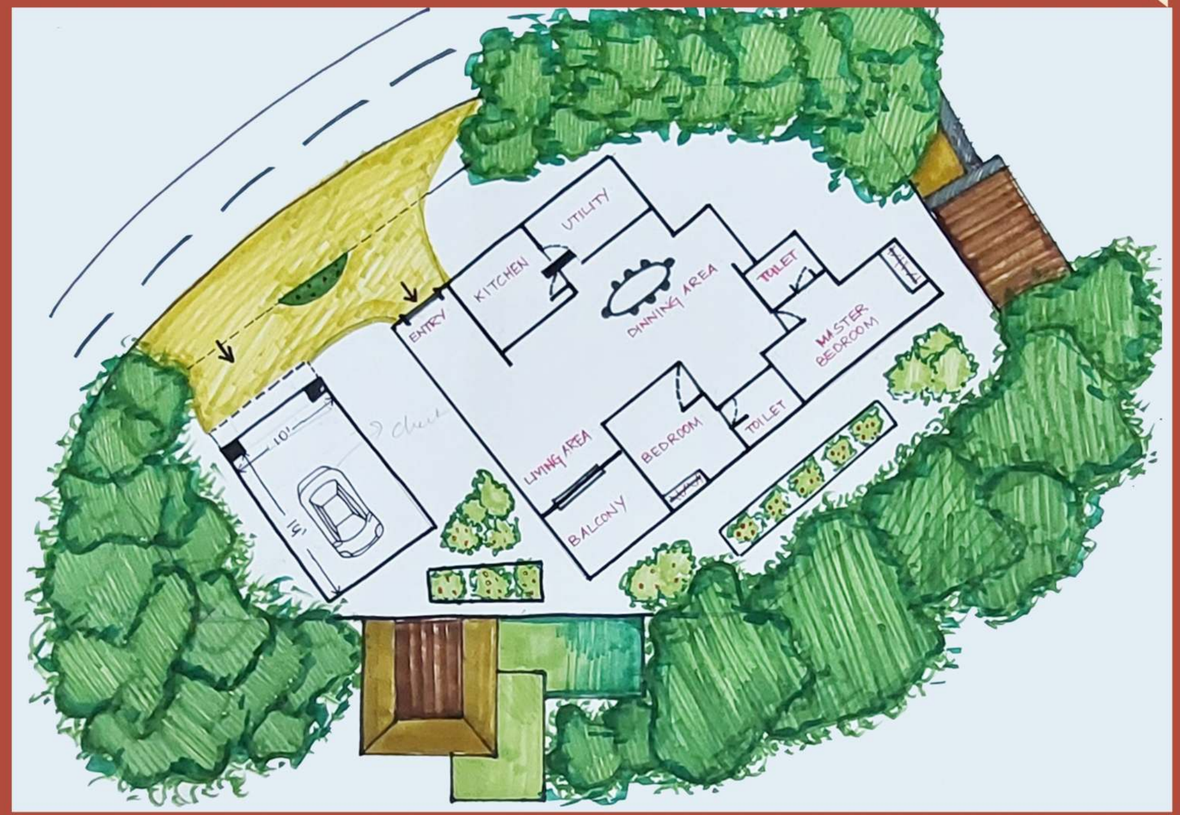
BY VISHNU PRIYA

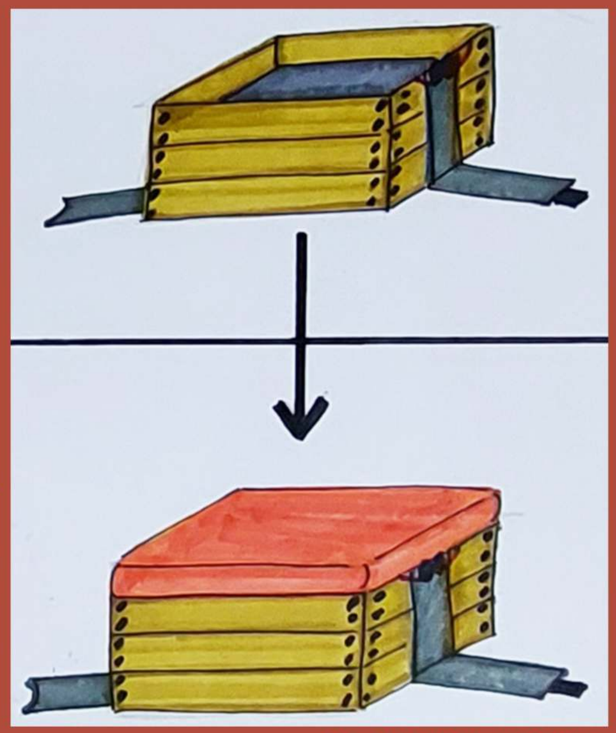






BY VOMMIKA MOHAPATRA





BY ANANYA MISHRA

SEMESTER 4

B.ARCH

RURAL DOCUMENTATION & PROPOSAL

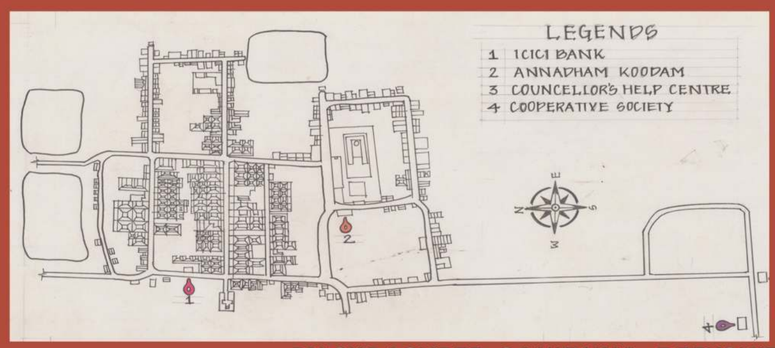
Semester 4 aims at comprehensive study of a rural settlement to create a holistic understanding of the socio – cultural, geographic, and economic aspects that shape the built environment. Exposure to the methodology of conducting various surveys covering physical, visual characteristics and socio economic aspects. The abilty to understand the vernacular and traditional architecture involving local building materials and construction techniques.

FACULTY TEAM

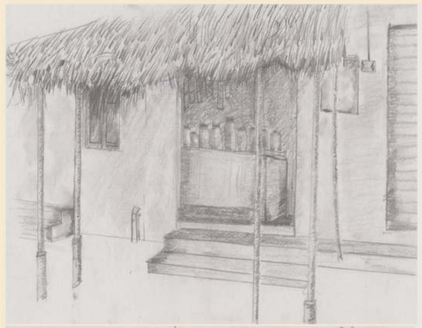
1. Prof. T. R. Kamalakannan
2. Dr. Anantha Narayana K
3. Ar. Purnachander P
4. Ar. Narayani A R
5. Ar. Grace Ansica
6. Ar. Gajendran T
7. Ar. Prasanna S
8. Dr. P. Karuppusamy

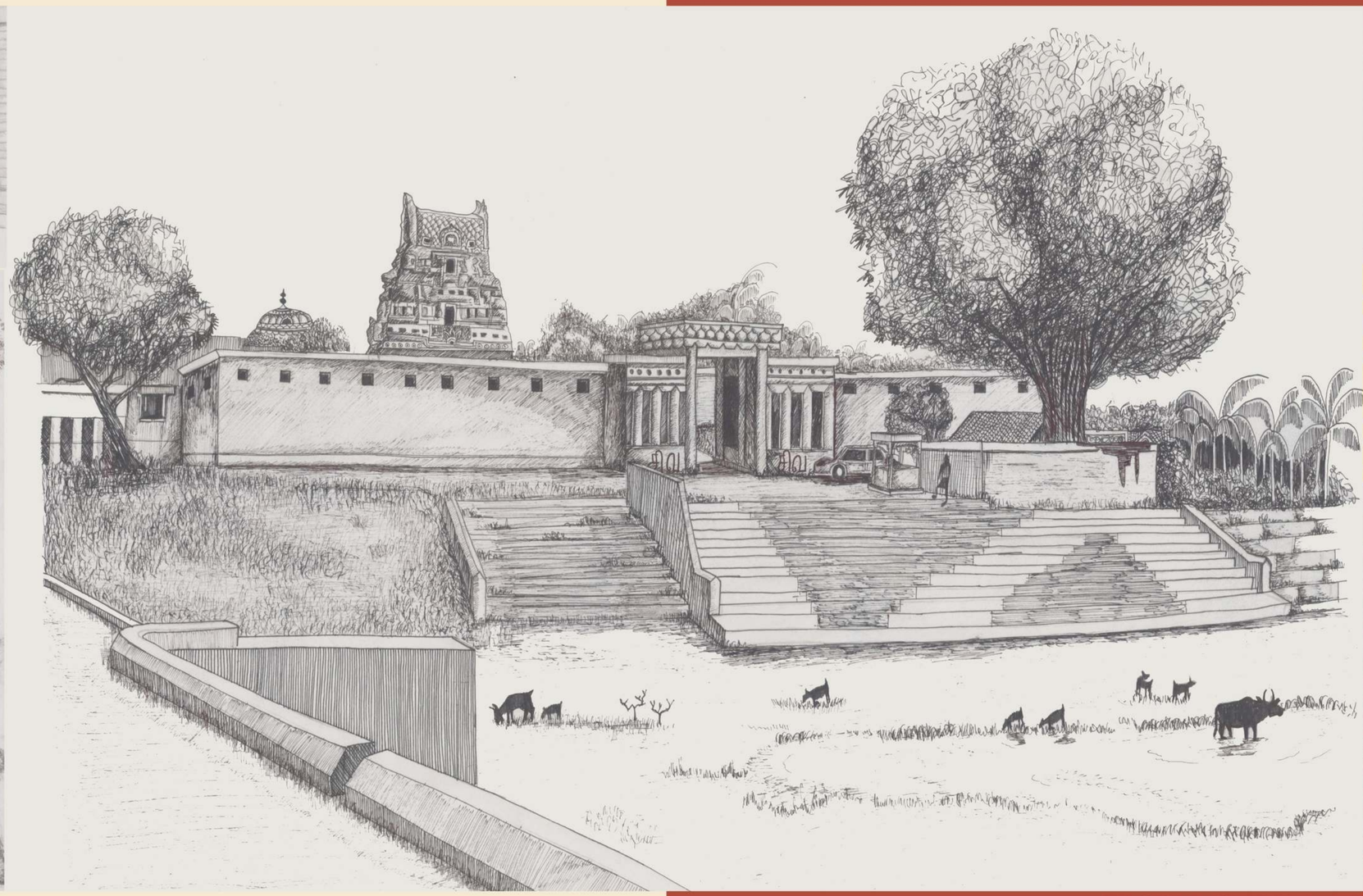
SEMESTER 4

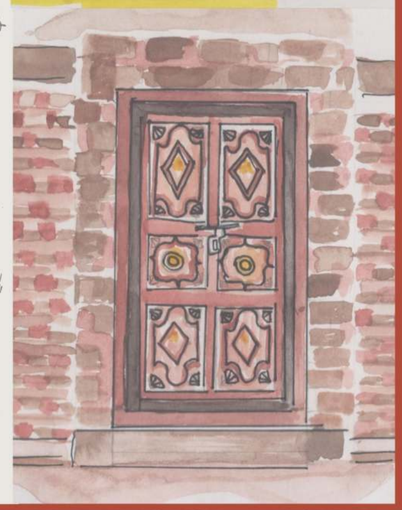
B.ARCH



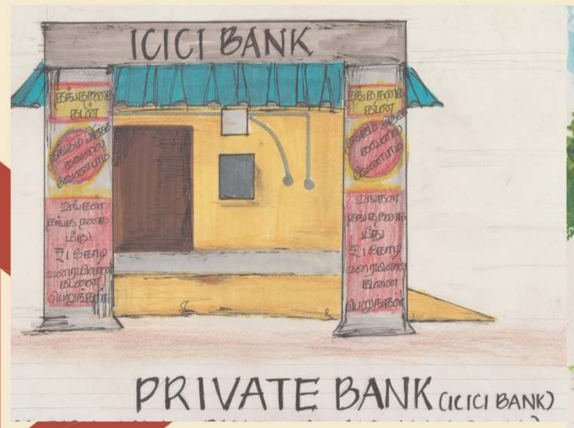
BY SUBASHREE, SAHIDHYA, DEEKSHITHA, SHARAN, AZIN, SHAHINI



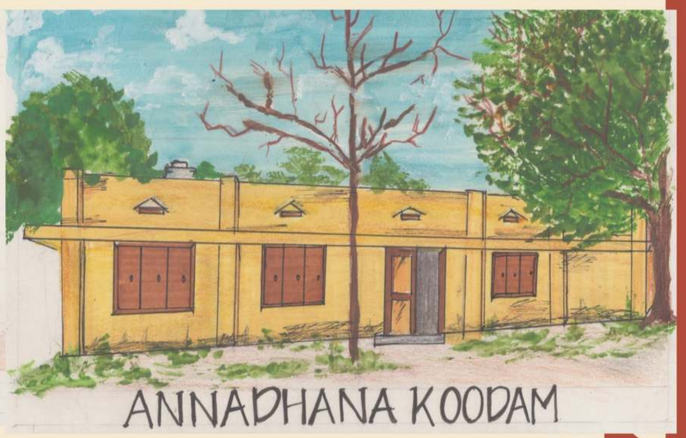




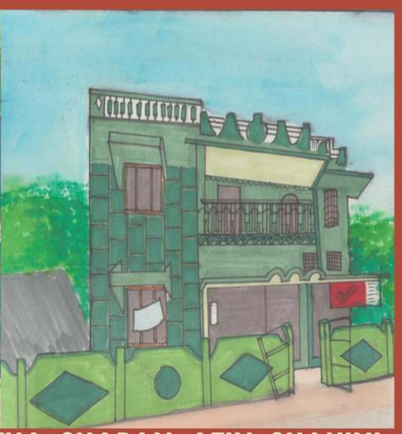
BY GIRI R, SRUTHIKA, KEDAR, DEBASHISH, ARUSHREE



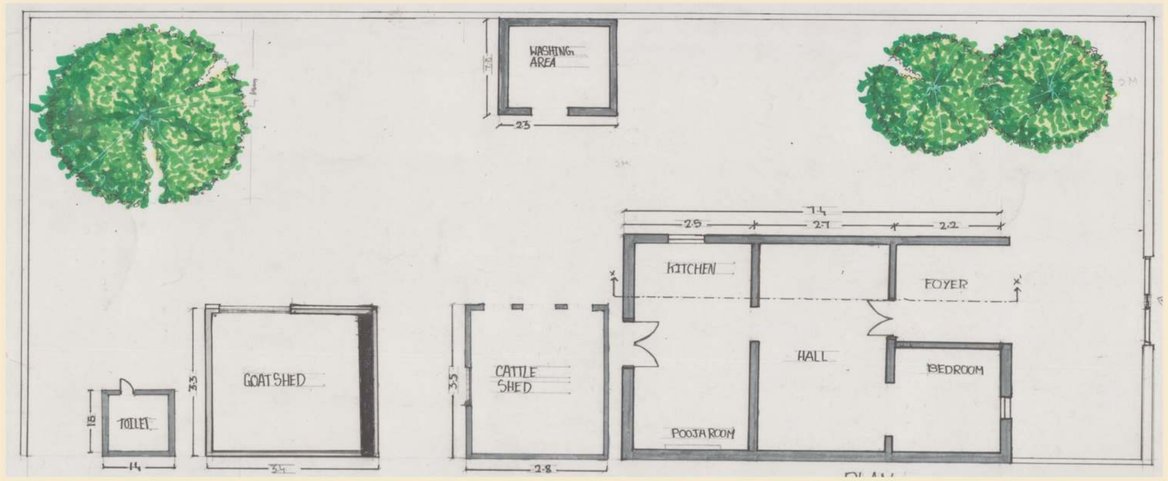
PRIVATE BANK (ICICI BANK)

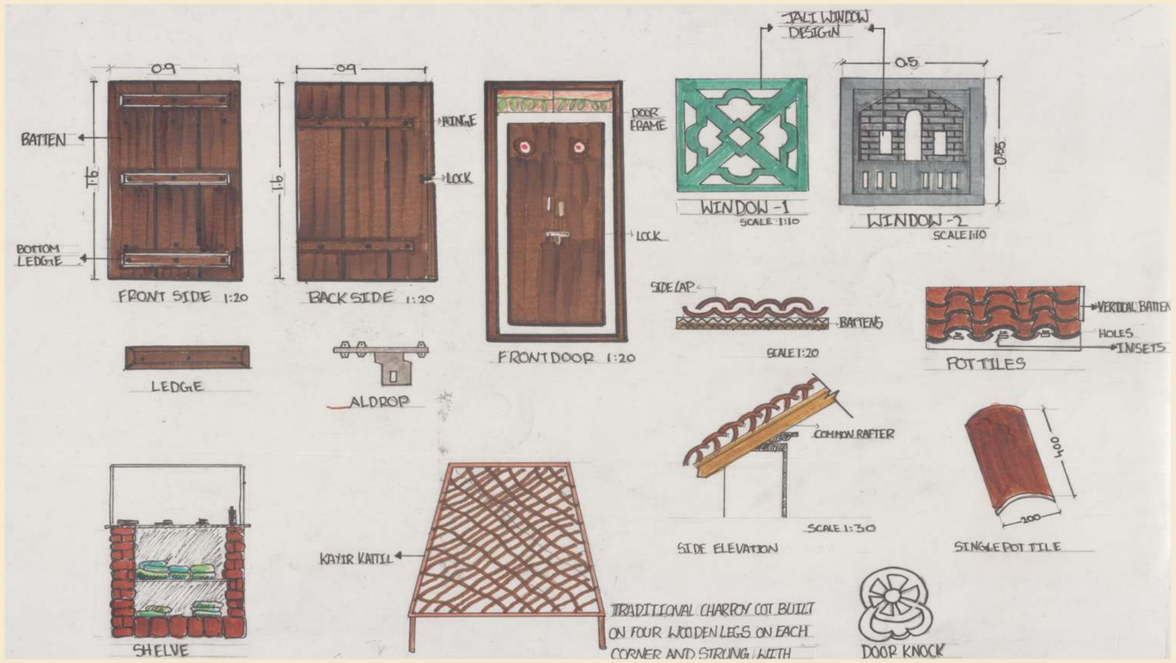


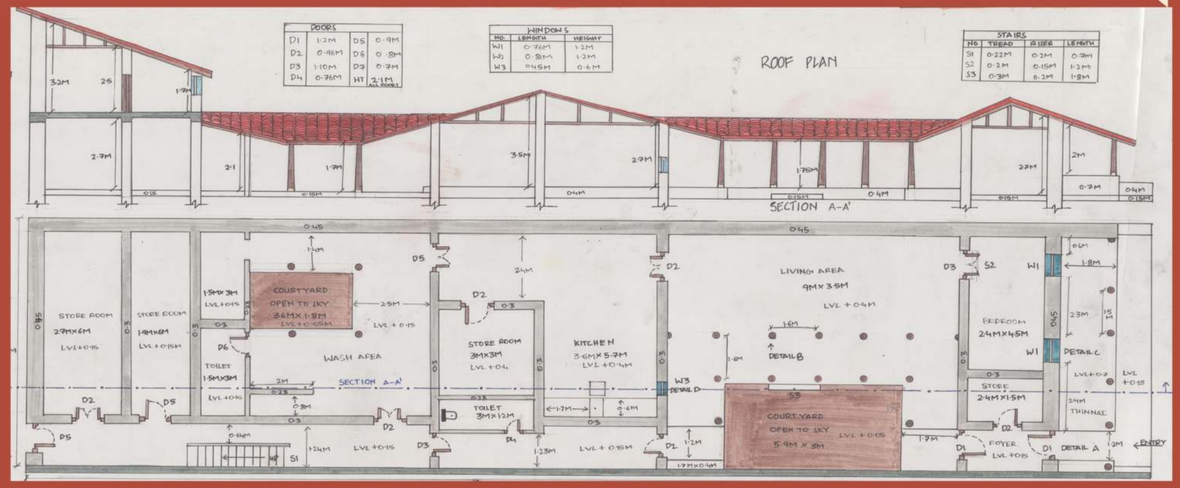
ANNADHANA KOODAM

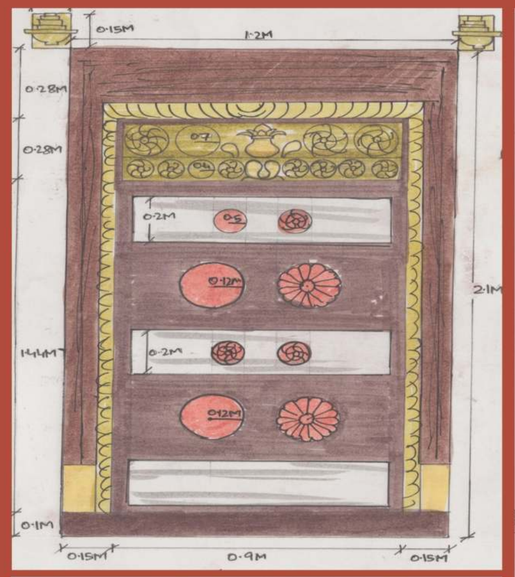


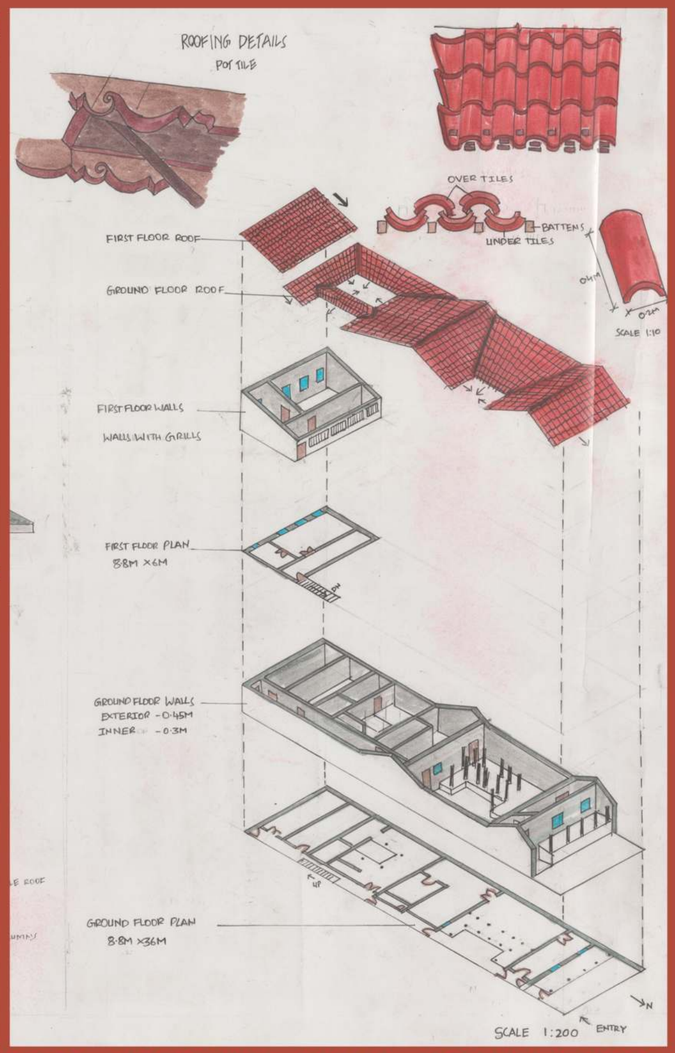
BY SUBASHREE, SAHIDHYA, DEEKSHITHA, SHARAN, AZIN, SHAHINI

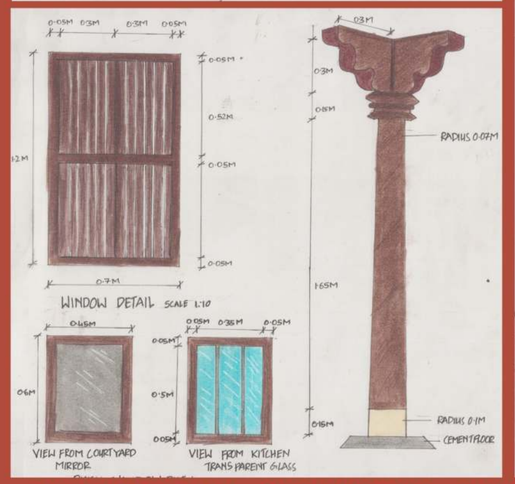




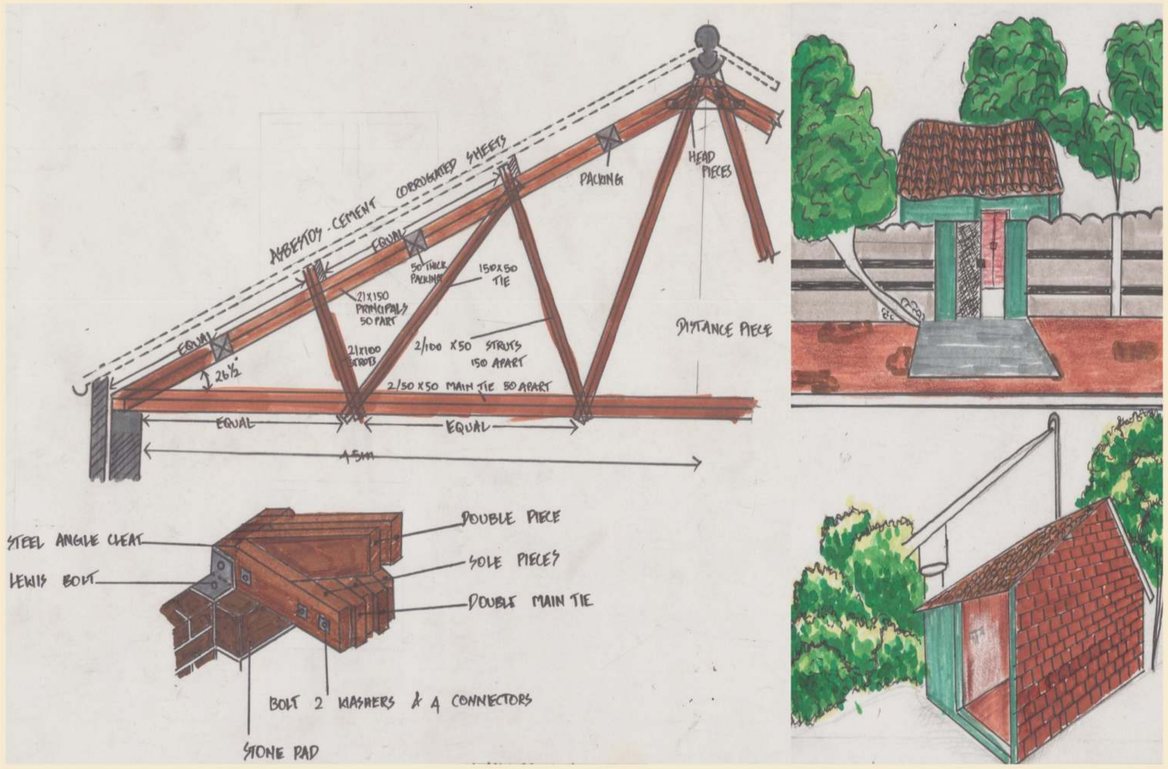


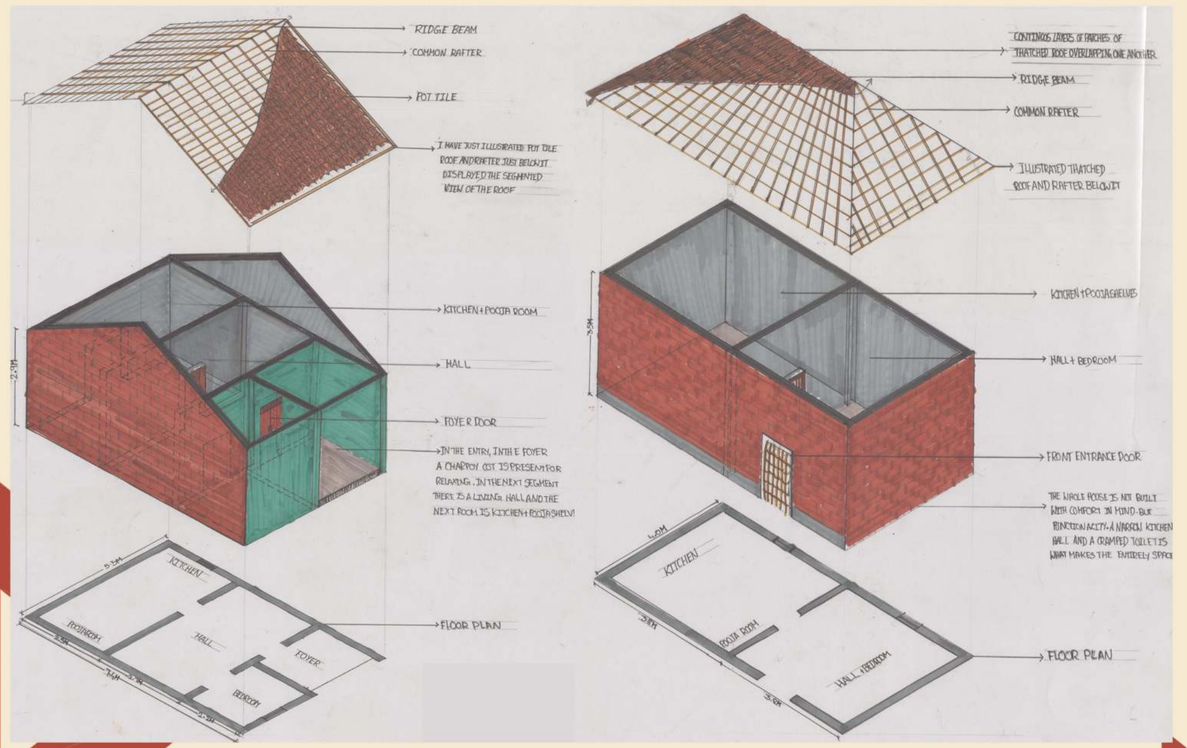






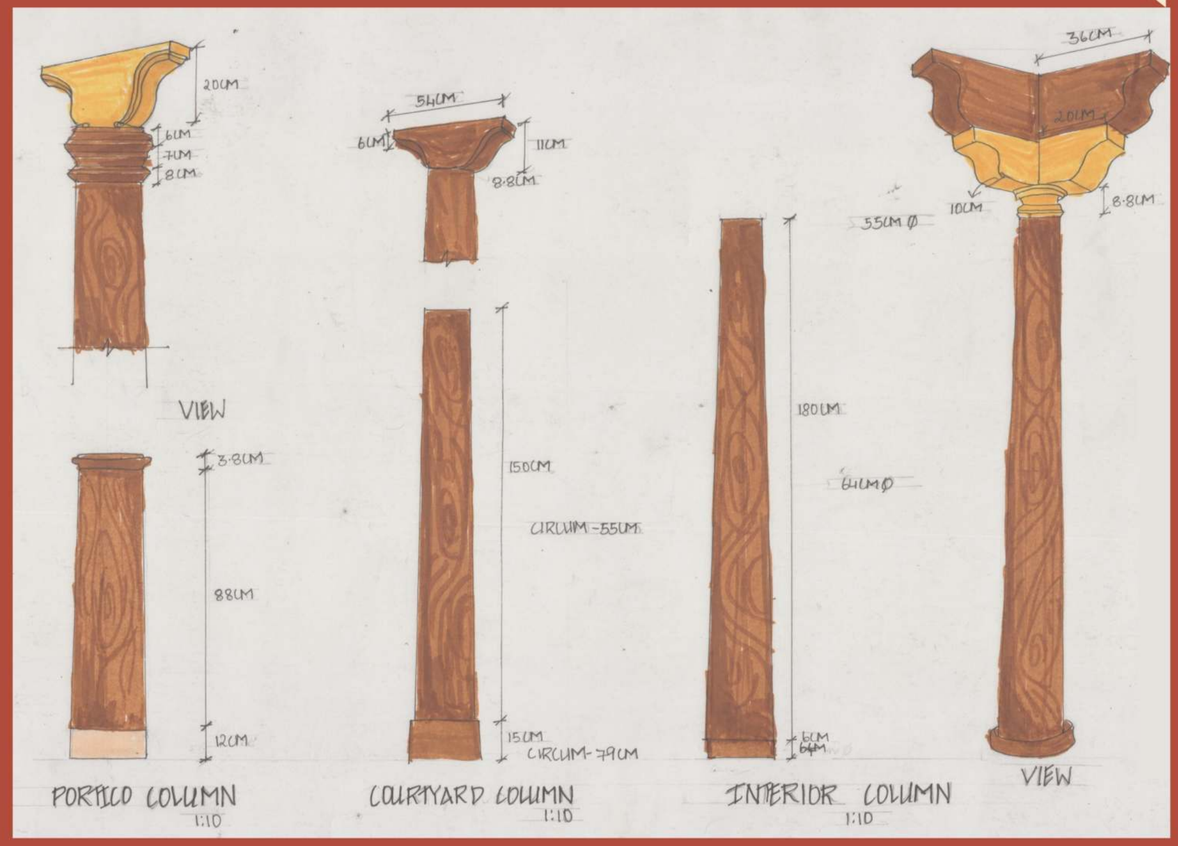
BY MADHUBALA, SHANMUKHA, ANUROOP, JYOTISMITHA, RAIYAN, MOHANA RAJESH

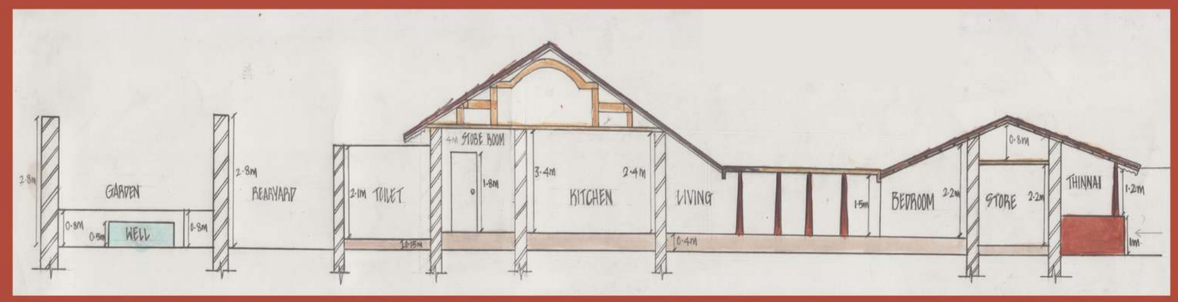


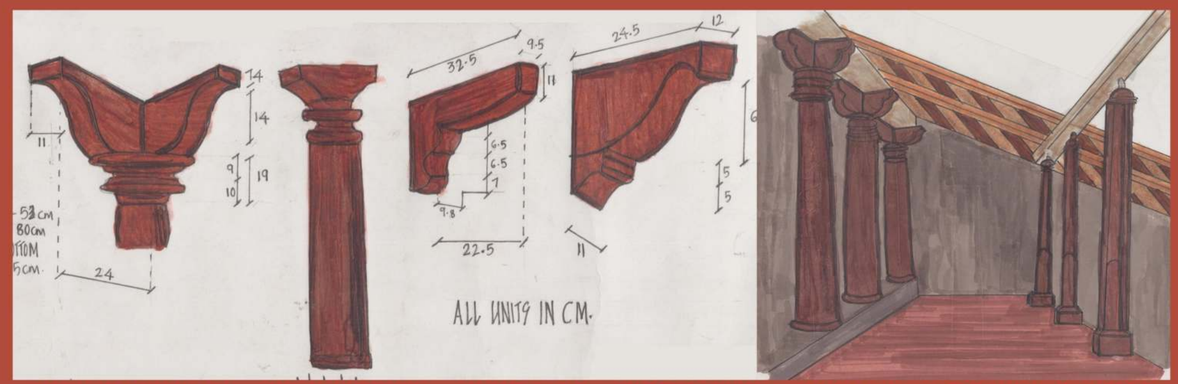


SEMESTER 4

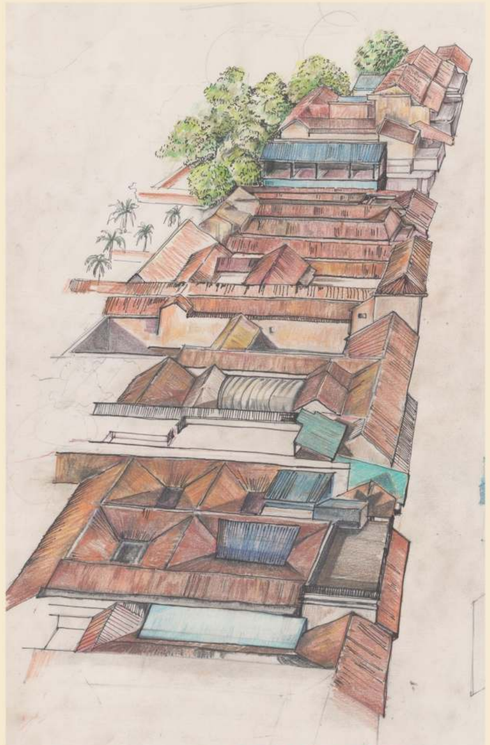
B.ARCH







BY MADHUBALA, SHANMUKHA, ANUROOP, JYOTISMITHA, RAIYAN, MOHANA RAJESH

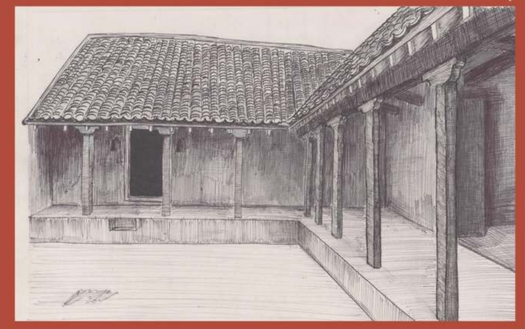


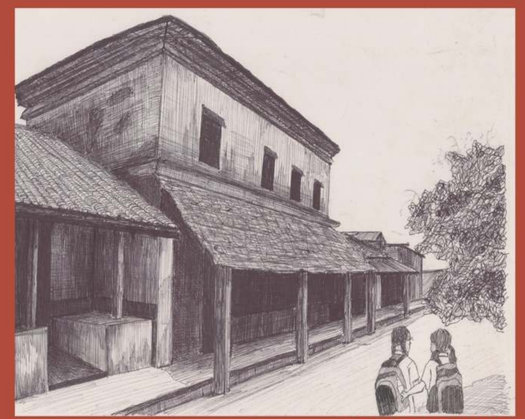
BY DHARSHINI

BY SHREYA S

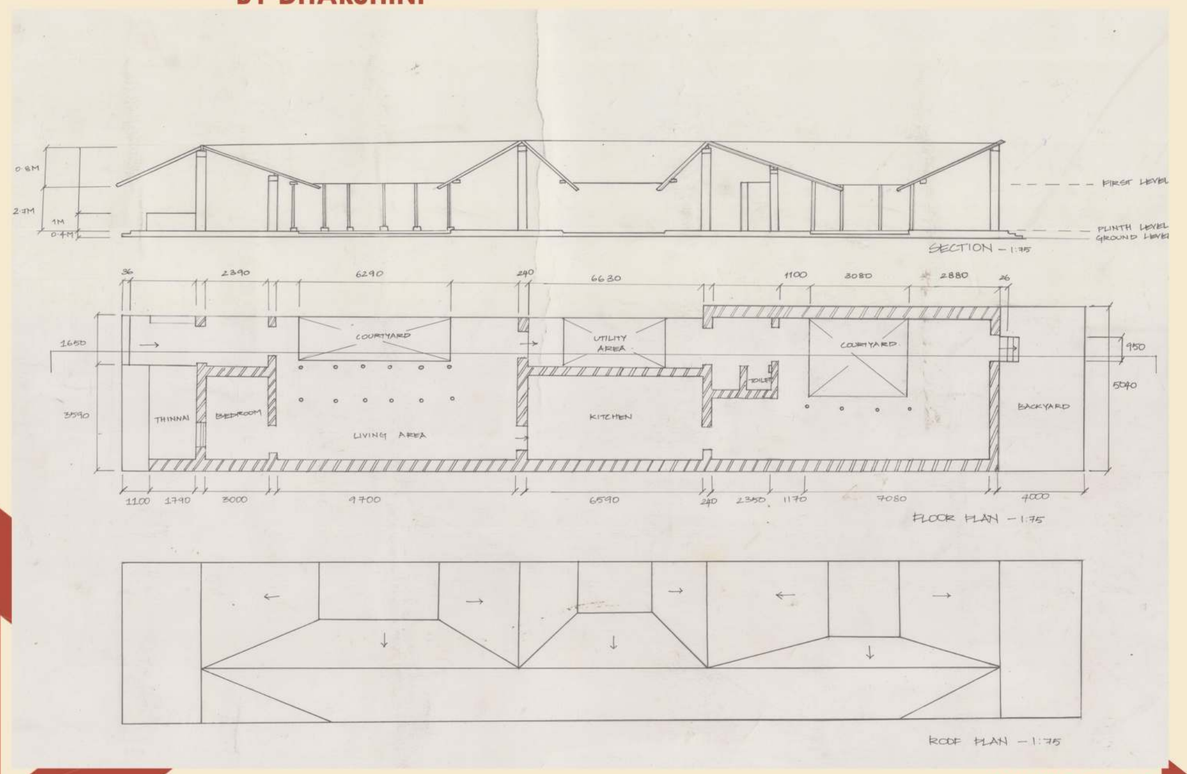
SEMESTER 4

B.ARCH

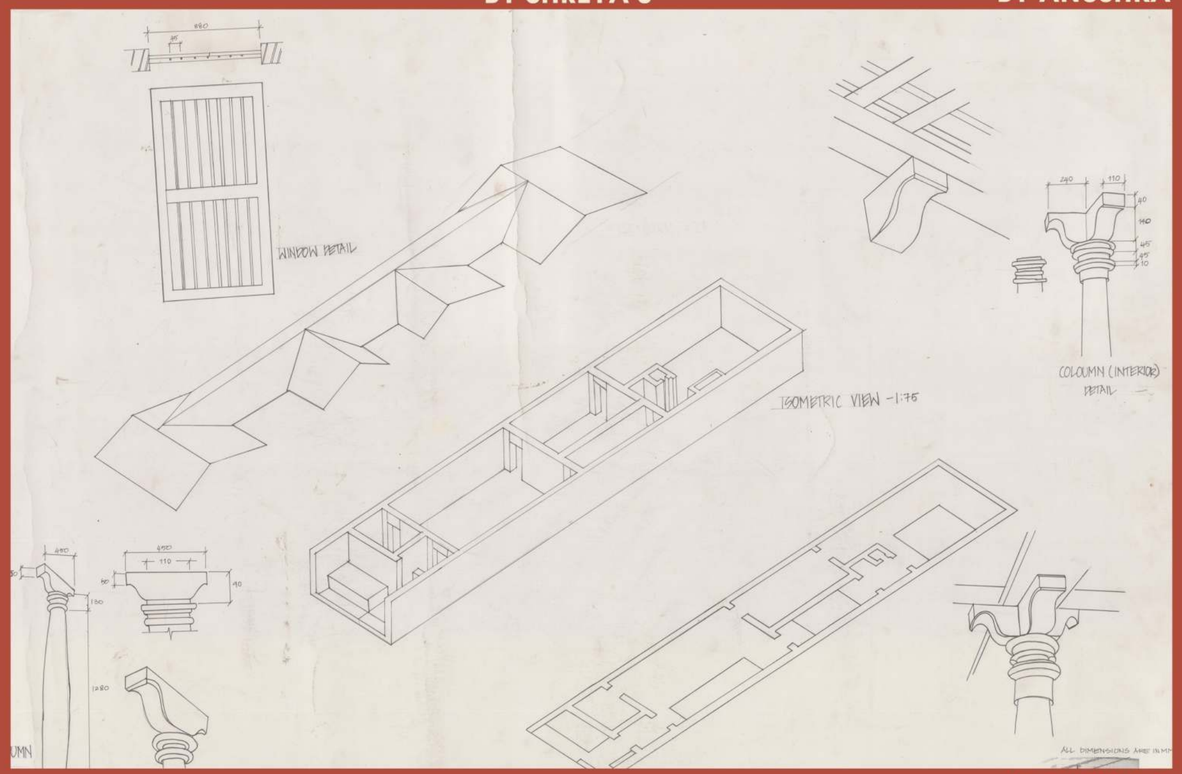




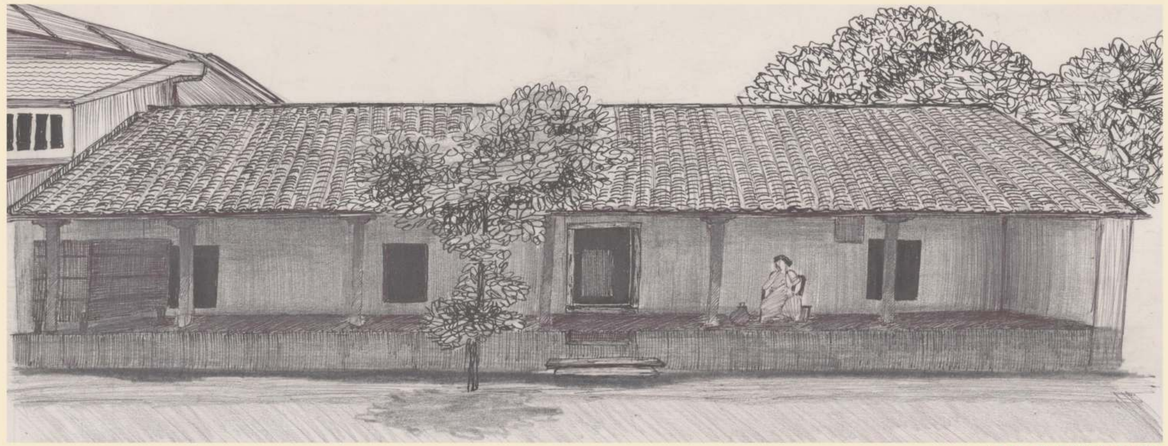
BY ANUSHKA



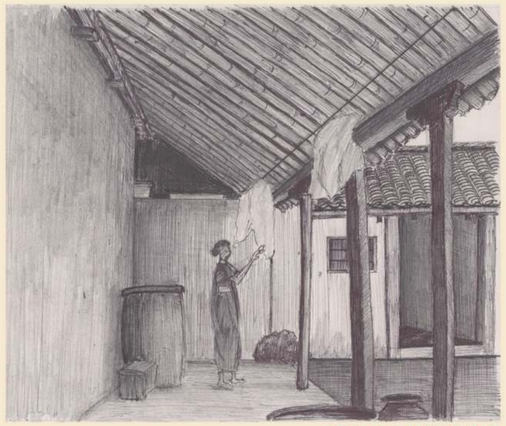
BY SHREYA S



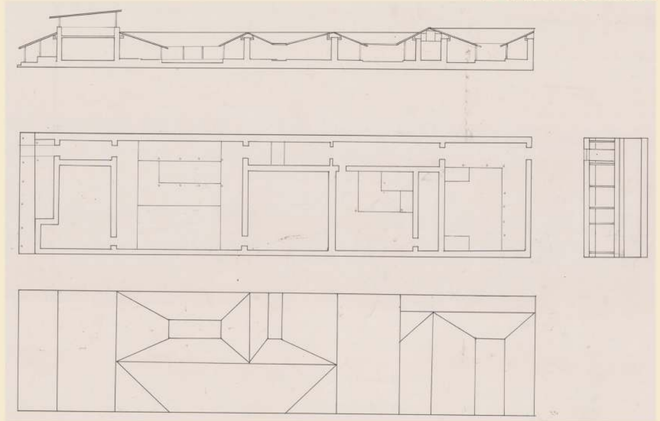
BY SHREYA S



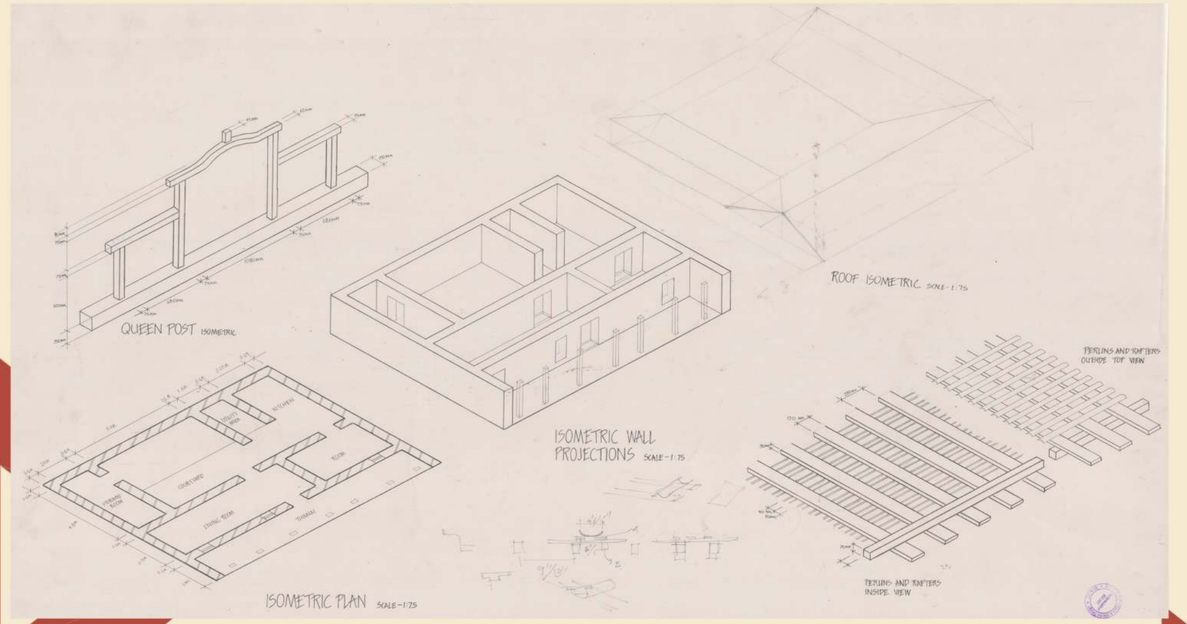
BY ANUSHKA



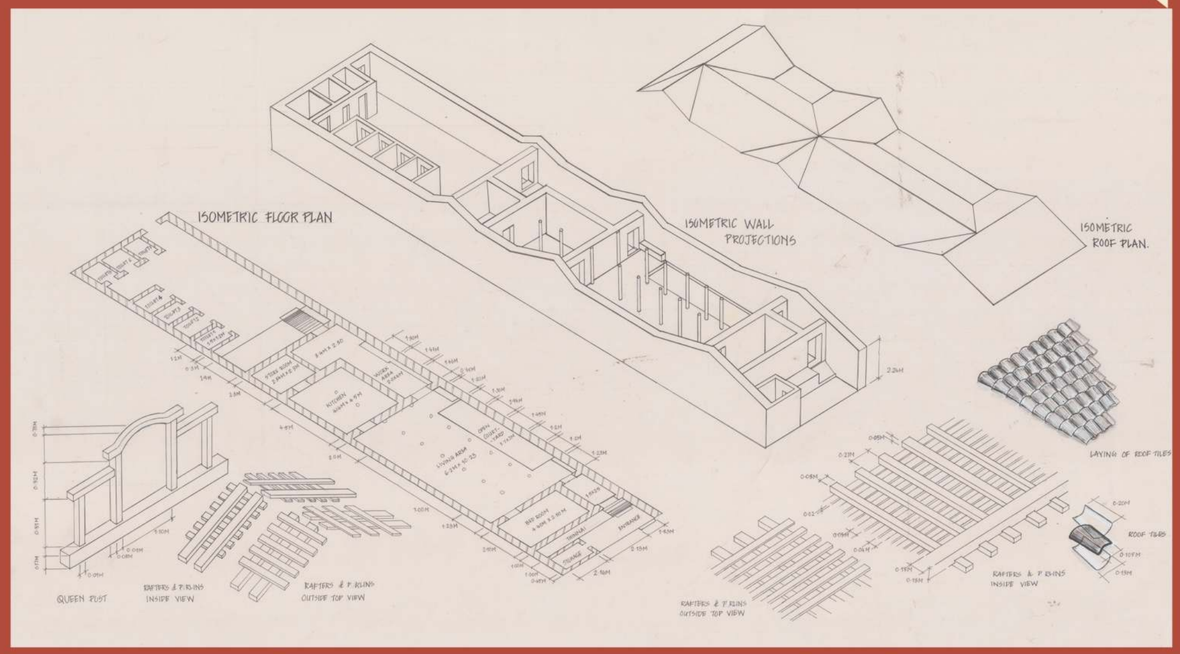
BY ANUSHKA

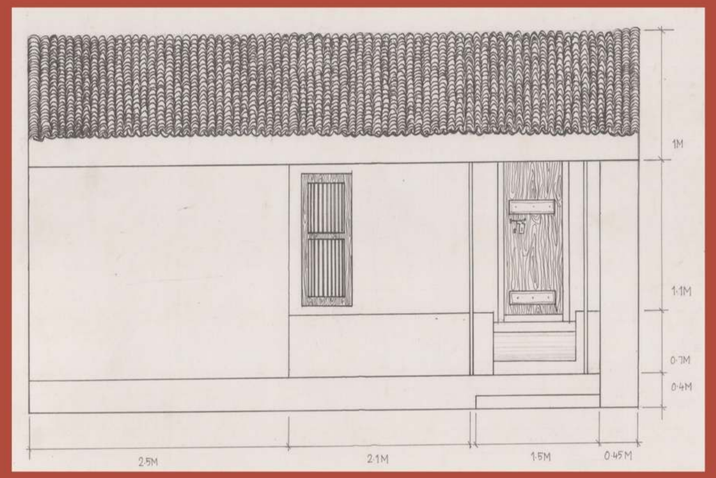


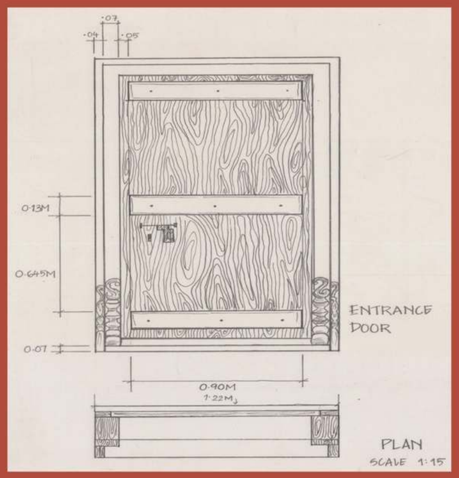
BY HARI

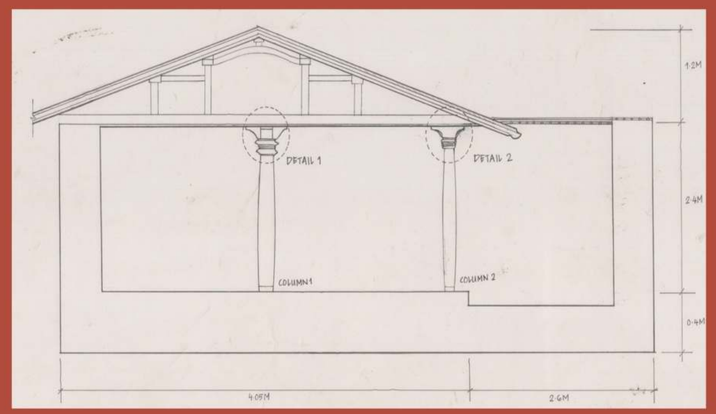


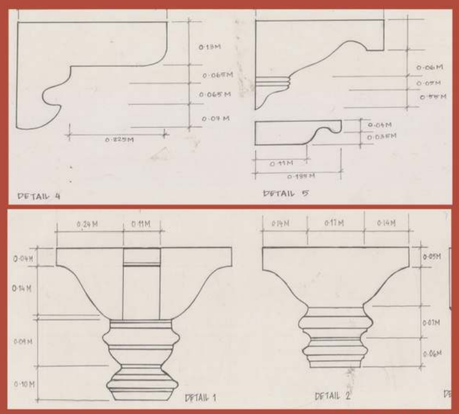
BY HARI



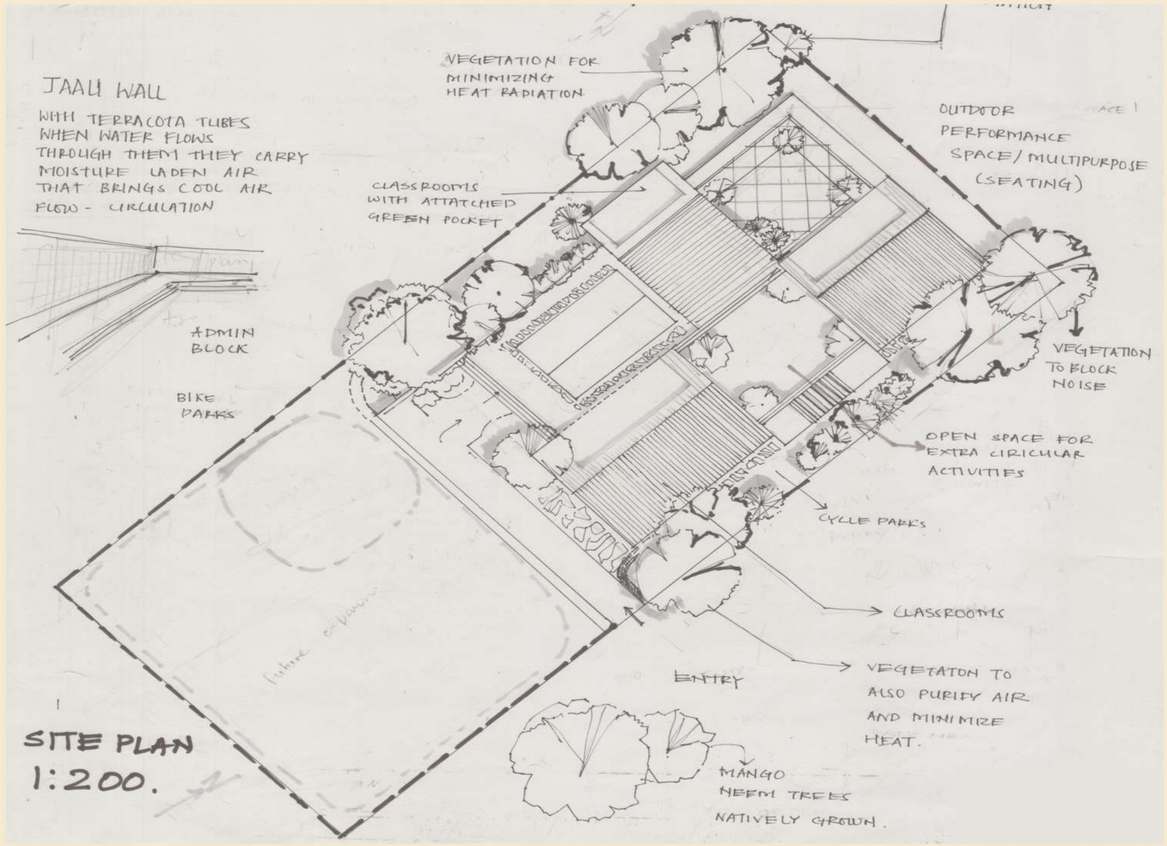


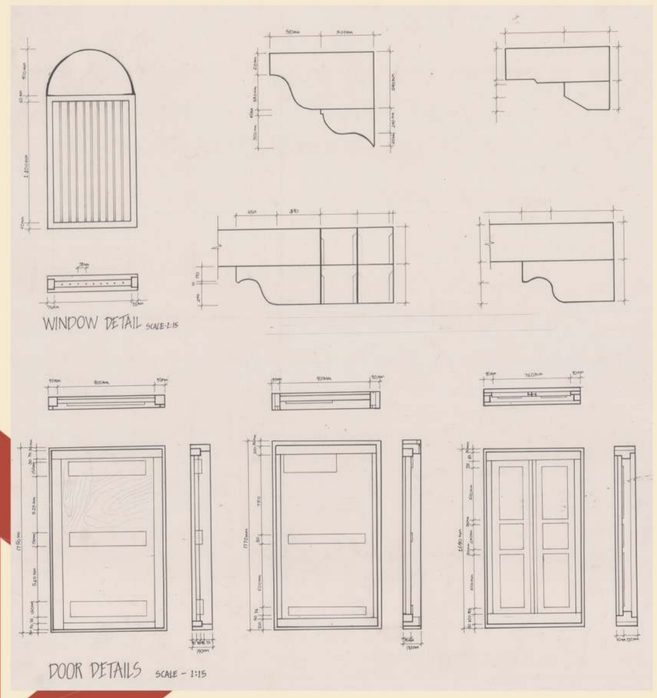


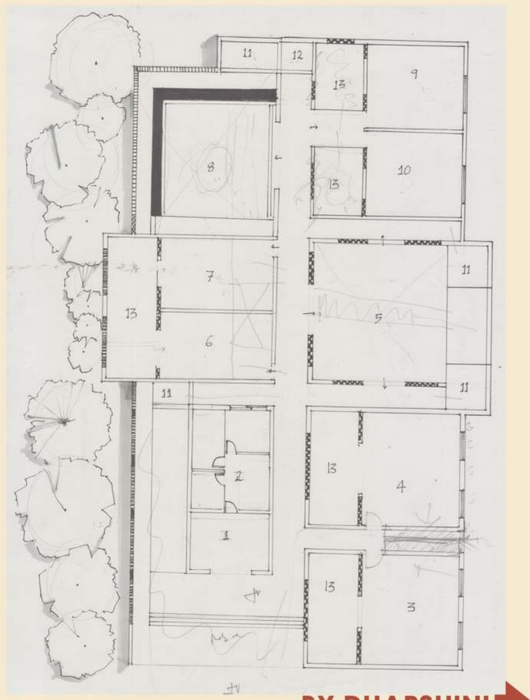




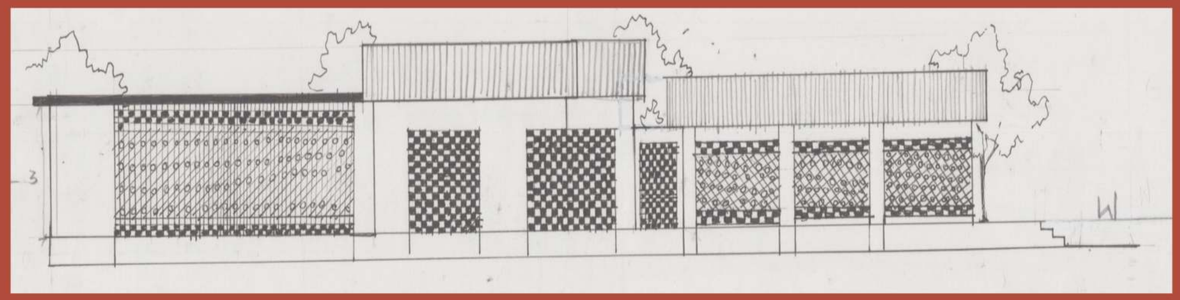
BY ALYA

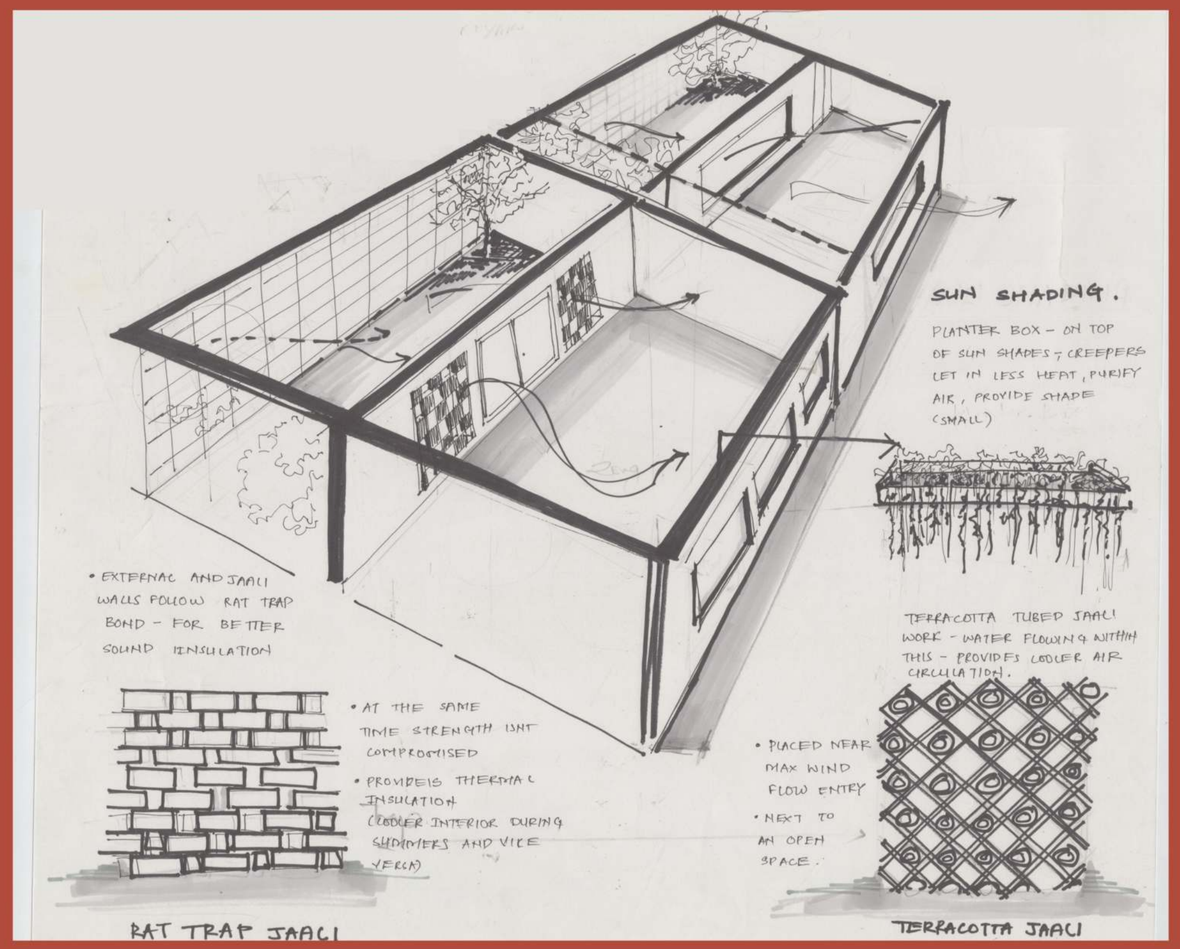


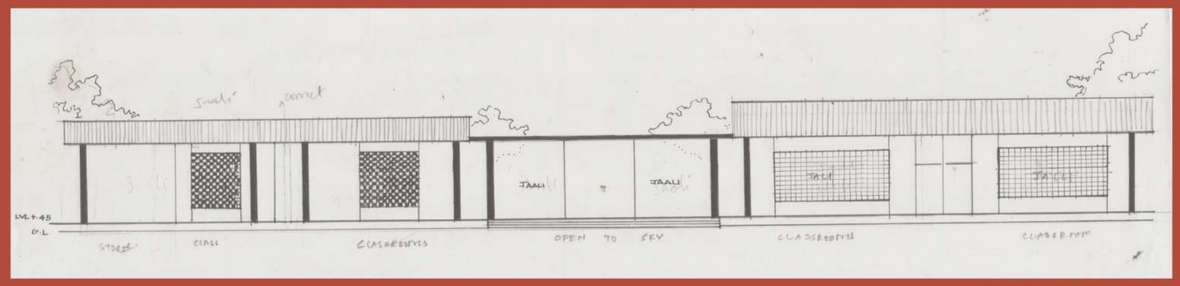




BY DHARSHINI







BY DHARSHINI

SEMESTER 6

B.ARCH

SHOPPING MALL DESIGN

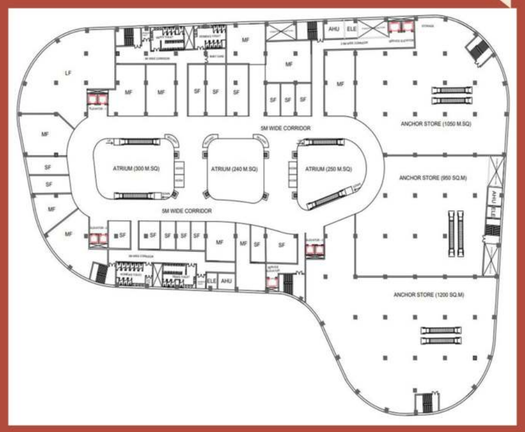
Semester 6 aims at comprehensive study of a large enclosed shopping complex having various stores, restaurants, cinema hall and other business catering the use of a public space. Understanding the needs and use of public area both indoor and outdoor spaces by providing shaded spaces, pedestrian pathways, promenade and seating areas.

FACULTY TEAM

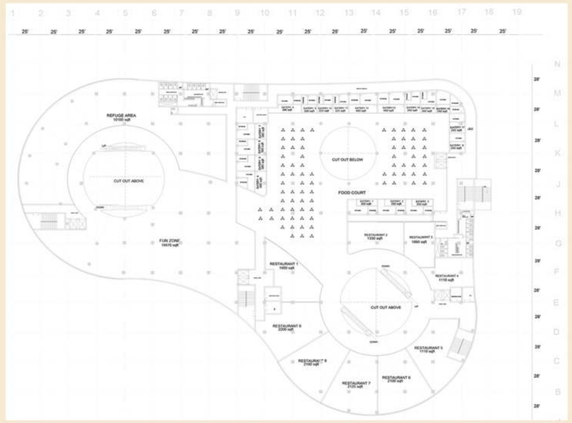
1. Dr. Shanthi Priya
2. Ar. Sudha G
3. Ar. Sukheshini D
3. Ar. Praveen M N
4. Ar. Prashanthini

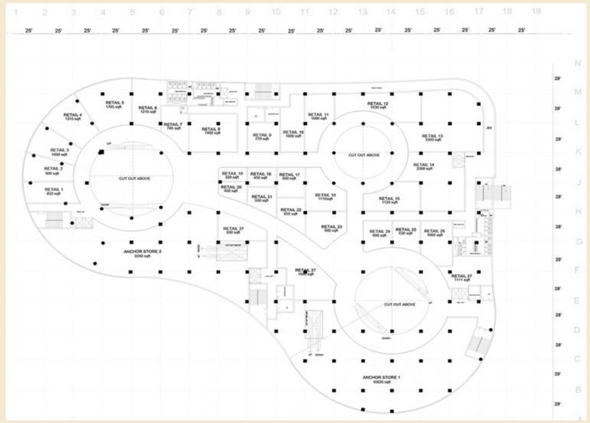
SEMESTER 6

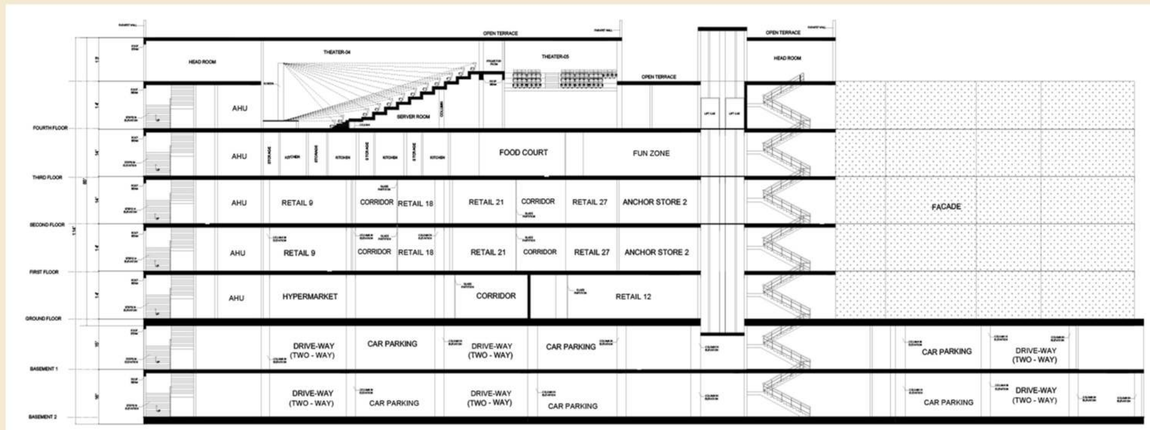
B.ARCH



BY RITHIKA

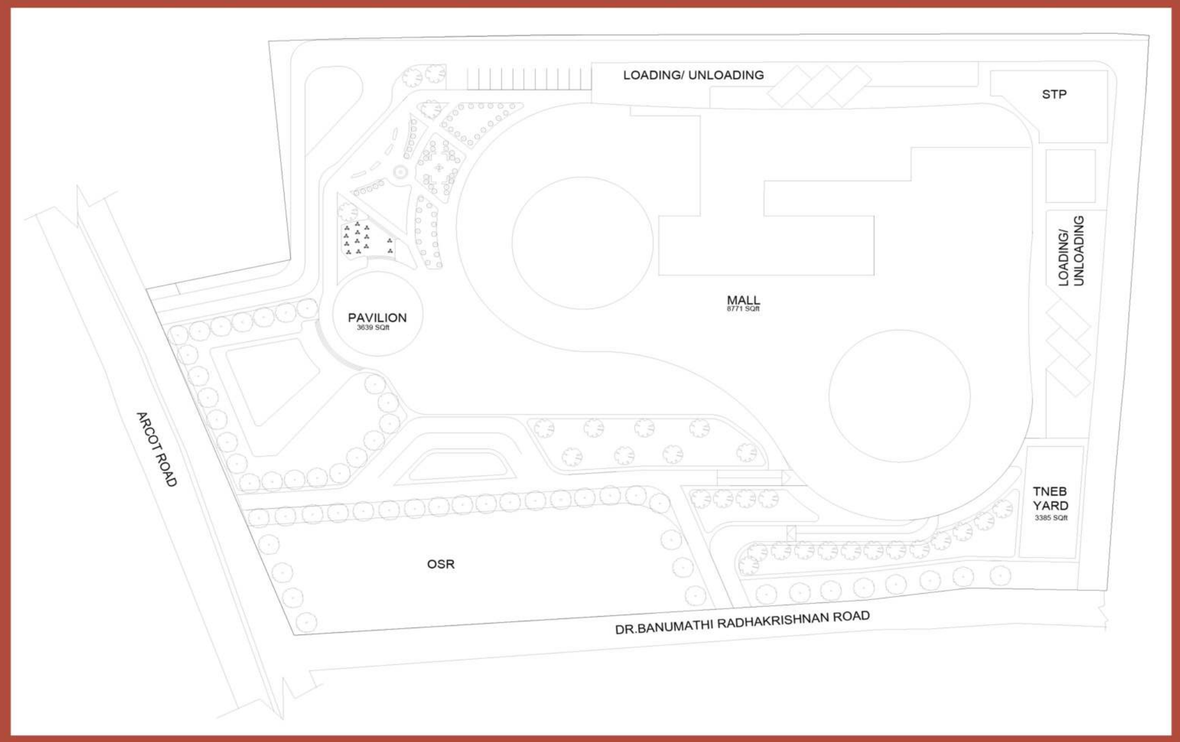


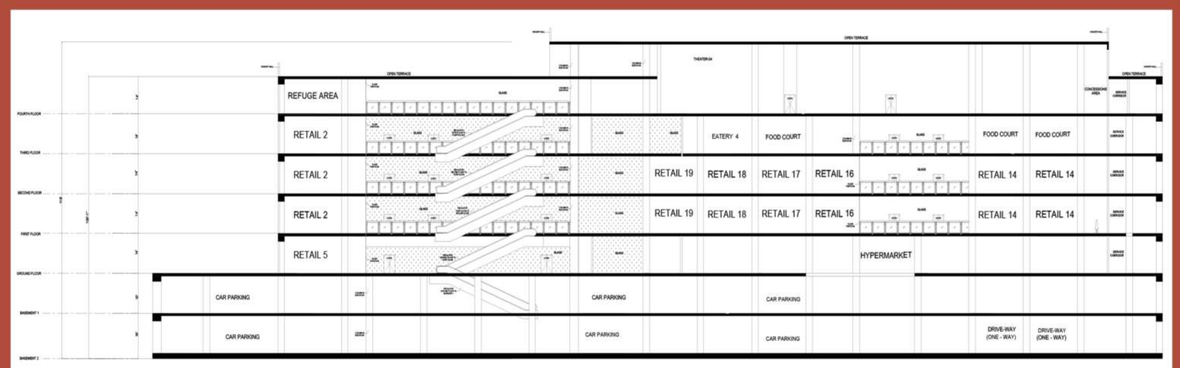




SECTION AA'

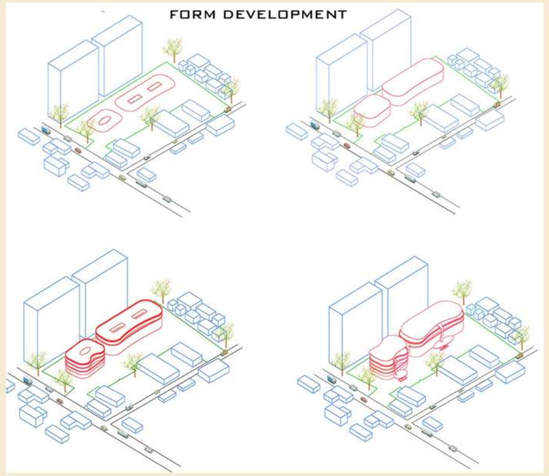
NORTH ELEVATION

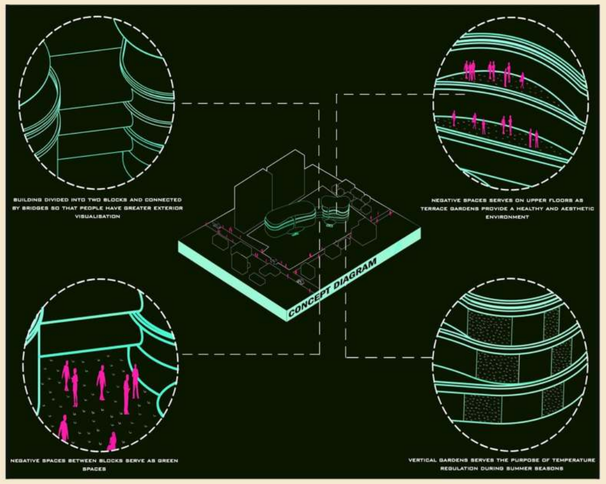


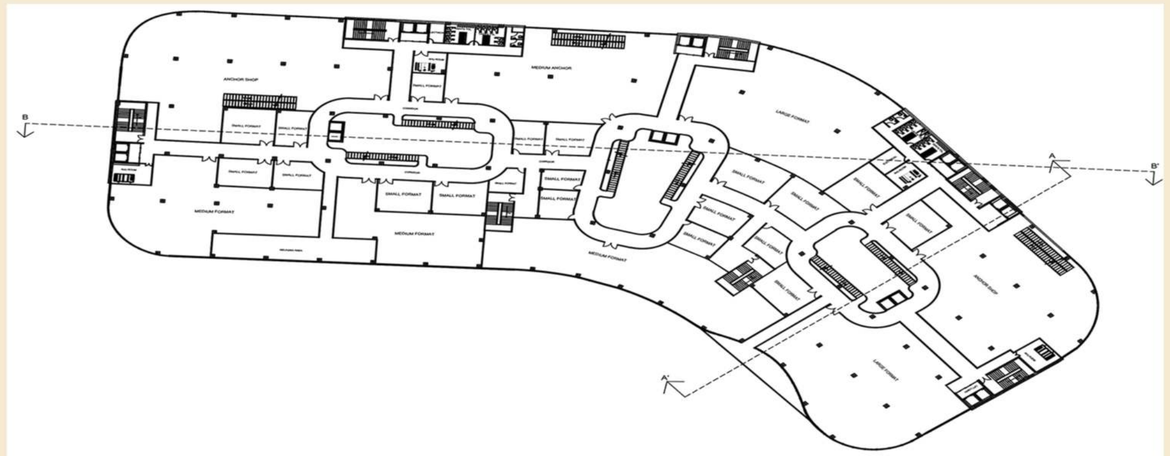


SECTION BB'

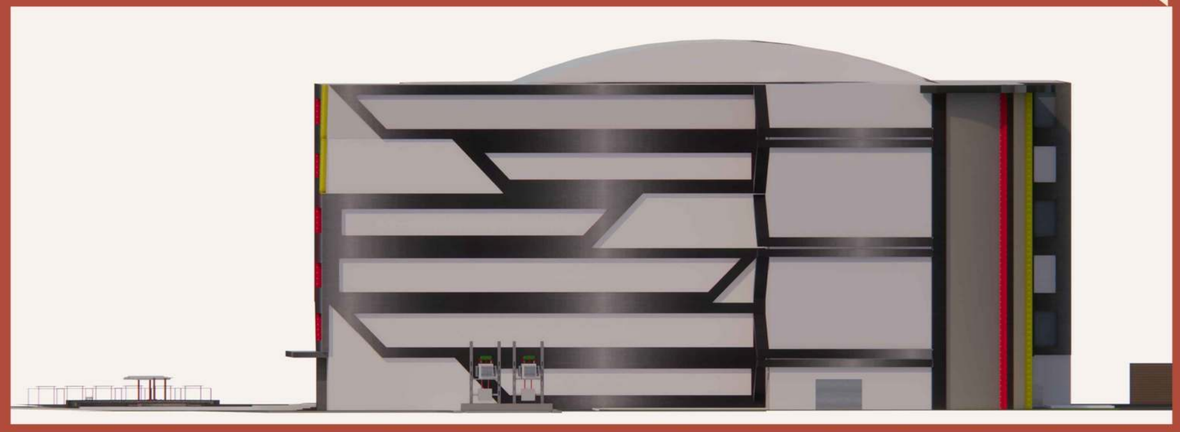
BY SUSHMITHA SIVANATHAN

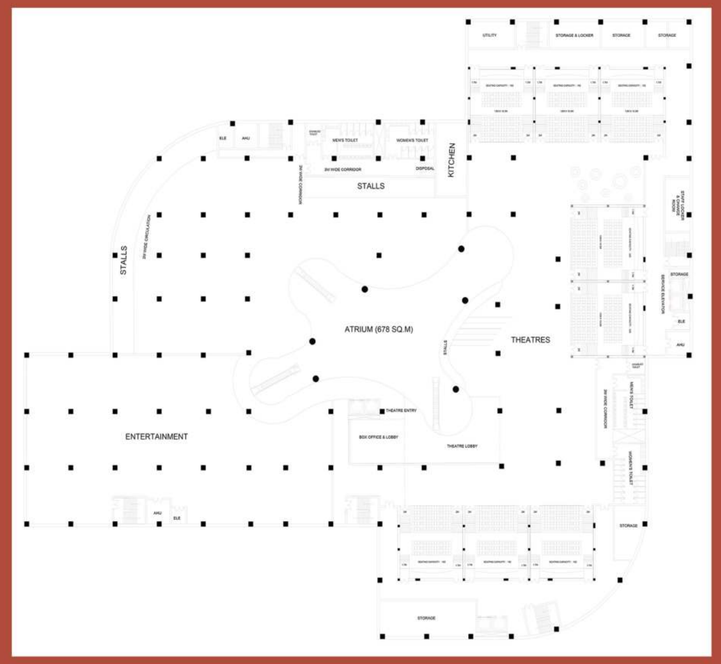


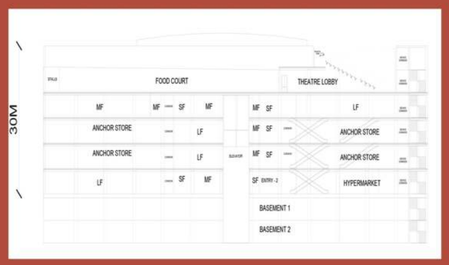


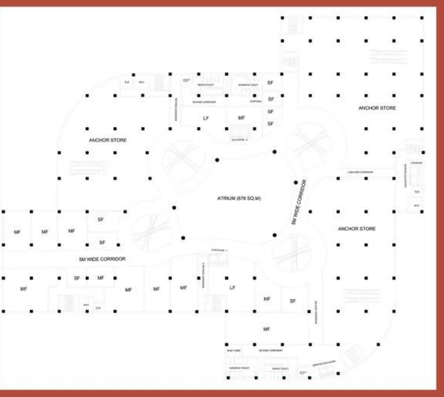


BY AYUSH NAMBIAR

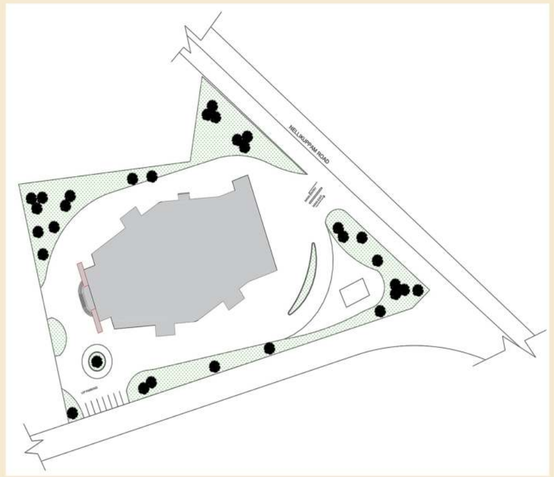


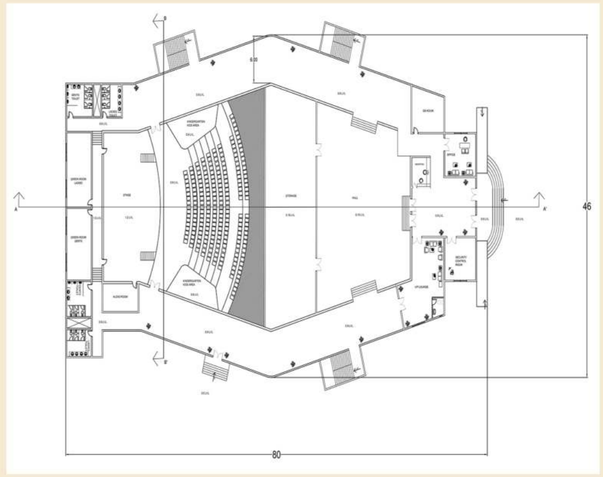


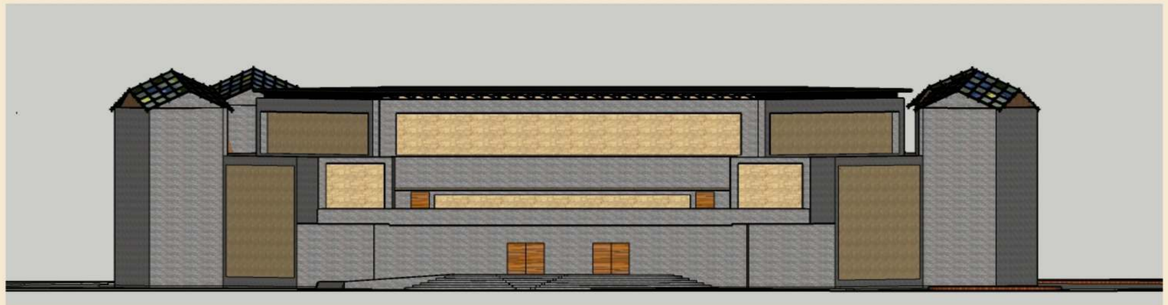


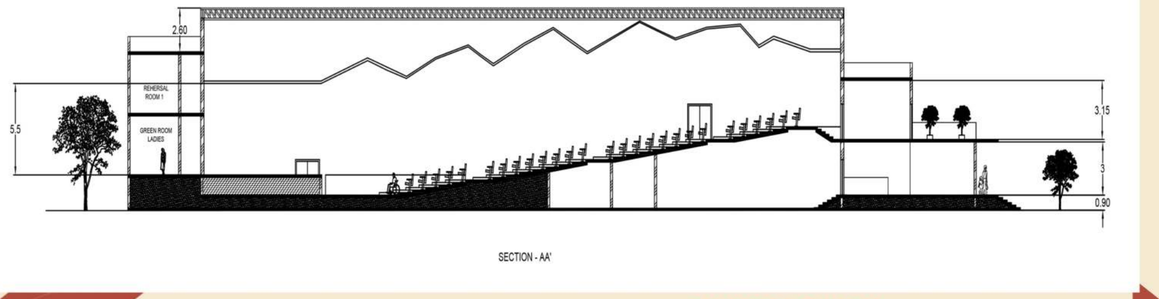


BY JOEL BRITTO J A



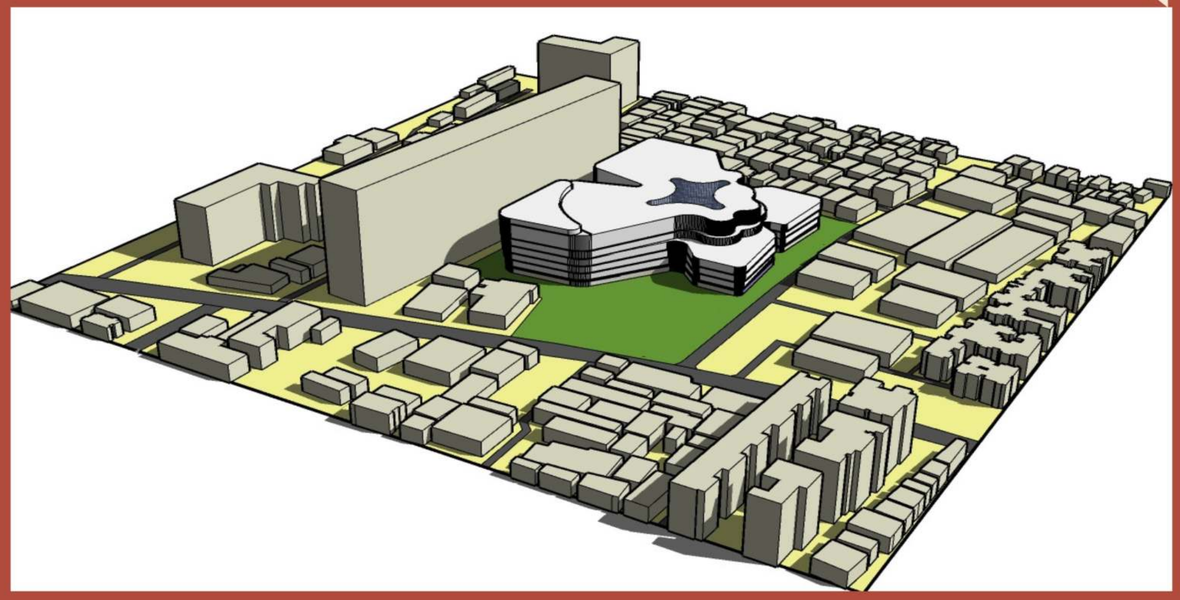


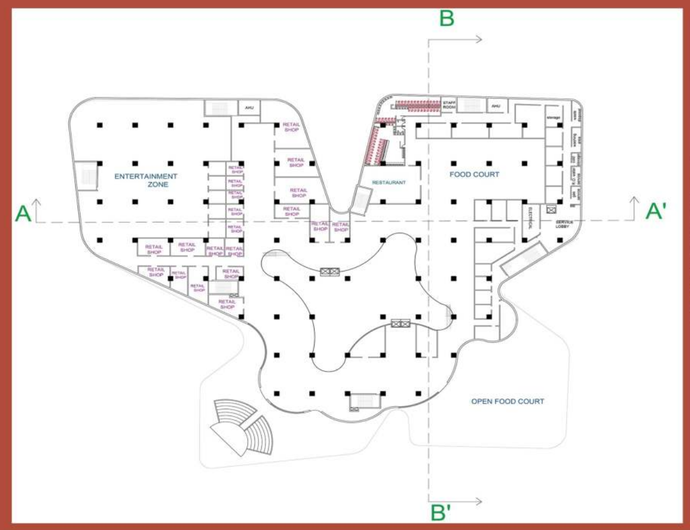


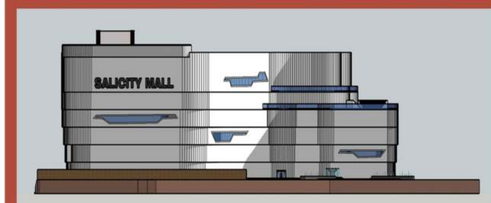


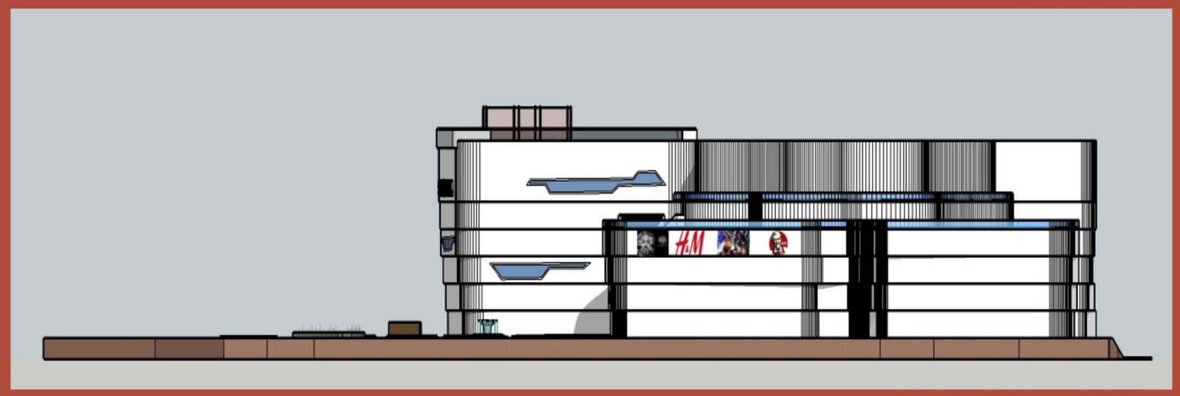
SECTION - AA'

BY VINAYAK U









BY SREEKUMARAN M

HOUSING & URBAN DESIGN

Semester 8 aims at addressing the needs and facing emerging challenges in regard with modern requirements. To develop to availability of affordable shelter, growth of slums, and gaps in provision of basic services to the urban poor. Understanding and resolving the above addressed issues through the means of sustainability.

FACULTY TEAM

1. Prof. CT Lakshmanan
2. Dr. Neha Bansal
3. Ar. K. A. Karthick
4. Ar. P. Prashant
5. Ar. Anoop Menon
6. Ar. Pooja Kripanithi

SEMESTER 8

B.ARCH

BY P AASHLESHA PRIYA

MASTER PLAN

SITE -
7.36ACRE-29784.86SQM

ALLOWABLE BUILTUP AREA-40%

OSR-10%-2970.5

FSI-2

SOIL TYPE-
RED NON-CALCARIOUS AND COASTAL ALUVIAL.

TOPOGRAPHY-
IT HAS 3M DIFFERENCE

SOIL TYPE-
RED NON-CALCARIOUS AND COASTAL ALUVIAL.

TOPOGRAPHY-
IT HAS 3M DIFFERENCE

FLOOD -
DUE TO PERSISTANT LOW LYING AREAS WITHIN THIRUVALLUR DISTRICT TEND TO FLOOD.

CLIMATE-
HOT AND HUMID

AMENITIES-

GARDEN

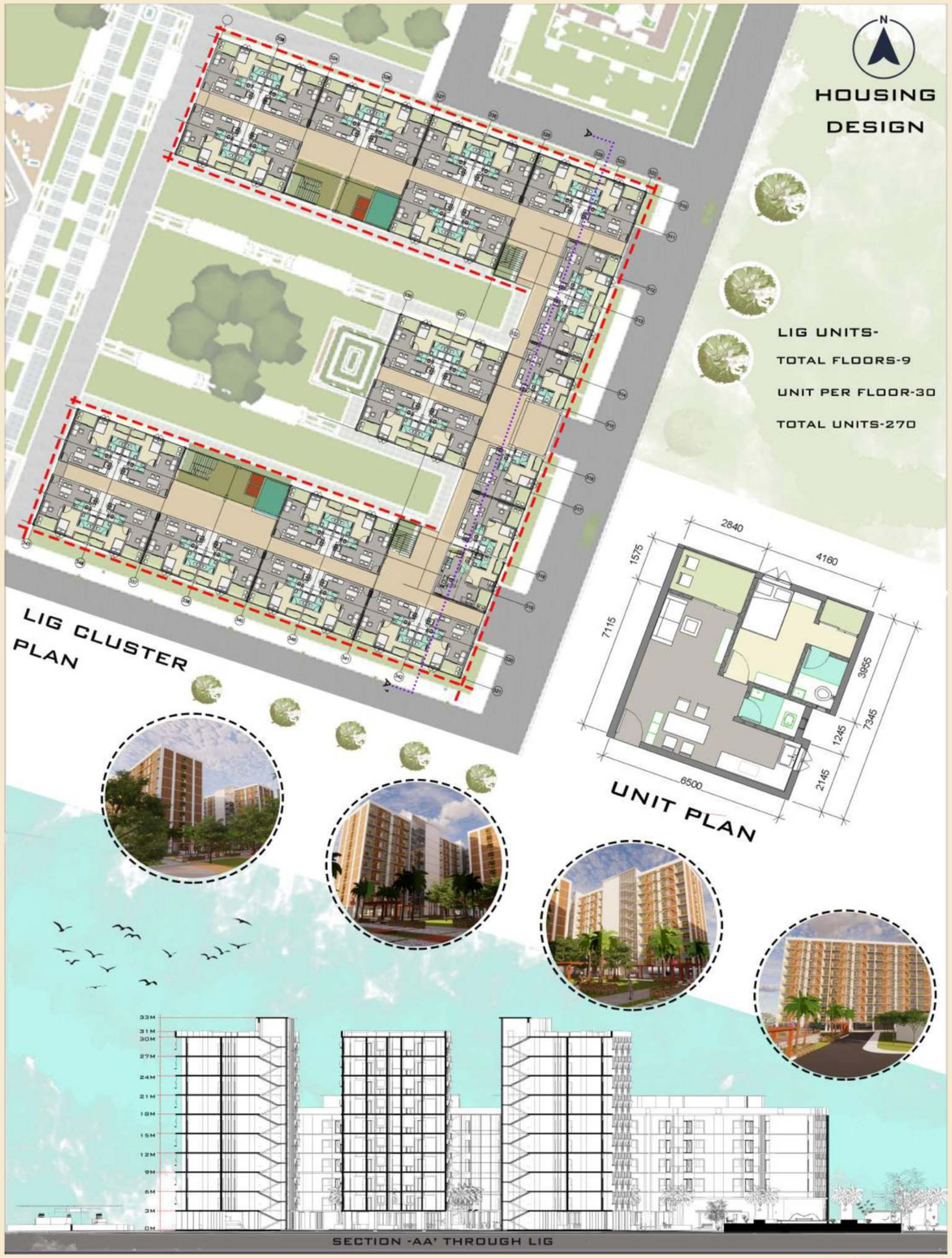
SPACIOUS PARKING

COMMUNITY GATHERING SPACE

SUPER MARKET

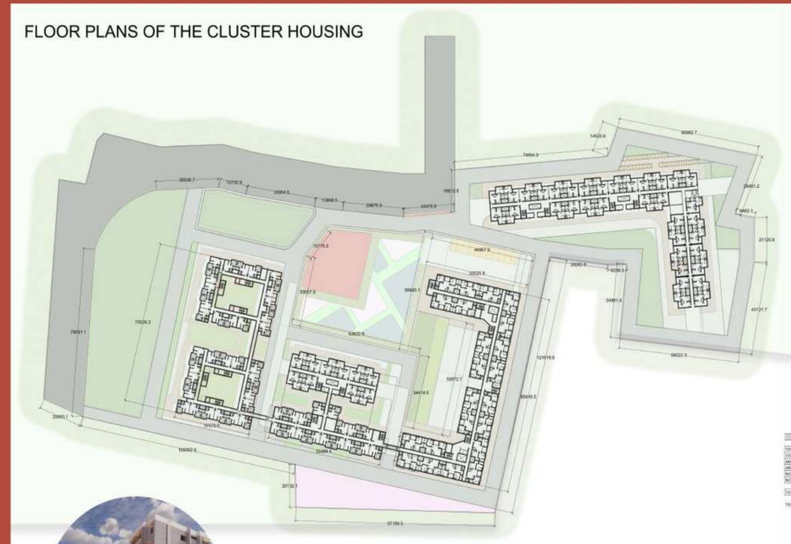
WATER RO PLANT

CHILDREN PLAY AREA



BY YOKESH

FLOOR PLANS OF THE CLUSTER HOUSING



AREA CALCULATION FOR THE HOUSING PROJECT

TOTAL NUMBER OF BLOCKS BUILT IN THIS PROJECT: 4

THE BLOCKS ARE PLANNED IN A SUCH AWAY IMAXIMUM NUMBER OF DWELLING UNITS COULD BE ACHIEVED WITH MINIMAL WASTAGE OF SPACES. THE EWS AND LIG BLOCKS ARE BROKEN AND CONNECTED TOGETHER SUCH A WAY IT CREATES A BREATHING SPACE IN-BETWEEN. THE CONNECTIONS FORMED BETWEEN BUILDINGS PROVIDE A SAFER ENVIRONMENT FOR KINDS TO MOVE FROM ONE BLOCK TO ANOTHER AND PLAY.

	DATA	SQ.METERS	COMMON AREA (10%)	unit share 10%	plinth wall area 10%	floor plate efficiency 85%
TOTAL SITE AREA	7.36 ACRES	29786.85				
FSR	10%	2978.69				
PLOT COVERAGE	40%	11913.99				
	7	59569.53	5956.972	595.6972	8935.458	84729

	PERCENTAGE	CARPET AREA / UNIT	Total carpet area
EWS	25%	42	
LIG	40%	42	
MIG	25%	42	
		total no. of units	836

LIG (LOW INCOME GROUP UNITS)

LIG	
TOTAL TOWERS	1
TOTAL FLOORS	8 TOTAL FLOORS 8
AREA/TOWER	5292 AREA/TOWER 5292
AREA/FLOOR	661 AREA/FLOOR 1760
NO .OF UNITS / FLOOR	16 NO .OF UNITS / FLOOR 32
NO	
TOTAL GROUND COVER	2646
TOTAL UNITS OF LIG	336

MIG (MIDDLE INCOME GROUP UNITS)

MIG	
TOTAL TOWERS	1
TOTAL FLOORS	10
AREA/TOWER	21240
AREA/FLOOR	2124
NO .OF UNITS / FLOOR	22
TOTAL UNITS	220
TOTAL GROUND COVER	2124

EWS(ECONOMICALLY WEAKER SECTION) UNITS

EWS TOWER 1		EWS TOWER 2	
TOTAL TOWERS	2		
TOTAL FLOORS	6	TOTAL FLOORS	5
AREA/TOWER	9948	AREA/TOWER	4812
AREA/FLOOR	1658	AREA/FLOOR	802
NO .OF UNITS / FLOOR	33	NO .OF UNITS / FLOOR	16
TOTAL UNITS OF EWS			294

ELEVATION AND SECTION SHEET

FRONT ELEVATION

VIEW FROM ENTERANCE OF THE SITE :

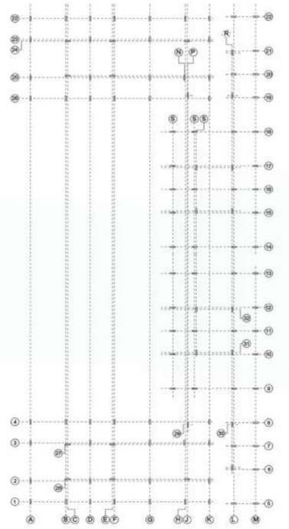
A 15 M LARGE ENTRY WAY WHICH WELCOMES PEOPLE TO THE AFFORDABLE HOUSING COMPLEX

THE LIG + EWS CLUSTER STANDS TALL AS ONE ENTERS THE CLUSTER COMPLEX.THE 8 FLOOR TALL BUILDING WITH ITS MINIMALISTIC YET BEAUTIFUL AND ELEGANT COLORS NEVER FAILS TO ATTRACT

THE FIRST LEVEL PARKING ENDS ALONG THE EWS CLUSTER .THE BRIDGE WHICH IS FORMED AS A RESULT OF THE FIRST LEVEL PARKING ACTS AS A PAVILION AND PROTECTS FROM THE HARSH CHENNAI WEATHER

SECTION DETAIL A-A

MIG BLOCK A DETAIL SHEET



COLUMN GRID LAYOUT OF MIG BLOCK

GROUND PARKING LAYOUT OF MIG BLOCK

CLUSTER PLAN OF MIG BLOCK A

UNIT PLAN OF MIG BLOCK A

- LIVING AREA
- KITCHEN AREA
- SERVICE AREA
- BEDROOM 1 AREA
- BEDROOM 2 AREA
- TOILETS AREA

CARPET AREA OF A UNIT: 65 SQM

BUILT UP AREA : 75 SQM

TOTAL UNITS : 200

TOTAL TOWERS : 1

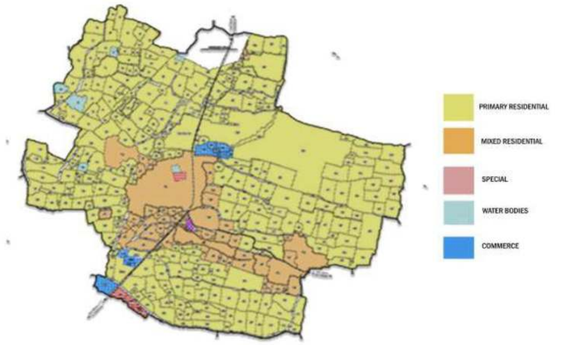
TOTAL GROUND COVER : 2285.72 SQM

TOTAL AREA OF TOWER: 22857.2 SM

BY DINESH

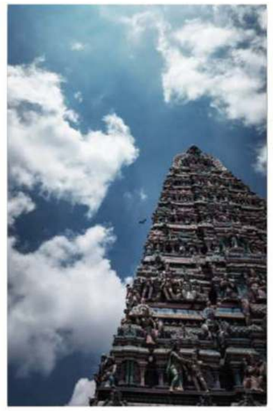
MANGADU

REIMAGINING THE TEMPLE PRECINCT



ABOUT MANGADU

Mangadu is a town in Kancheepuram district in the Indian state of Tamil Nadu. Literally meaning a mango forest, it is a south-western suburb of Chennai. It is about 20 km from the city. The town is famous for its Kamatchi Amman temple. Mangadu is close to Poonamalle, a major suburb of Chennai city. Big factions of the population live in the capital of Tamil Nadu, Chennai. Many of these people return to Mangadu once every year or so to give offerings to the local Kaamachi Amman temple.



HISTORY

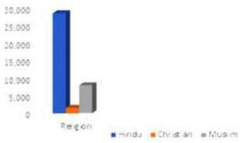
ITt is believed that Goddess Parvati came to MANGADU to do a strong penance for her love LordShiva. Lord Shiva was very much satisfied by the act and he forgave her and decided to marry her.

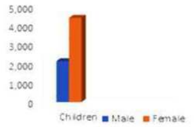
Her penance was depicted as a form of statue THAPAS KAMATCHI in the TEMPLE.

Other temples in the surrounding was formed to welcome Lord shiva

Mangadu is known for the temple of "Tapas Kamakshi" or Goddess Kamakshi performing penance in Fire. This is the place where the goddess performed her penance to marry and re-unite with Lord Shiva

DEMOGRAPHY





ACCESSIBILITY

By Air:
The temple is located 17 km from the Chennai central Airport. You can travel easily to the temple.

By Rail:
The temple is located 18 km away from the Tambaram Railway Station and 21 km from the Chennai central railway station.

By Road:
The temple is located 15 km from the Chennai Koyembedu and 18 km from the Tambaram. There are plenty of buses from both places to Mangadu.

10-day Chithirai festival in April-May.
Tamil and English New year.
Pongal in January
Navarathri in September – October.
Shivratri in February-March.

CULTURE

Mangadu is busiest during its festivals and especially every Tuesday Friday Saturday.

People come rushing to see the Abhishekam and special rituals in Sri Kamakshi Amman Temple which holds a strong infrastructure and well maintained surroundings.Shopkeepers and other sellers awaits its tourists.Mangadu is combined with 14 other nearby village panchayats and there is a 50% of reservation for women in the ward ,where the chairman herself being a woman

CONTEXT

Mangadu is a western neighbourhood in Chennai,India . Literally meaning a "mango forest".

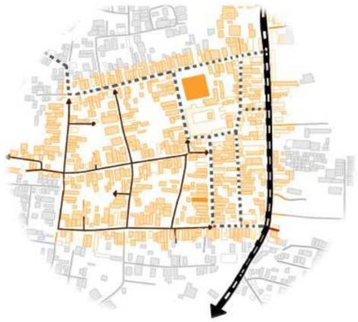
Mangadu is famous for its temple culture and the 7 temples which gives life to the place. Sri Kamakshi Amman Temple and the other temples stands in the heart of the place and this town was formed around these temples.

The major population are migrants from chennai and very less number of them are holding the ancestorial background.There are no industries in Mangadu but they are financially sound with a budget of 10crs per year.

The main road connects Kundrathur-Poonamallee

All the temple cooridors high value makes it secondary roads

the other residential streets get marked as tertiary roads



roads

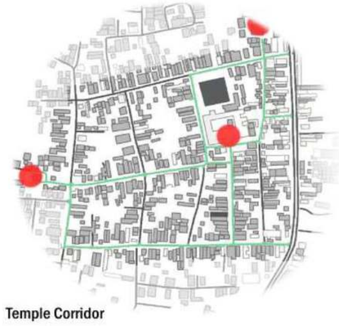
Bus Route

Though the bus route should only be in main road , due to the temples importance and also due to the lack of bus stand the bus is parked in the kovil street , This provides a proposal for Bus stand in the proximity

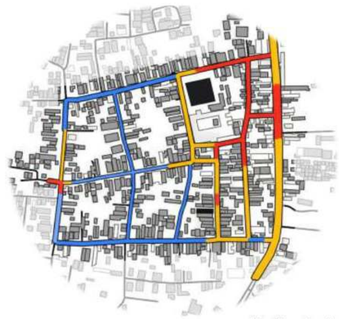
Kamatchi Amman Kovil

Perumal Kovil

Velleshwaraar Kovil



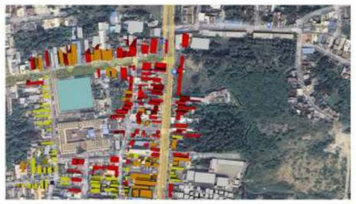
Temple Corridor

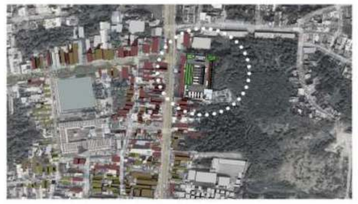


Traffic Analysis

The map depicts the traffic analysis of the town, main causes of traffic here is due to improper pedestrian pathways , narrow roads and encrooached streets

Proposing a Pedestrian only street for temple can lessen the pedestrian crowd




Upon surveying the locals one of the major complaints recieved stated the lack of a busstand in close proximity and the lack of a bus shelter in mainroad , therefore a bus stand adjacent to the main road has been proposed to ease commuting to and fro , to encourage the use of public transportation and thereby reduce fuel consumption and traffic congestions.

Several road side vendors are observed around the temple area . Proper infrastructure of kiosks can be provided to better accommodate the vendors , to mimic the charecter of a market place.


The locality has only a few native tres. Without any landscape the locality looks dull and dry hence adequate landscaping has been proposed throughout the surroundings

afforestation of native tres adds on value to its native heritage

locations
around temple ponds

PROPOSAL

URBAN DESIGN - MANGADU

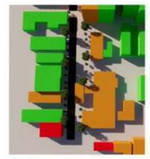
STREET VENDERS

THERE ARE SOME VENDERS WHO DONT HAVE PROPER SHETLTER SO WE THOUGHT OF GIVING A PROPOSAL FOR THEM.

LANDSCAPE PROPOSAL

NEAR THE TEMPLE PONDS AREA IS VERY DRY SO WE GAVE A PROPOSAL TO GIVE SOME LANDSCAPE THAT ACTS AS ASTHETICS AND A SMALL SEATING PLACE FOR EALDERS

STREET SCAPE PROPOSAL

IN STREETS THERE NO LOT OF TREES WE PLANNED TO GIVE A PROPOSAL SO THAT THESE TREES CAN ACT AS A NATURAL SHADE FOR THR STREETS

PUBLIC TOILET PROPOSAL

THERE WAS ONLY ONE PUBLIC TOLITE NEAR THE KAMAKSHI AMMAN TEMPLES SO WE PLANNED TO GIVE ATLEAST ONE TEMPLE PER STREET SO THE PUBLIC CAN ACSSES EASILY WITH OUT SCEARCHING

GOVERNMENT BUILDING






EXISTING
PROPOSED

URBAN DESIGN - MANGADU

BY JAISAM, NEVIN, JAMES, ROSHAN, HITESH, ELAINE, HEMYA, LASYA, ANUKSHA, SOUNDARYA

SEMESTER 2

M.ARCH

TERMINAL BUILDING DESIGN

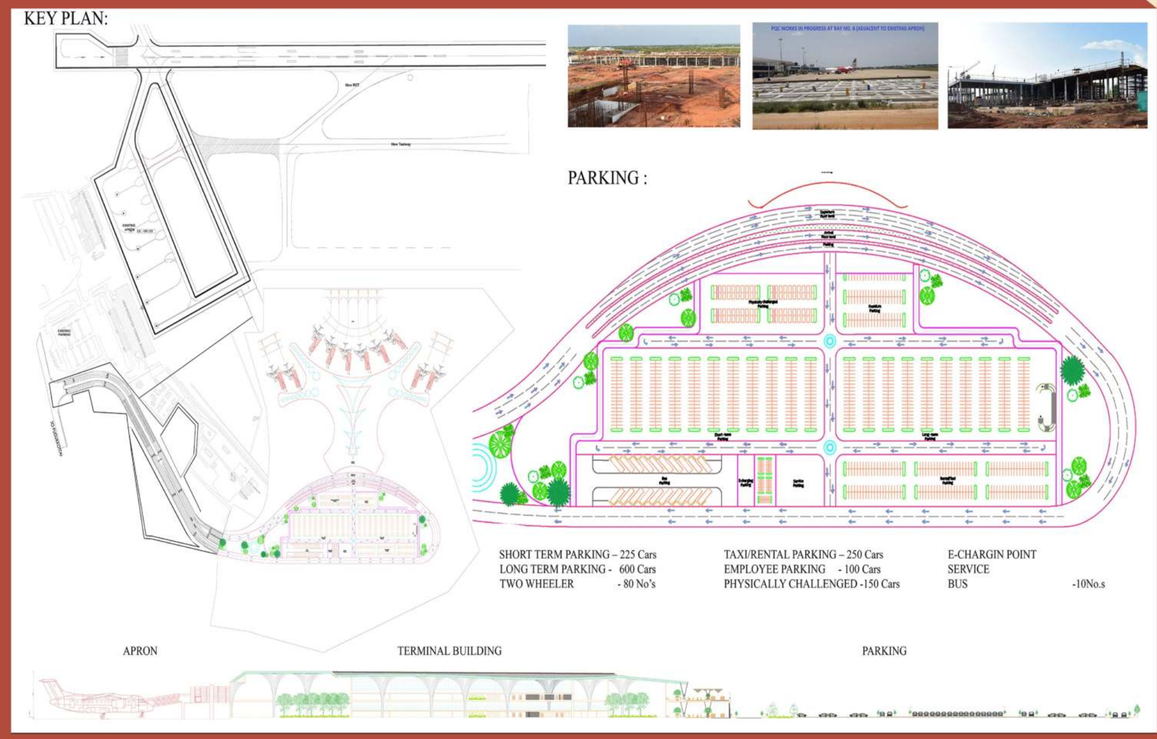
Semester 2 aims at comprehensive study of concept and designing of central to the central and design phases of airport development. It impact and influence airport operations on both airside and landside. Understanding the requirements of a terminal design complex by minimizing the time needed to service an aircraft and its transition.

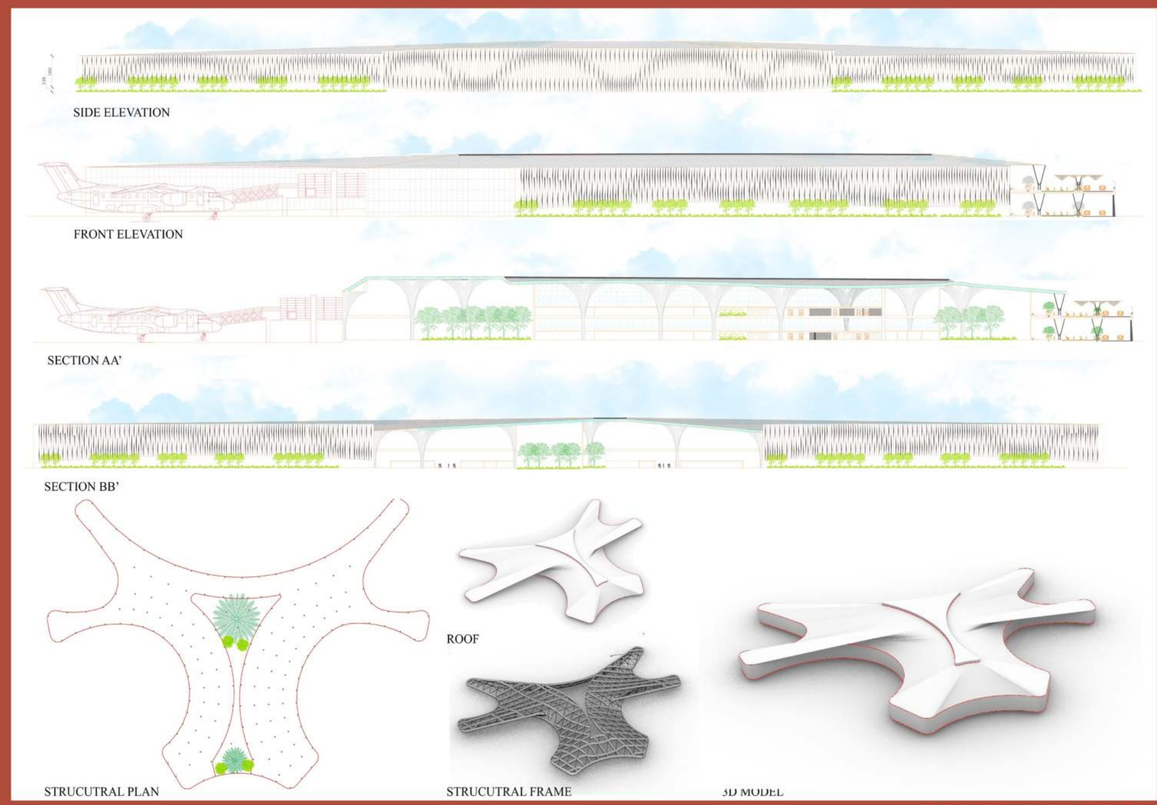
FACULTY TEAM

1. Dr. K. Geetha
2. Ar. Manjari

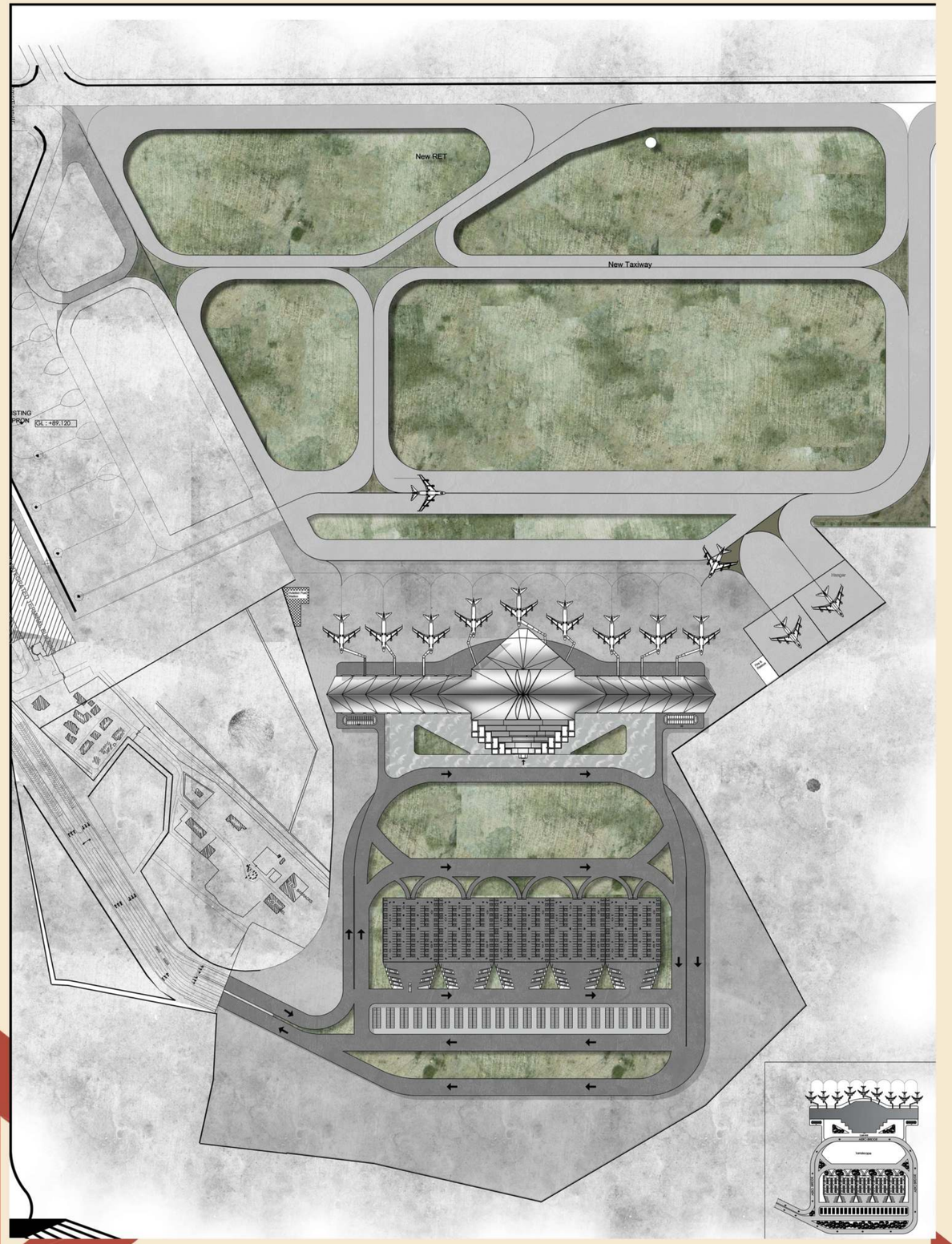
SEMESTER 2

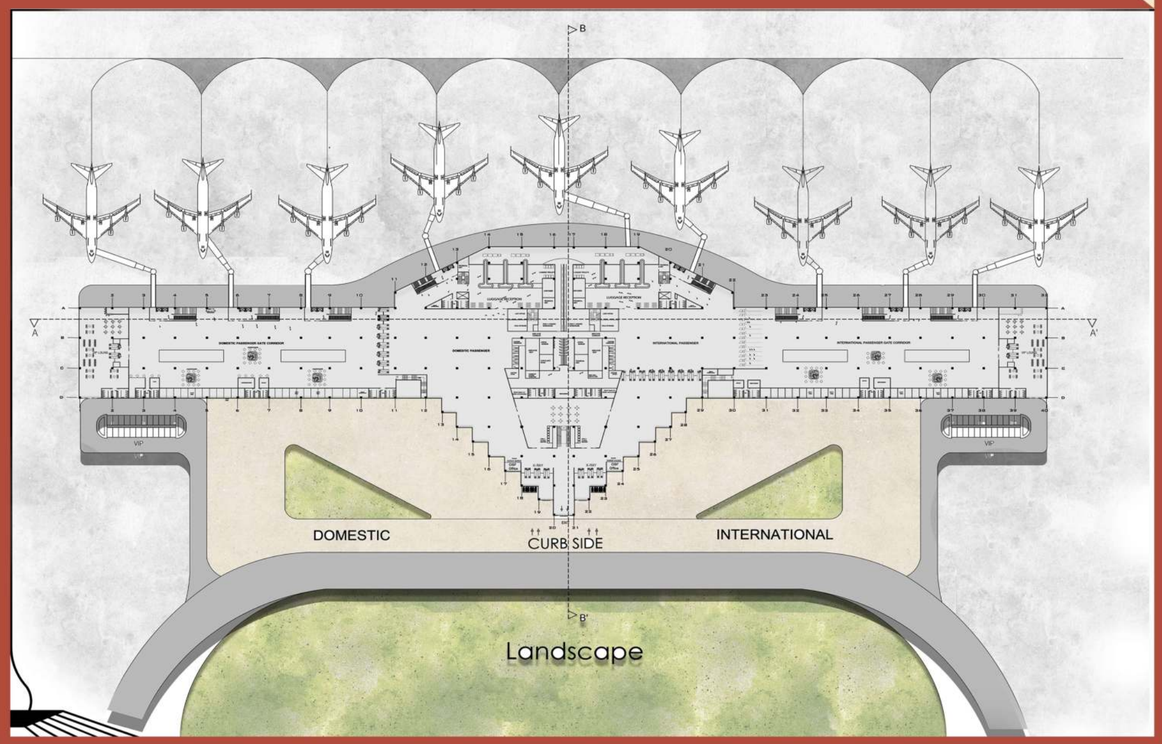
M.ARCH

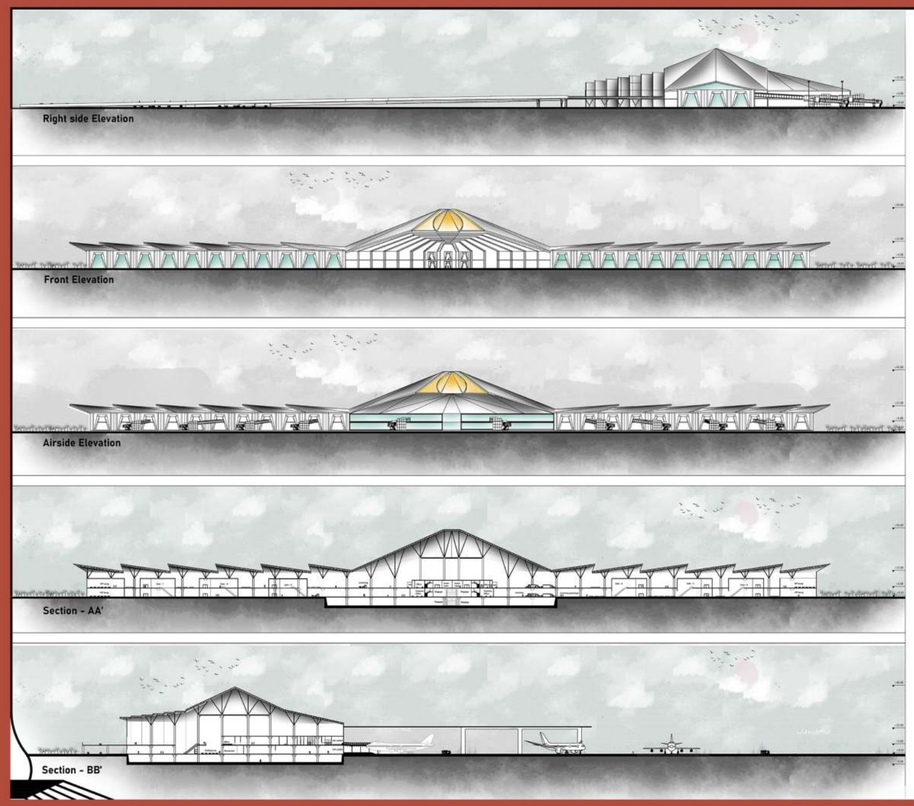




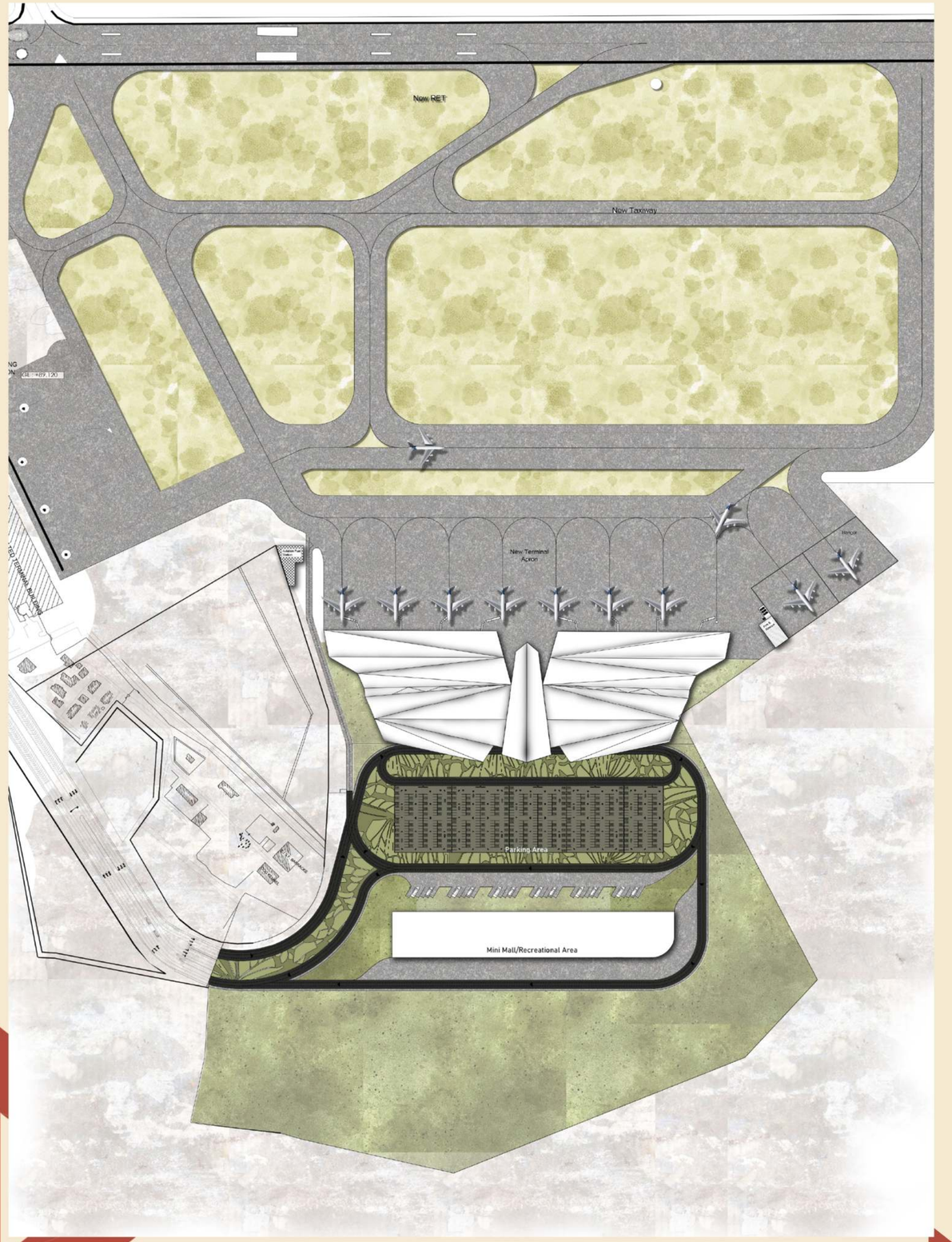
BY JANANI SHREE



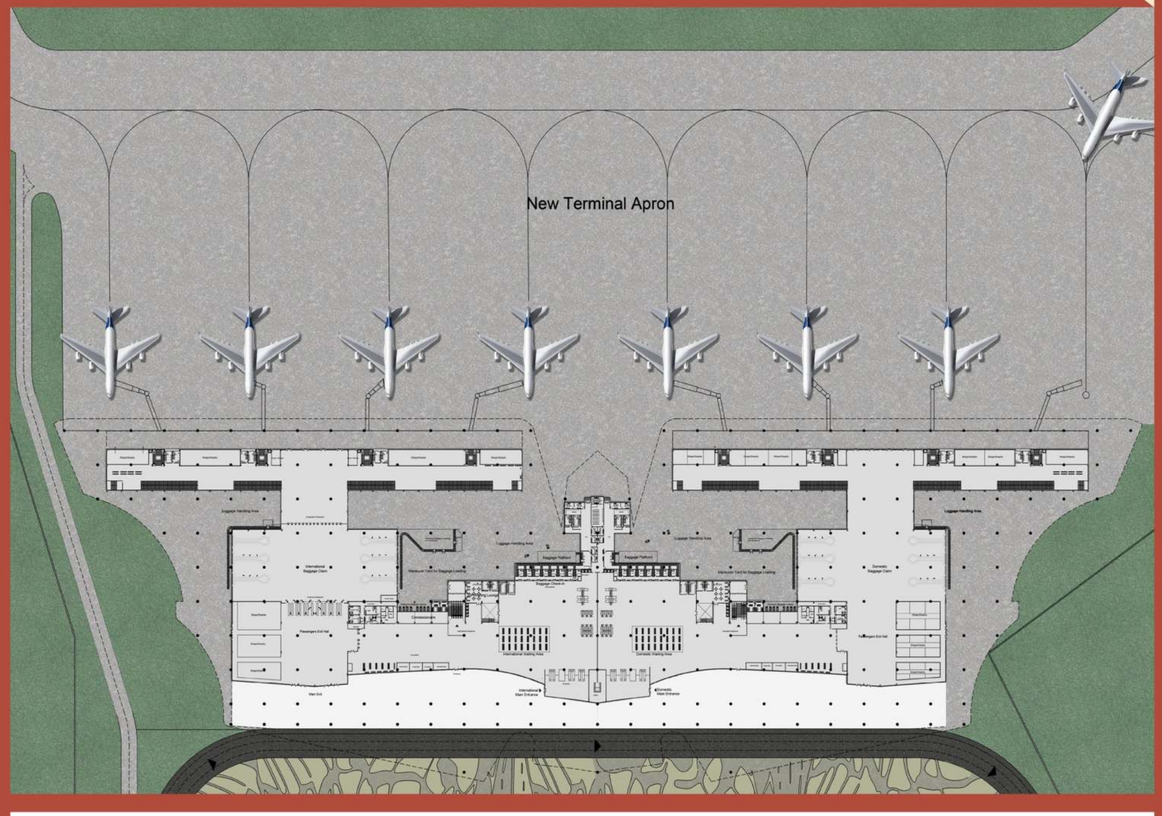


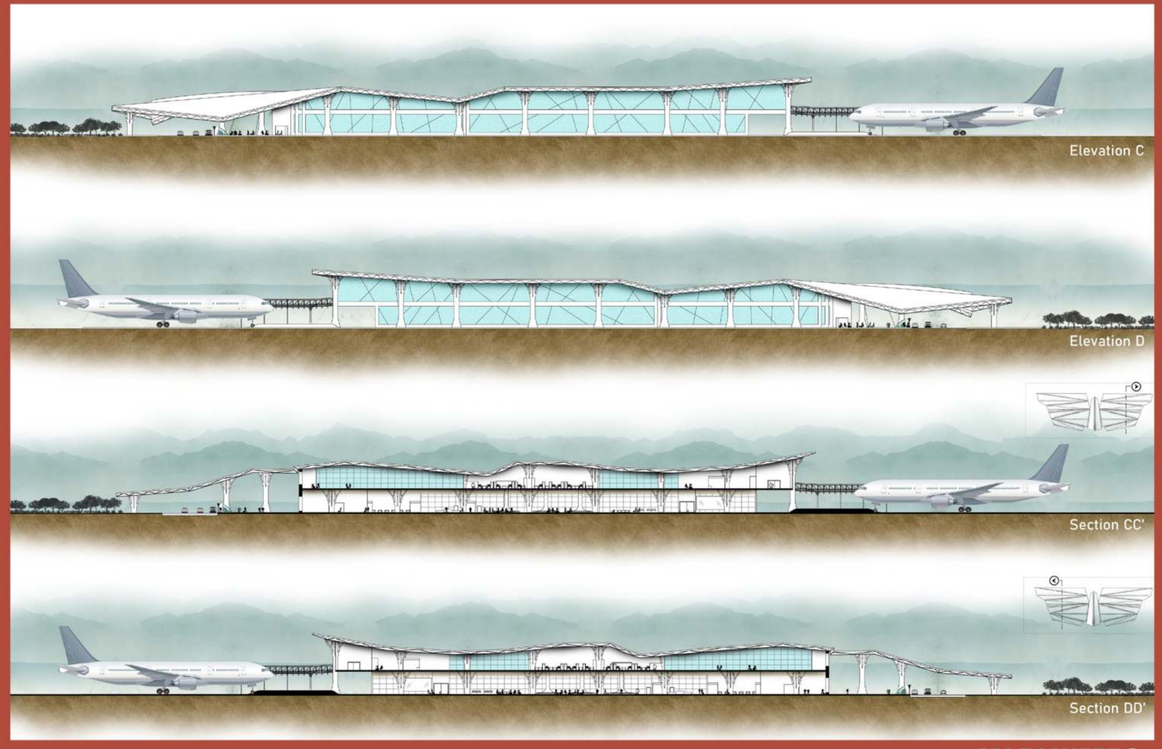


BY RAGATHARANI



SEMESTER 2 M.ARCH





BY TAWFEEQ

CONCEPTUAL DESIGN EVOLUTION

TRICHY

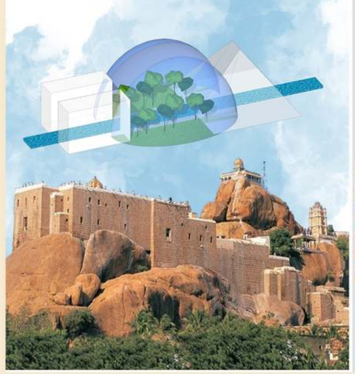
TIRUCHIRAPALI — THIRUCHINAPALI

THRISHIRA - PALI — THIRU - CHINA - PALI

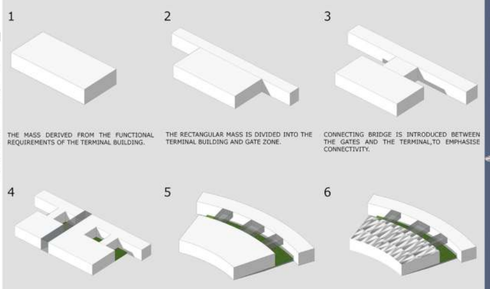
THREE HEADED CITY — SMALL HOLY CITY

TRICHY ROCKFORT TEMPLE ABSTRACTLY CONVERTED TO VOLUMETRIC FORMS, WHICH WOULD DEPICT THE THREE HEADS OF THRISHIRA SAGE FROM WHICH THE NAME OF THE CITY IS DEVELOPED. THE MASS OF THE ROCKFORT TEMPLE IS CONVERTED TO SPHERE, CUBOID AND PYRAMID WHERE THE HILLOCK IS REPRESENTED BY A SPHERE, FORT BY A CUBOID AND TEMPLE BY A PYRAMID.

THE FORM OF THE AIRPORT IS DERIVED BY THE CONCEPT OF ADDITIVE FORMS. A CONTINUOS, DYNAMIC WATER BIDY MIMICING THE 'KAVERI RIVER ' UNIFIES THE THREE VARIED FORMS.IT ALSO WOULD PERFORM AS A BIOPHILIC ELEMENT IN THE INTERIORS. THE SURFACE OF THE STRUCUTRE IS ARTICUALTED BY PATTERNS AND GREEN WALLS.



FORM EVOLUTION



1 — THE MASS DERIVED FROM THE FUNCTIONAL REQUIREMENTS OF THE TERMINAL BUILDING.

2 — THE RECTANGULAR MASS IS DIVIDED INTO THE TERMINAL BUILDING AND GATE ZONE.

3 — CONNECTING BRIDGE IS INTRODUCED BETWEEN THE GATES AND THE TERMINAL.TO EMPHASISE CONNECTIVITY.

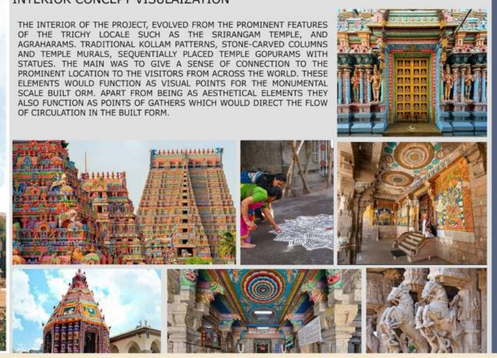
4 — THE TERMINAL AND GATES ARE FURTHER DIVIDED INTO DOMESTIC AND INTERNATIONAL. THE SEGREGATION IS ALSO DONE WITH THE CONNECTING BRIDGES. THE VOID AMONG THE BRIDGES FUNCTION AS GREEN POCKETS AND VISUAL ELEMENTS.

5 — THE CUBOID MASS OF THE TERMINAL AN THE GATE ARE CURVED TO CREATE A SENSE OF 'WELCOMING ' FOR THE TRAVELERS. THIS CURVED FORM ALSO PROVIDES A GUIDED CIRCULATION IN THE INTERIORS OF THE TERMINAL.

6 — THE FINAL MASS OF THE AIRPORT TERMINAL, CONCEPTUALLY SYMBOLISES THE TRICHY FORK FORT TEMPLE WITH OTHER EMPHASISING AESTHETIC FEATURES IN THE INTERIORS AND EXTERIORS RELATING TO TRICHY AND ITS LOCALE.

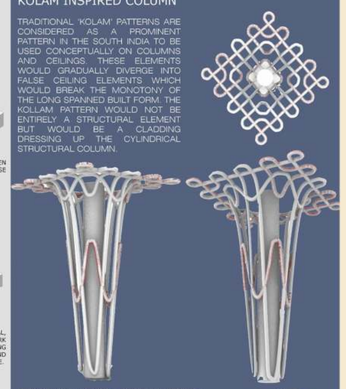
INTERIOR CONCEPT VISUALAIZATION

THE INTERIOR OF THE PROJECT, EVOLVED FROM THE PROMINENT FEATURES OF THE TRICHY LOCALE SUCH AS THE SRIRANGAM TEMPLE, AND AGRAHARAMS. TRADITIONAL KOLLAM PATTERNS, STONE-CARVED COLUMNS AND TEMPLE MURALS, SEQUENTIALLY PLACED TEMPLE GOPURAMS WITH STATUES. THE MAIN WAS TO GIVE A SENSE OF CONNECTION TO THE PROMINENT LOCATION TO THE VISITORS FROM ACROSS THE WORLD. THESE ELEMENTS WOULD FUNCTION AS VISUAL POINTS FOR THE MONUMENTAL SCALE BUILT ORM. APART FROM BEING AS AESTHETICAL ELEMENTS THEY ALSO FUNCTION AS POINTS OF GATHERS WHICH WOULD DIRECT THE FLOW OF CIRCULATION IN THE BUILT FORM.



KOLAM INSPIRED COLUMN

TRADITIONAL 'KOLAM' PATTERNS ARE CONSIDERED AS A PROMINENT PATTERN IN THE SOUTH INDIA TO BE USED CONCEPTUALLY ON COLUMNS AND CEILINGS. THESE ELEMENTS WOULD GRADUALLY DIVERGE INTO FALSE CEILING ELEMENTS WHICH WOULD BREAK THE MONOTONY OF THE LONG SPANNED BUILT FORM. THE KOLLAM PATTERN WOULD NOT BE ENTIRELY A STRUCTURAL ELEMENT BUT WOULD BE A CLADDING DRESSING UP THE CYLINDRICAL STRUCTURAL COLUMN.

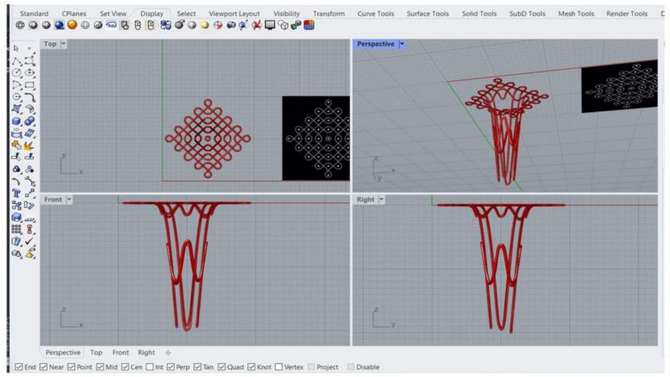


ROOF SURFACE ARTICULATION

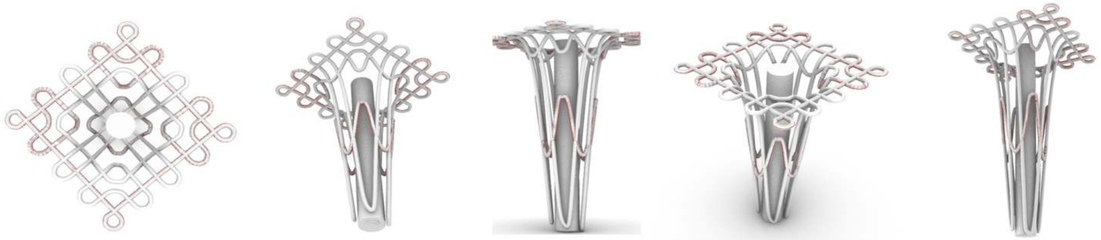
THE EXTERNAL SURFACE OF THE ROOF EVOLVED FROM THE ROUGH TEXTURE OF THE HILLOCK AND BOULDERS OF THE ROCK FORT TEMPLE. THE CORRUGATED SURFACE OF THE ROOF HAS COMPARATIVELY A LARGER AREA THAN A FLAT SURFACE THIS PROVIDES THE FACILITY TO PROVIDE SKYLIGHTS TO OPTIMISE NATURAL LIGHTING IN THE INTERIORS.

APART FROM THE STRUCTURAL AND FUNCTIONAL FACTORS, IT CREATES A VISUAL INTEREST IN THE INTERIOR AND EXTERIOR BY BREAKING THE MONOTONY CREATED BY THE LONG-SPAN STRUCTURES.

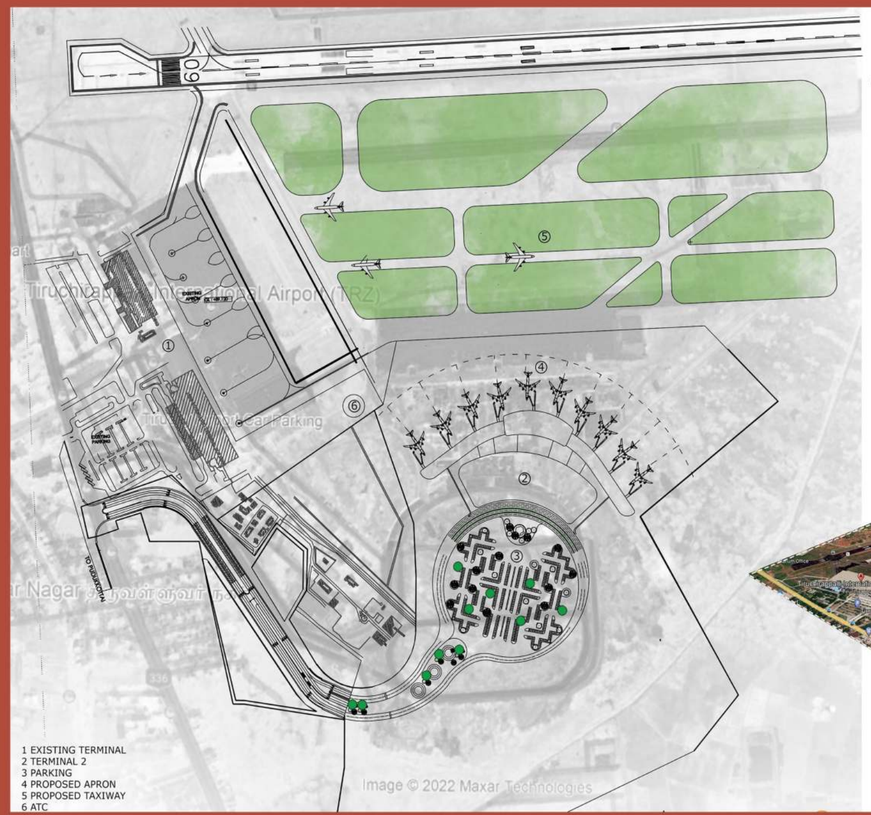
TRICHY INTEGRATED TERIMAL - II



The structural column is derived from the traditional KOLAM of South India. The patterns are continued to the ceilings as false ceiling elements. The lines of the column function as lateral structural members. The primary structure would be a circular column enclosed within the Kolam pattern. The conceptual evolution initiates with dots KOLAM which is developed into a 64 dot pattern. The central control points are identified and extruded in the Z-axis which eventually develops the enclosed pattern.



DESIGN STUDIO II - FRACTAL COLUMN DESIGN DEVELOPMENT AND ITERATION



1 EXISTING TERMINAL
2 TERMINAL 2
3 PARKING
4 PROPOSED APRON
5 PROPOSED TAXIWAY
6 ATC

TRICHY INTEGRATED TERMINAL II

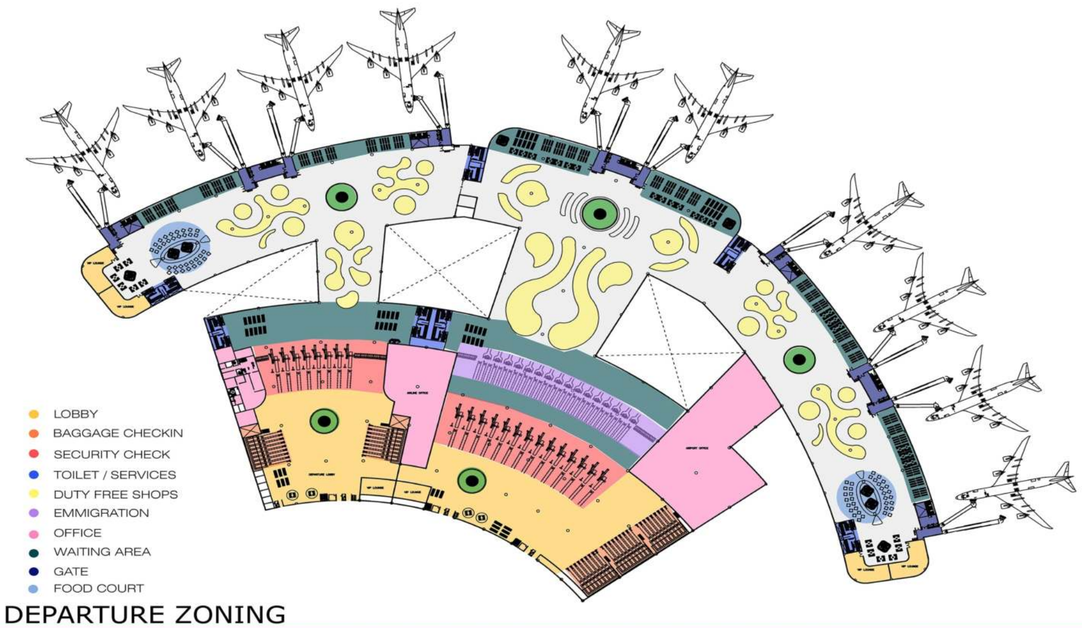
(URBAN INFRASTRUCUTURE PROJECT)

The new terminal building being constructed at the cost of Rs.951.28 Crores has been designed to process 2900 passengers during peak hours. Equipped with 48 check-in counters and 10 boarding bridges, the terminal will be an energyefficient building with sustainable features. With an area of 75000 sq m, the new terminal building has been designed as an iconic structure of dynamic and dramatic building form with majestic roof which gives the structure an iconic look. The interiors of the building reflect the colors and culture of the city through materials and textures in a contemporary manner.

The intuitive form of the new terminal will create a unique architectural identity in southern region and will add a new dimension to the terminal design. Strong references to the local culture and traditional architecture will be expressed by the building's architecture. Arriving and departing passengers will sense this identity and reference to the place. The expansion project includes construction of new Apron, Associated Taxiways, Isolation Bay to make the airport suitable for Multiple Apron Ramp System i.e. five wide- body (Code E) and 10 narrow body aircraft (Code C). Other than this, construction of a Control Room, supporting Equipment Rooms, Terminal RADAR, 1 RADAR simulation, Automation facilities, VHF, AAI offices and Meteorological offices are also the part of the project.

KUNDAN S

AIRPORT TERMINAL SPATIAL ZONING



- LOBBY
- BAGGAGE CHECKIN
- SECURITY CHECK
- TOILET / SERVICES
- DUTY FREE SHOPS
- EMMIGRATION
- OFFICE
- WAITING AREA
- GATE
- FOOD COURT

DEPARTURE ZONING

BY KUNDAN S