

# ARCHITECTURE

## portfolio

WORK EXPERIENCE | M.Sc | B. ARCH



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## Green Deck Studio

- 1** | Purandare Residence  
Pune, India
- 3** | Kamshet Farmhouse  
Lonavala, India
- 4** | Karandikar Residence  
Pune, India
- 5** | Pathak Residence  
Pune, India

## Work Experience

- 6** | Proposed Residential Building  
Des. K Architecture, Pune, India
- 7** | Mixed Development  
Des. K Architecture, Pune, India
- 8** | Jaquar Product Experience Centre, India.  
Lokusdesign, Pune, India
- 9** | Palakkad District Heritage Centre, India.  
Lokusdesign, Pune, India

## Personal Projects

- 10** | PostGrad Thesis  
The Peel Venture  
Milan, Italy
- 16** | Bachelor Thesis  
Centre for Indian Cultural Performances  
Pune, India
- 19** | Bungalow Design  
Chandani Chowk, Pune, India
- 20** | Riverfront Development  
River Mutha, Pune, India
- 21** | Sketches
- 22** | Model Making
- 23** | Co - Curricular Activities

A small bedroom was converted into a master bedroom for a couple getting married by the end of 2022.

The wife is fond of orange gardens, hence an inspiration from that was created in the form of verticle lines on the left corner wall.

Moreover, the combination of white, black and orange strips made the room look bigger and also elevated the height.



From Render.....



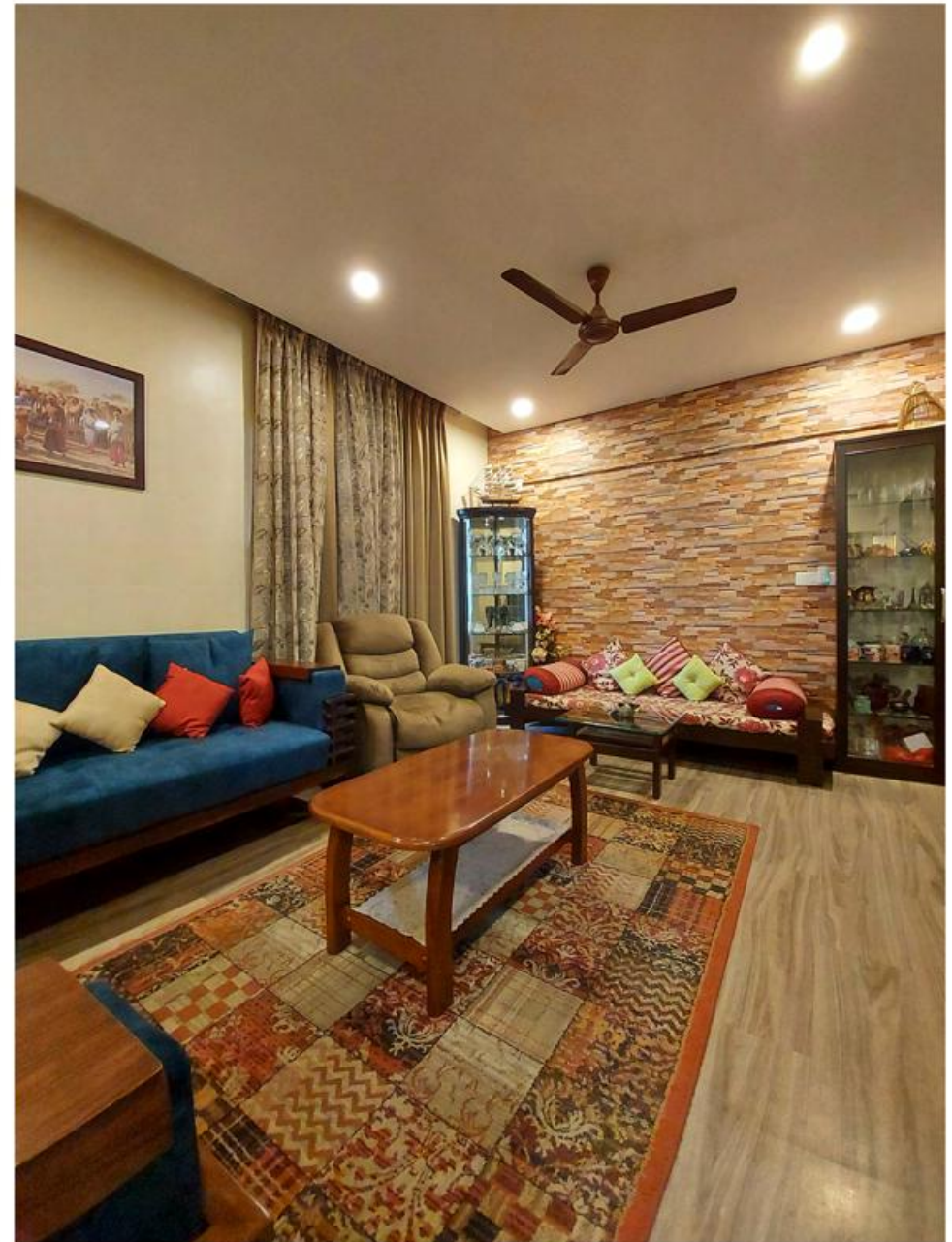
To Reality !!



Below is a software rendered image of an upcoming farmhouse near Lonavala, India. This farmhouse is currently under its final design stage. We have kept a very natural and rustic look for this homestay.



A classic wooden and royal blue palette used in this living room gives a rich ambient feel. An ambient wall with a brick textured effect wallpaper and a subtle false ceiling give depth to this space.

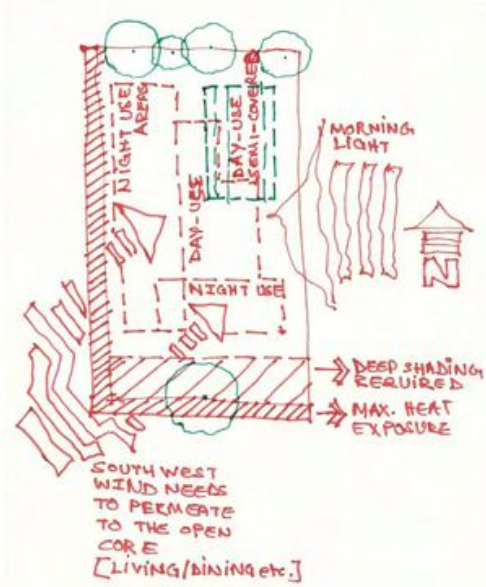


This is a proposed design rendered image for a duplex apartment. The apartment is designed with a contemporary yet minimalistic approach. Currently the proposal is at its intermediate design stage. Execution is estimated to start from January 2023.



**Proposed residential building Kothrud, Pune.**

This is a residential building proposed for 2 families living together. The initial layout was planned according to the site conditions.



Site Schematics



Site Plan



Fourth Floor Plan



Third Floor Plan



Second Floor Plan



First Floor Plan

Later, as per the client's requirement, the layout was changed according to vastu norms, which is a traditional hindu system of architecture, describing the principles of design and layout.



Diagrams showing layout according to Vastu norms.

Revisions were made in the layout with the incorporation of vastu norms to its utmost.

- LEGEND :
1. GUEST ENTRANCE (Below the tree canopy)
  2. WATER FOUNTAIN
  3. LIFT LOBBY
  4. STAIRCASE TO FIRST FLOOR
  5. CAR PARKING
  6. SERVANTS ROOM
  7. TWO-WHEELER PARKING
  8. HARD SCAPED AREA
  9. SOFT LANDSCAPE



Site Plan



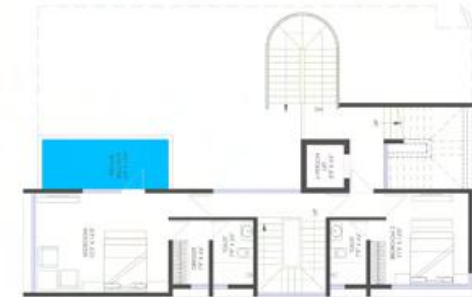
Fourth Floor Plan



Third Floor Plan



Second Floor Plan



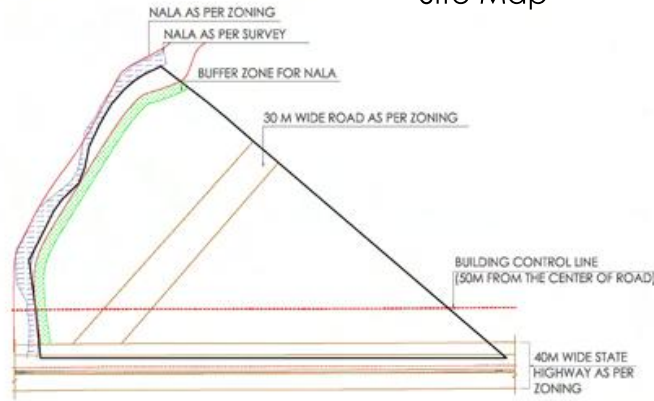
First Floor Plan



Mixed Development  
Saswad, Pune.



Site Map



Site Plan

**Design Option 1**  
- Low Density  
- High Rise  
- Full FSI Consumed



Site Layout Option 1

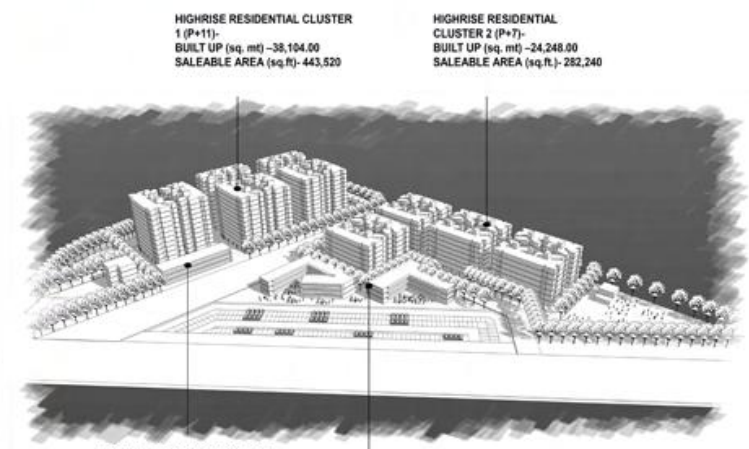
**Design Option 2**  
- High Density  
- Low Rise  
- Part FSI Consumed



Site Layout Option 2



View Option 1



View Option 2



Typical Floor Layout



Unit Plans

PERMISSIBLE BUILT-UP CALCULATION			
Descriptions		Sq.M	Sq.Ft.
Plot Area (as per 7/12)	15.72	63600.00	684590.40
Total Plot Area (as per Survey)	15.33	62057.30	667984.78
Minimum Area considered	15.33	62057.30	667984.78
DEDUCTIONS			
Road Widening (40 mts. Wide road)		5368.56	57787.18
Road Widening (30 mts. Wide road)		7005.49	75407.09
Net Gross area		49683.25	534790.50
Open Space	0.10	4968.33	53479.05
Amenity Space	0.05	2484.16	26739.53
Net Gross area for F.S.I Calculations		42479.18	457245.88
Basic F.S.I	1.20	50975.01	548695.06
Premium	0.20	8495.84	91449.18
Total F.A.R	1.40	59470.85	640144.23
Add Road Widening		0.00	0.00
Balcony	0.15	8920.63	96021.63
Total Permissible Built-up		<b>68391.48</b>	<b>736165.87</b>

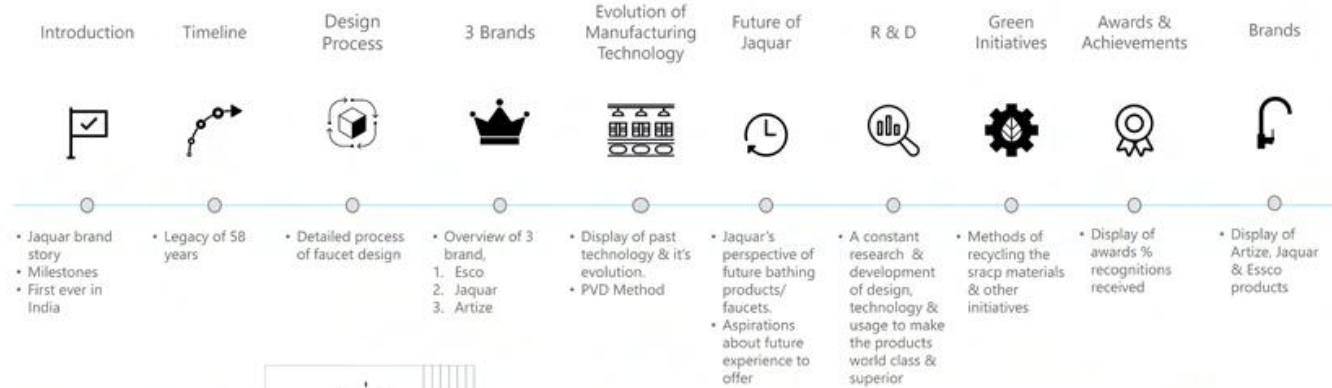
## Jaquar Product Experience Centre Bhiwadi, Rajasthan.

- To educate the visitors about Jaquar's product portfolio.
- To inculcate a sense of variety of products, Jaquar as a brand offers.

### Audience :

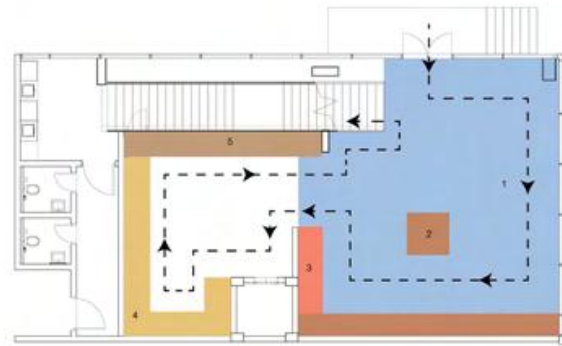
Architects & Interior Designers, Retailers & Distributors, VIPs & Dignitaries, Factory Visitors, Employees

### Narrative Schematics

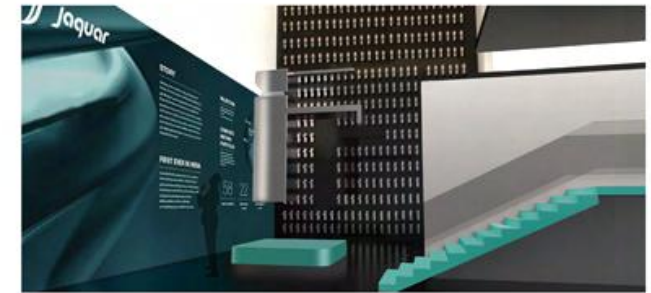


### Legend

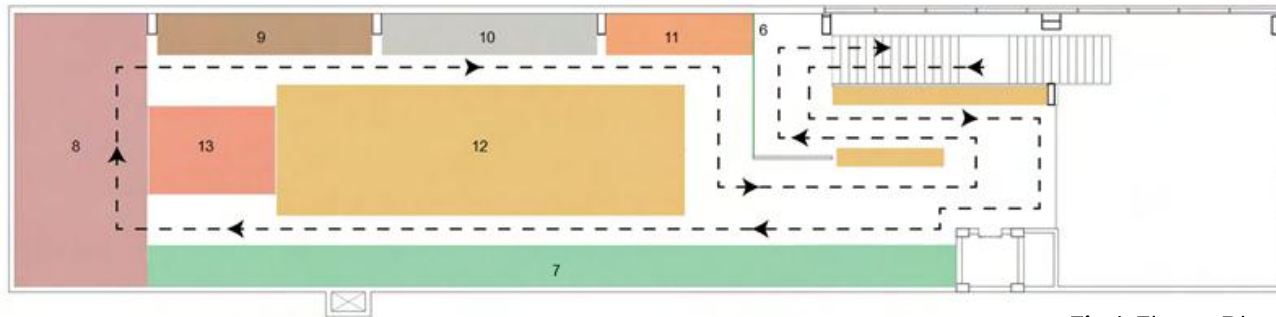
- 1. **Introduction** (750 sq. ft.)\*  
Jaquar brand story
- 2. **Faucet Installation** (123 sq. ft.)\*
- 3. **Timeline** (25 sq. ft.)\*  
Legacy of 58 years
- 4. **Design Process** (60 sq. ft.)\*  
Detailed process of faucet design
- 5. **3 Brands** (25 sq. ft.)\*  
Overview of 3 brand, Esco, Jaquar, Artize



Ground Floor Plan

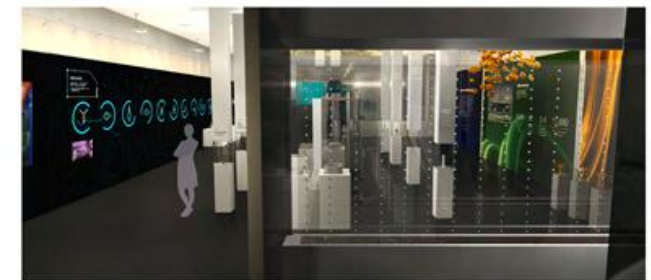


View of Installation Wall



### Legend

- 6. **Levitating Water Installation** (24.30 sq. ft.)\*
- 7. **Evolution of Manufacturing Technology** (465 sq. ft.)\*  
• Display of past technology & it's evolution.  
• PVD Method
- 8. **Future of Jaquar** (503 sq. ft.)\*  
• Jaquar's perspective of future bathing products/ faucets.  
• Aspirations about future experience to offer
- 9. **Research & Development** (160 sq. ft.)\*  
• A constant research & development of design, technology & usage to make the products world class & superior
- 10. **Green Initiative** (24.50 sq. ft.)\*  
• Methods of recycling the sracp materials & other initiatives
- 11. **Awards & Achievements** (30 sq. ft.)\*  
• Display of awards % recognitions received
- 12. **Product Display** (790 sq. ft.)\*  
• Display of Artize, Jaquar & Esco products



View of Levitating Water

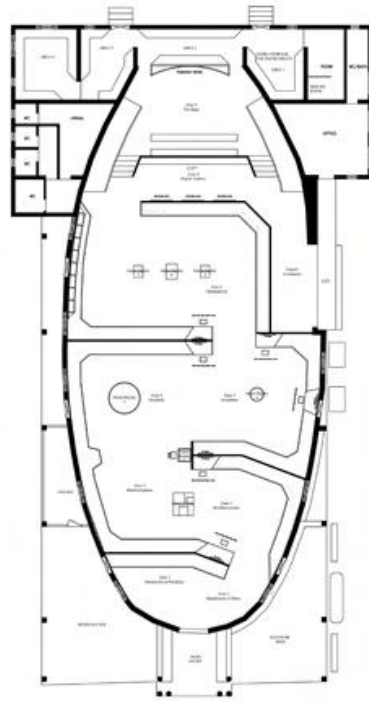
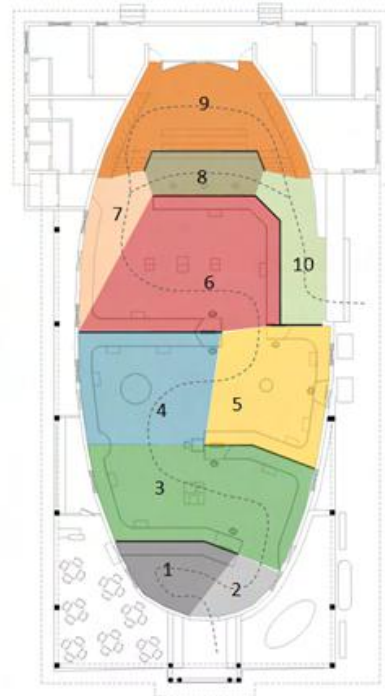


View of First Floor

## Palakkad District Heritage Museum Kerala.

Palakkad District is been continuously bolstering the art of music, from singers, musical instruments players to musical instruments makers.

The primary objective is to highlight the peculiar features of the culture, history and heritage of Palakkad District. Along with that, the mission of the museum includes few other objectives which are to propagate the skills, to document the history of the music in the district, to conserve the intangible heritage of Palakkad.



- |                        |                 |                         |
|------------------------|-----------------|-------------------------|
| 1. WELCOME TO PALAKKAD | 4. IDIOPHONES   | 7. TEMPORARY EXHIBITION |
| 2. MUSICAL TRADITION   | 5. AEROPHONES   | 8. DIGITAL ARCHIVE      |
| 3. MEMBRANOPHONES      | 6. CHORDOPHONES | 9. THE STAGE            |
|                        | 10. CONCLUSION  |                         |

Aerial View



Elevational Views



Welcome to Palakkad



Zone Membranophone



Zone Aerophone



Conclusion



Zone Ideophone



Zone Chordophone



Temporary Exhibition





Milan is one of the largest fashion hubs in the world. Milan's fashion industry mainly focuses on the business and marketing part of fashion aiming to make profits and less on sustainable design and innovation part. Hence the design proposal is to make such an institute which focuses on the designing and innovation of new technology and materials related to fashion. This institute is open to anyone who is interested to conduct research and explore in the field of fashion. The institute consists of a cloth manufacturing centre as well in which food scrap is brought in and processed into cloth.



### Site Information:



### Site

The site is designed by Dutch landscape designer, Petra Blaisse, who imagined a modern botanical garden. Foliage of trees enclose spaces below, used for playgrounds and cultural initiatives. Site area : 67,000 sq. mt.

### Parks

Greener, more nature, more tranquility. A large park of 90,000 square meters, "The Library of the Trees", for running, walking, playing. Great attention has also been paid to lighting and street furniture, which are central aspects of urban safety and aesthetics.

### Porta Nuova

A fabric connecting 3 districts, covering an overall area of 290,000 sqm with a continuous pedestrian system of green areas, piazzas and bridges forming a seamless neighbourhood. The projects assign special destinations within distinct areas: residences, offices and showrooms, different exhibition and cultural spaces, new commercial spaces and even parks and pedestrian paths dedicated to adults and children.



## INSPIRATION.....

### SUSTAINABILITY

- Conservation
- Preservation
- To give back what we have taken from the Earth.
- Education of the people to make them aware of sustainability.

There are designers who have explored various materials in fashion for a variety of products such as LINEN, CORK, FLAX, ORANGE SCRAP, ETC.

C  
O  
R  
K



HEMP



LINEN



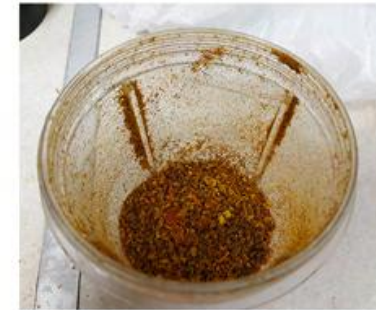
Orange is a fascinating material used for fabric. Hence it was explored as a building material in the proposal, along with the use of hempcrete.

## Orange Experimentations

1. Orange peel was baked and a leathery texture was obtained.



2. Orange peel was dried and crushed in a blender. The crush was then mixed with corn flour and microwaved/ heated on the gas stove.



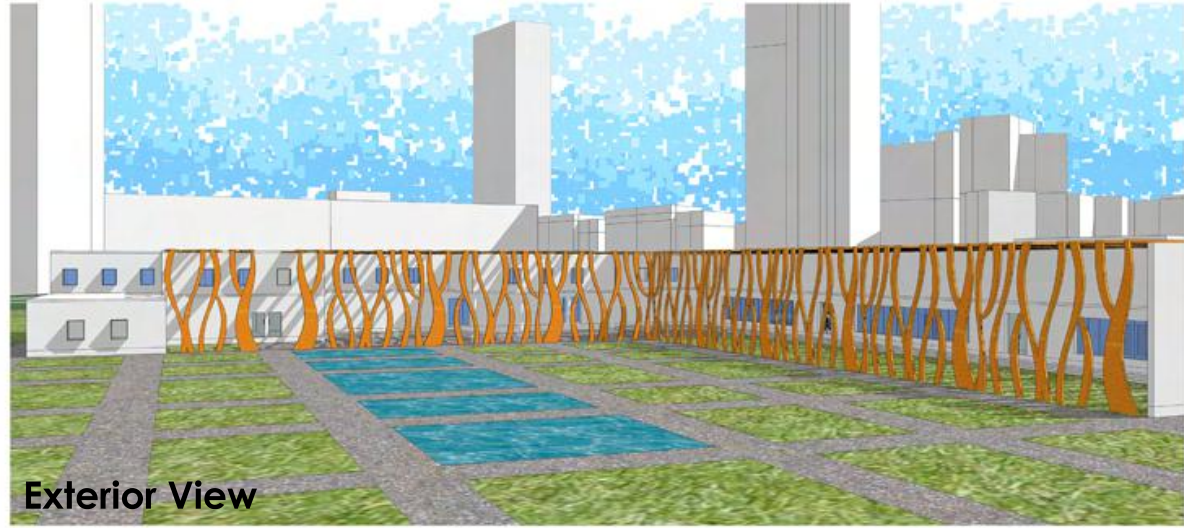
3. Orange peel was pressed between 2 wooden planks and kept for 2 weeks. The peels formed a beautiful texture and had an amazing quality through light. Few peels were stacked upon one another which after 2 weeks got stuck upon one another.



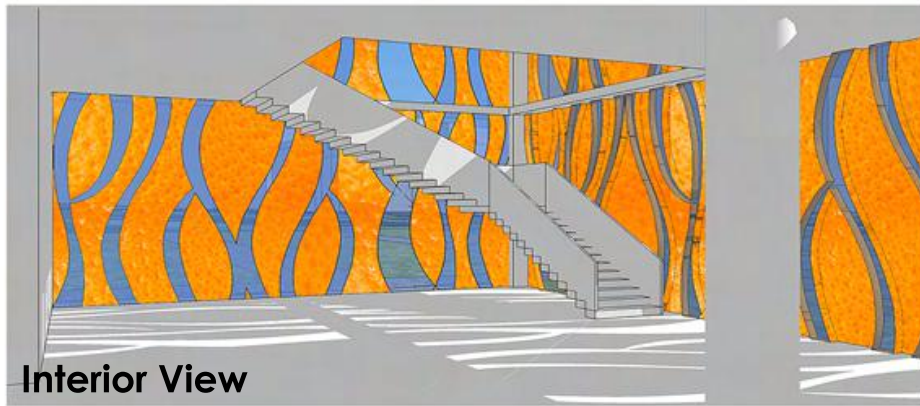
Hence the thinner peels can be used on the north or west facades as a shading device and the thicker peels can be used on the east and south facades. Such further experimentations can be conducted to use orange peels as a building shading device.



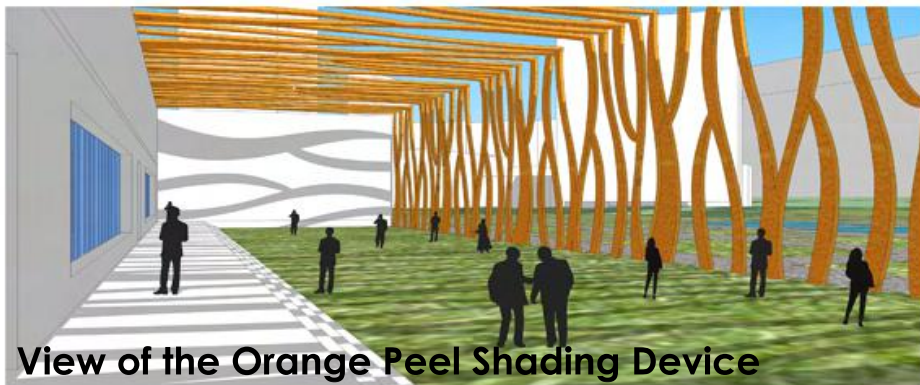
Exterior View



Exterior View



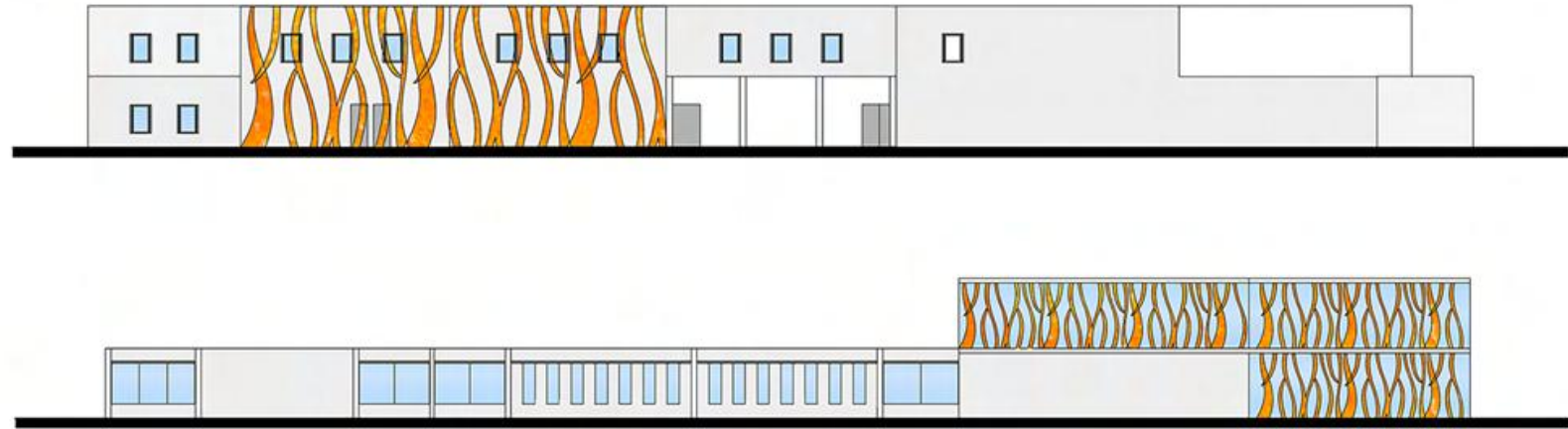
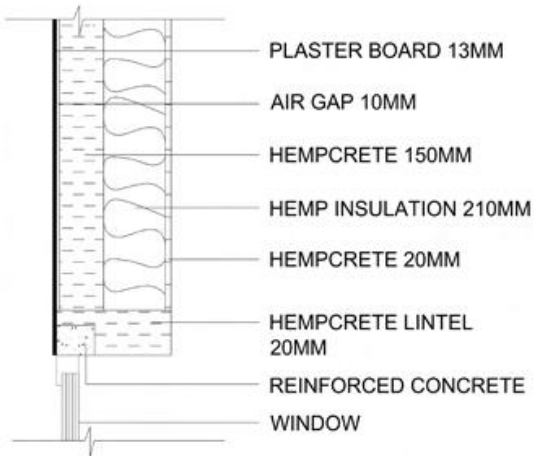
Interior View



View of the Orange Peel Shading Device



Site Plan



Wall Lintel Hemcrete Detail

Elevations



## Passivhaus Strategy

The Passivhaus standards were adopted to the design to cater the thermal comfort of the building and enforce a limit to the cooling and heating requirement. The studios in the ground floor plan were chosen for passivhaus energy calculations.

### U-Values:

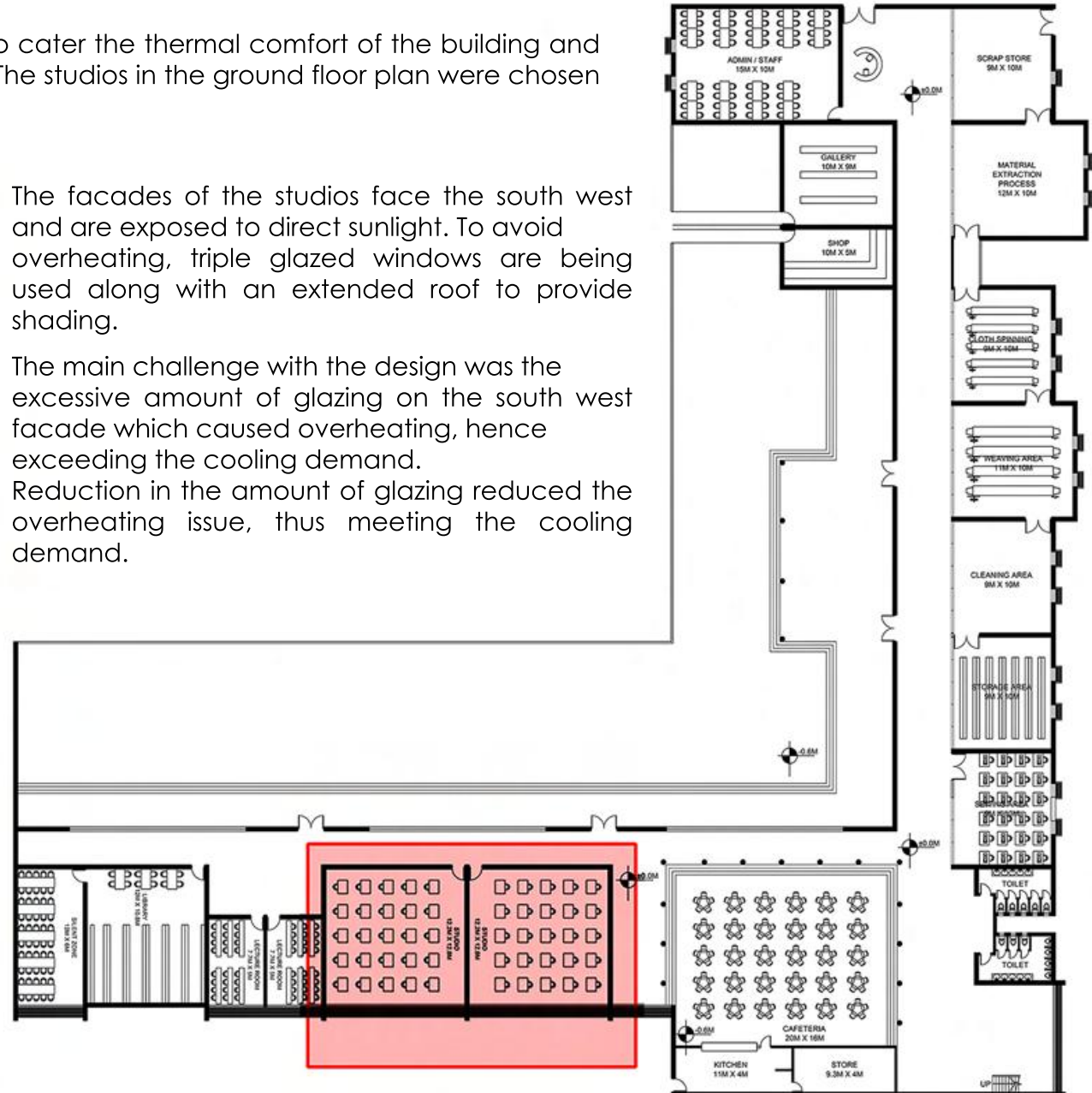
Assembly no.	Building assembly description				
01ud	External wall				
Heat transfer resistance [m <sup>2</sup> K/W]					
	interior R <sub>si</sub> 0.13				
	exterior R <sub>se</sub> 0.04				
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]
1. plasterboard	0.250	timber	0.130		
2. Air gap	0.030				
3. Hempcrete	0.070				
4. Hemp insulation	0.039				
5. Hempcrete	0.070				
6.					
7.					
8.					
Percentage of sec. 1		Percentage of sec. 2		Percentage of sec. 3	
100%		0.0%		0.0%	
U-value supplement 0.00 W/(m <sup>2</sup> K)		U-Value: 0.119 W/(m <sup>2</sup> K)			

Assembly no.	Building assembly description				
02ud	Ceiling				
Heat transfer resistance [m <sup>2</sup> K/W]					
	interior R <sub>si</sub> 0.10				
	exterior R <sub>se</sub> 0.04				
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]
1. Plasterboard	0.250	timber	0.130		
2. Hemp insulation	0.039				
3. Hempcrete roof	0.070				
4.					
5.					
6.					
7.					
8.					
Percentage of sec. 1		Percentage of sec. 2		Percentage of sec. 3	
100%		0.0%		0.0%	
U-value supplement 0.00 W/(m <sup>2</sup> K)		U-Value: 0.144 W/(m <sup>2</sup> K)			

Assembly no.	Building assembly description				
03ud	Floor				
Heat transfer resistance [m <sup>2</sup> K/W]					
	interior R <sub>si</sub> 0.17				
	exterior R <sub>se</sub> 0.00				
Area section 1	λ [W/(mK)]	Area section 2 (optional)	λ [W/(mK)]	Area section 3 (optional)	λ [W/(mK)]
1. Hempcrete	0.060				
2. Hemp insulation	0.039				
3.					
4.					
5.					
6.					
7.					
8.					
Percentage of sec. 1		Percentage of sec. 2		Percentage of sec. 3	
100%		0.0%		0.0%	
U-value supplement 0.00 W/(m <sup>2</sup> K)		U-Value: 0.140 W/(m <sup>2</sup> K)			

The facades of the studios face the south west and are exposed to direct sunlight. To avoid overheating, triple glazed windows are being used along with an extended roof to provide shading.

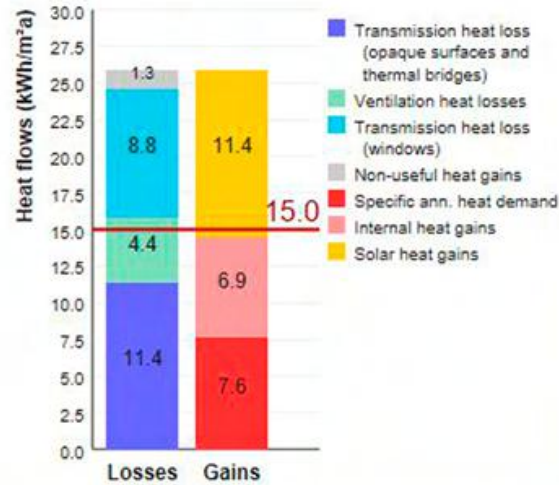
The main challenge with the design was the excessive amount of glazing on the south west facade which caused overheating, hence exceeding the cooling demand. Reduction in the amount of glazing reduced the overheating issue, thus meeting the cooling demand.



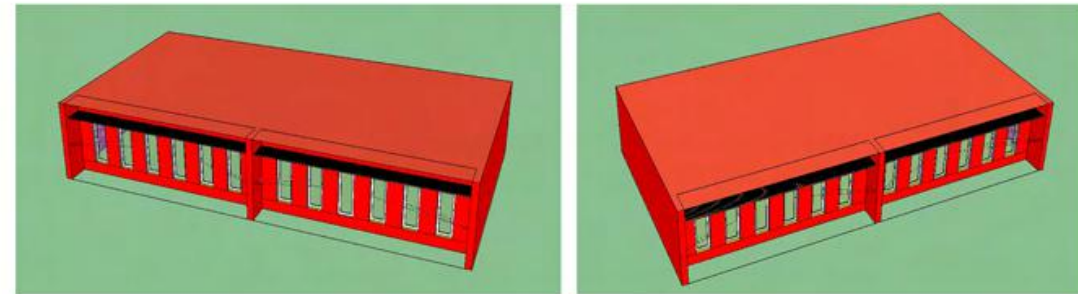
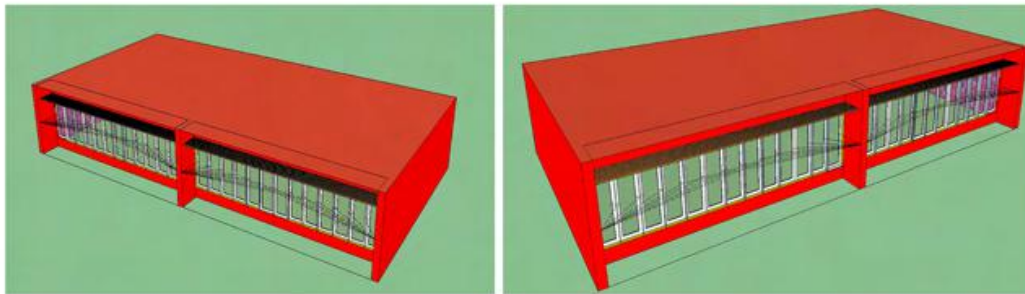
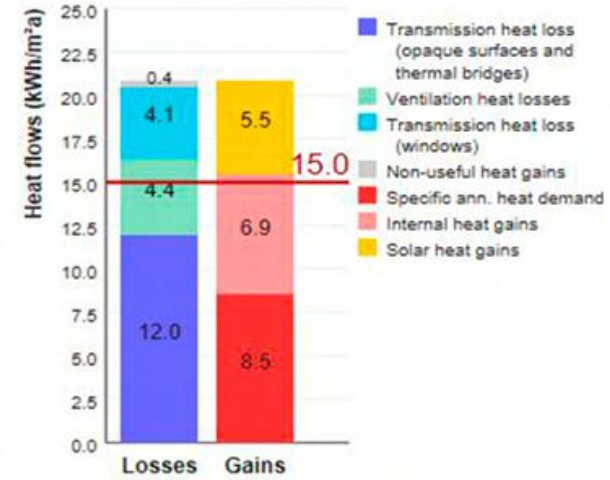
Ground Floor Plan



Step 1: ▼ Heat balance



Step 2: ▼ Heat balance



Specific building demands with reference to the treated floor area			
	Treated floor area	Requirements	Fulfilled?*
Space heating	Heating demand	15 kWh/(m²a)	yes
	Heating load	10 W/m²	yes
Space cooling	Overall specif. space cooling demand	18 kWh/(m²a)	no
	Cooling load	10 W/m²	no
	Frequency of overheating (> 25 °C)	%	-
Primary energy	Heating, cooling, dehumidification, DHW, auxiliary electricity, lighting, electrical appliances	120 kWh/(m²a)	-
	DHW, space heating and auxiliary electricity	-	-
	Specific primary energy reduction through solar electricity	-	-
Airtightness	Pressurization test result n <sub>50</sub>	0.6 1/h	yes

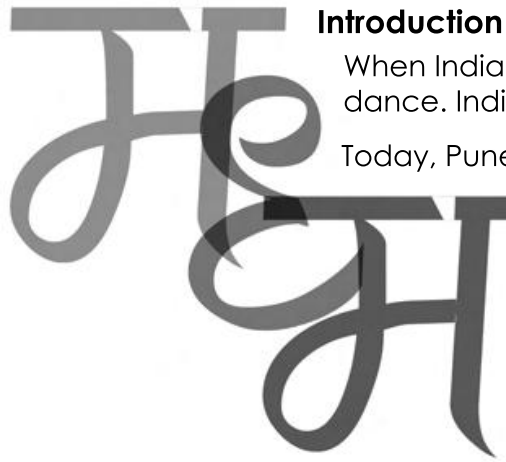
\* empty field: data missing; "-": no requirement

Specific building demands with reference to the treated floor area			
	Treated floor area	Requirements	Fulfilled?*
Space heating	Heating demand	15 kWh/(m²a)	yes
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Space cooling	Overall specif. space cooling demand	18 kWh/(m²a)	yes
	Cooling load	-	-
	Frequency of overheating (> 25 °C)	%	-
Primary energy	Heating, cooling, dehumidification, DHW, auxiliary electricity, lighting, electrical appliances	120 kWh/(m²a)	yes
	DHW, space heating and auxiliary electricity	-	-
	Specific primary energy reduction through solar electricity	-	-
Airtightness	Pressurization test result n <sub>50</sub>	0.6 1/h	yes

\* empty field: data missing; "-": no requirement

The excessive amount of glazing on the south west facades caused over heating. Hence the space cooling demand was as high as 30kWh/sq.mt. and the requirement was not met.

The amount of glazing was reduced to almost half the number which reduced the over heating and reducing the cooling demand to 15kWh/sq.mt.



## Introduction

When Indian culture is to be defined, one of the most dominant and defining factors of it is music, instrumental music and dance. Indian music, may it be classical or folk has been the backbone of entertainment and also as a profession since ages.

Today, Pune is the centre of traditional Marathi culture, in which education, arts and crafts, and theatre are given pride of place. That's why it is called cultural hub and is home for many music lovers.

There is no shortage of auditoriums in Pune. But auditoriums can house only up to 1500 to 2000 spectators at the most. However, Indian classical programmes with capacities stretching to about 8,000 to 10,000 taking place more often there is no permanent place for them to happen.

Such programmes are :

**Sawai Gandharva Bhimsen Festival**

**Vasantotsav Festival**

**Swar Jhankar Festival, etc.**

Temporary stages are erected in sport complexes or on open grounds. Moreover, there are numerous artists willing to perform, audience willing to attend and organizations willing to fund bigger shows. So, the proposed center is a place where the bigger concerts could take place as well as the smaller ones. A place where people could know where it began, how it progressed, where does it stand at present and what is the scope for the future.

## Analysis of New English School, Ramanbaug, Narayan Peth



New English School Ramanbaug is a school whose playground is used for various large scale music festivals such as :

- Sawai Gandharva Bhimsen Mahotsav
- Vasantosav Music Festival
- Swar Zankar Music Festival

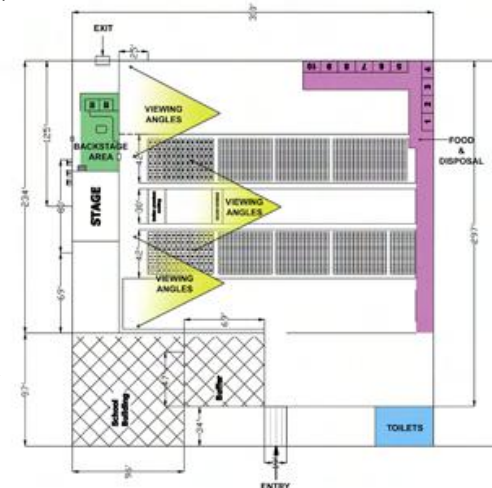
These events are very classy and prestigious music festival held in Pune, mainly focussing on classical vocal, classical instrumental, classical dance, sufies, ghazals, etc. and is awaited eagerly by all the people in Pune.

Recently many festival regulars have criticized the festivals are growing commercial and hence is causing a decrease in the music quality.

Many problems are face by the audience as well as the performers

They area as follows:

- The area of the ground is small to cater a capacity up to 7000 - 8000 people and the whole place becomes congested.
  - There is no proper place for parking provided for the audience, hence end up parking on the roads, which result in traffic congestion.
  - There is no proper stage setup and acoustics taken into consideration. The audience at the back and sides do not have a proper view of the performer.
- Hence the aim of the project is to redevelop the forum / platform for the performers as well as the audience.
- To deal with the problem's faced by the performers and the audience but retains the simplicity and culture of the forum at the same time.



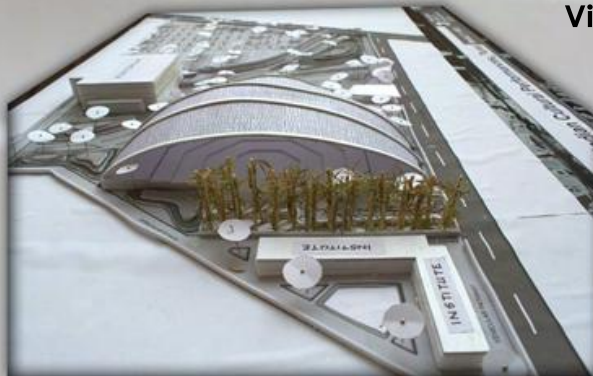
Site and Context Plan

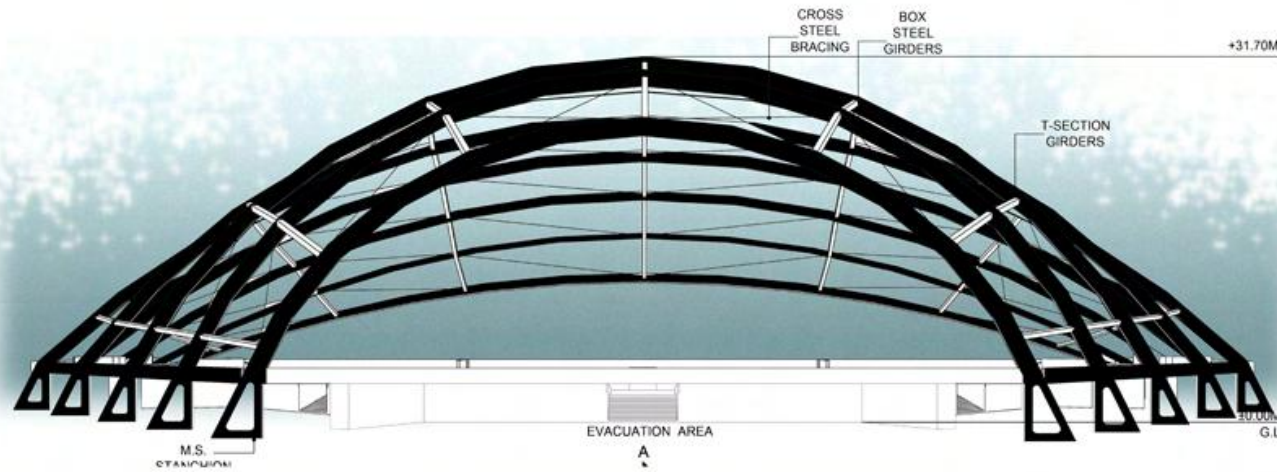


Developed Site Plan

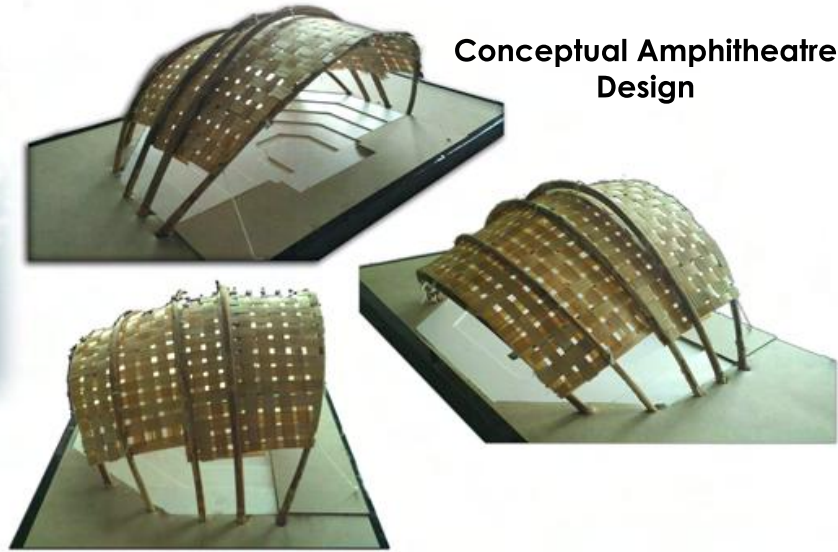


Views

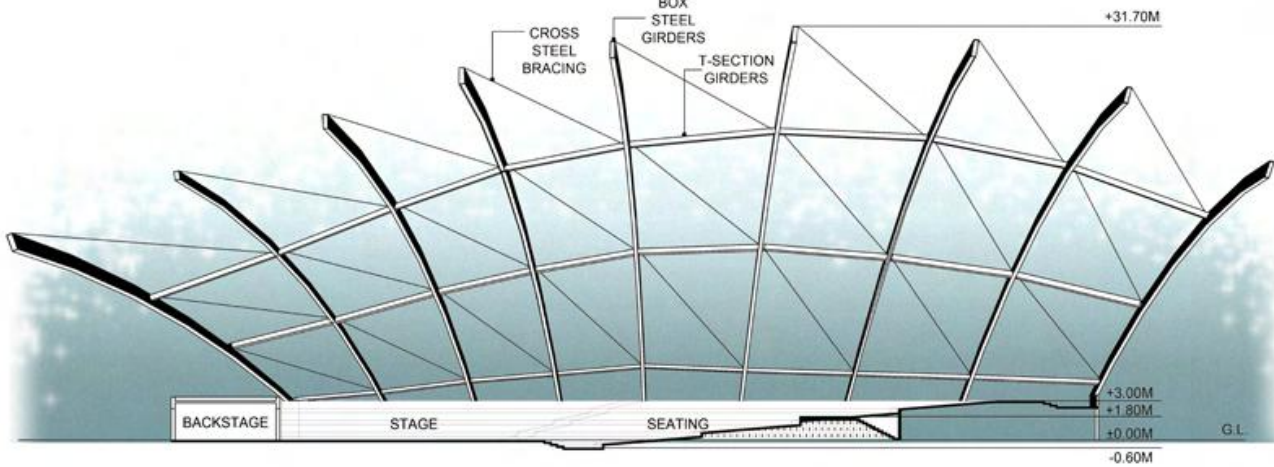




Elevation of Amphitheatre

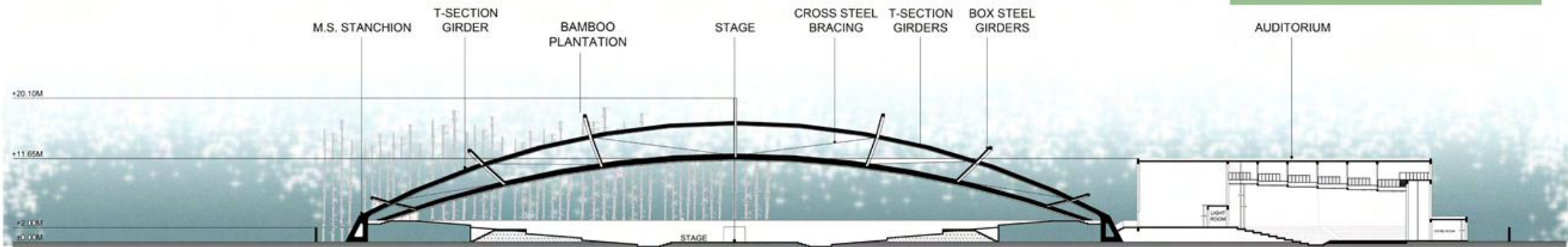
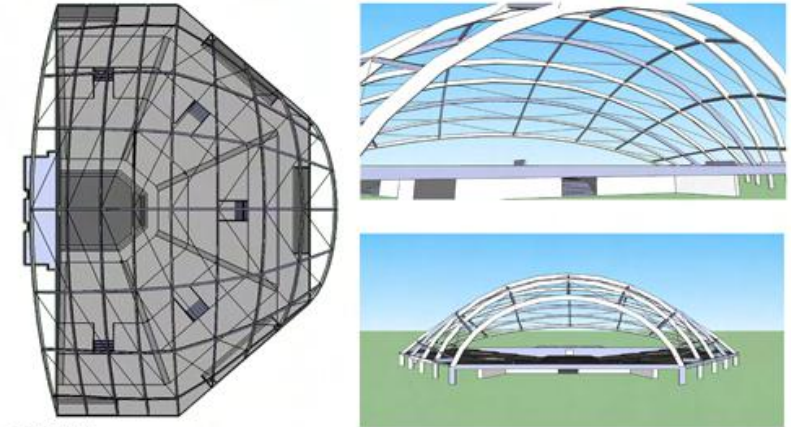


Conceptual Amphitheatre Design



Sectional elevation of Amphitheatre

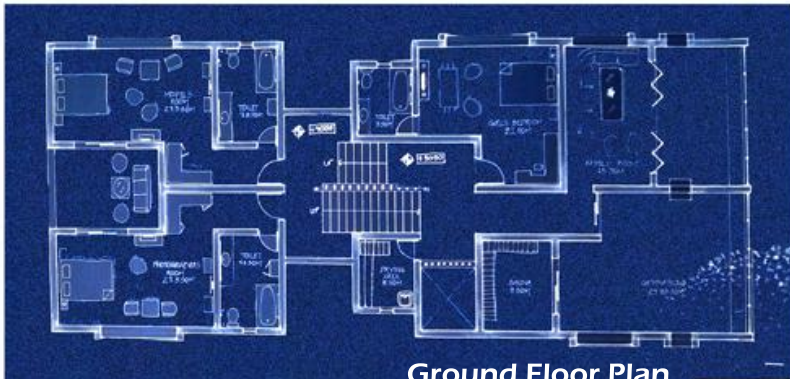
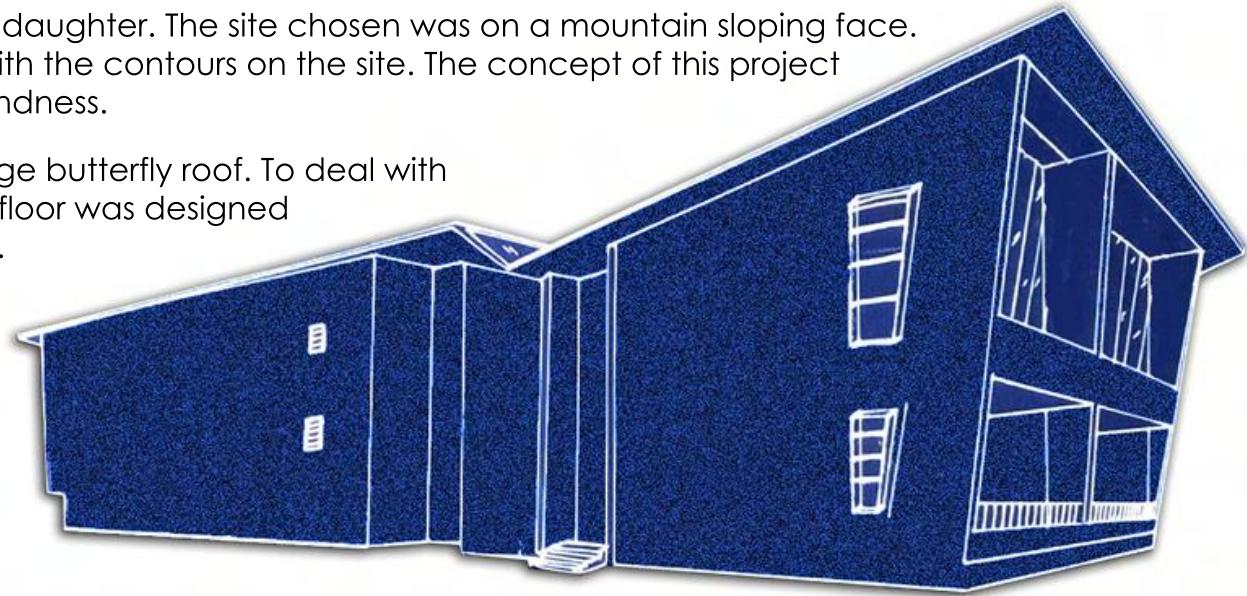
3-D Views of Amphitheatre



Site Sectional Elevation

This bungalow was designed for a gay couple and their daughter. The site chosen was on a mountain sloping face. Hence, the main challenge in this project was to deal with the contours on the site. The concept of this project was to make a statement of dominance, pride and grandness.

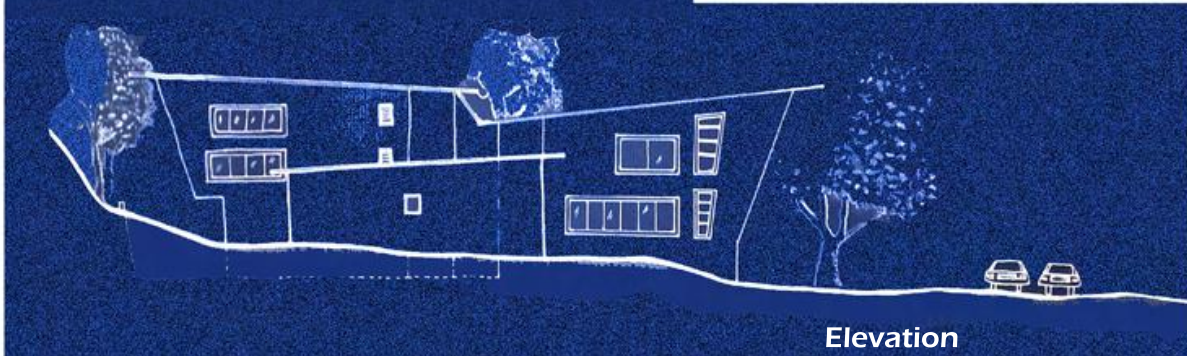
Therefore, a solid dynamic form was designed with a huge butterfly roof. To deal with the contours to its maximum potential, a half basement floor was designed as the photo studio, ending into a split levelled bungalow.



Ground Floor Plan



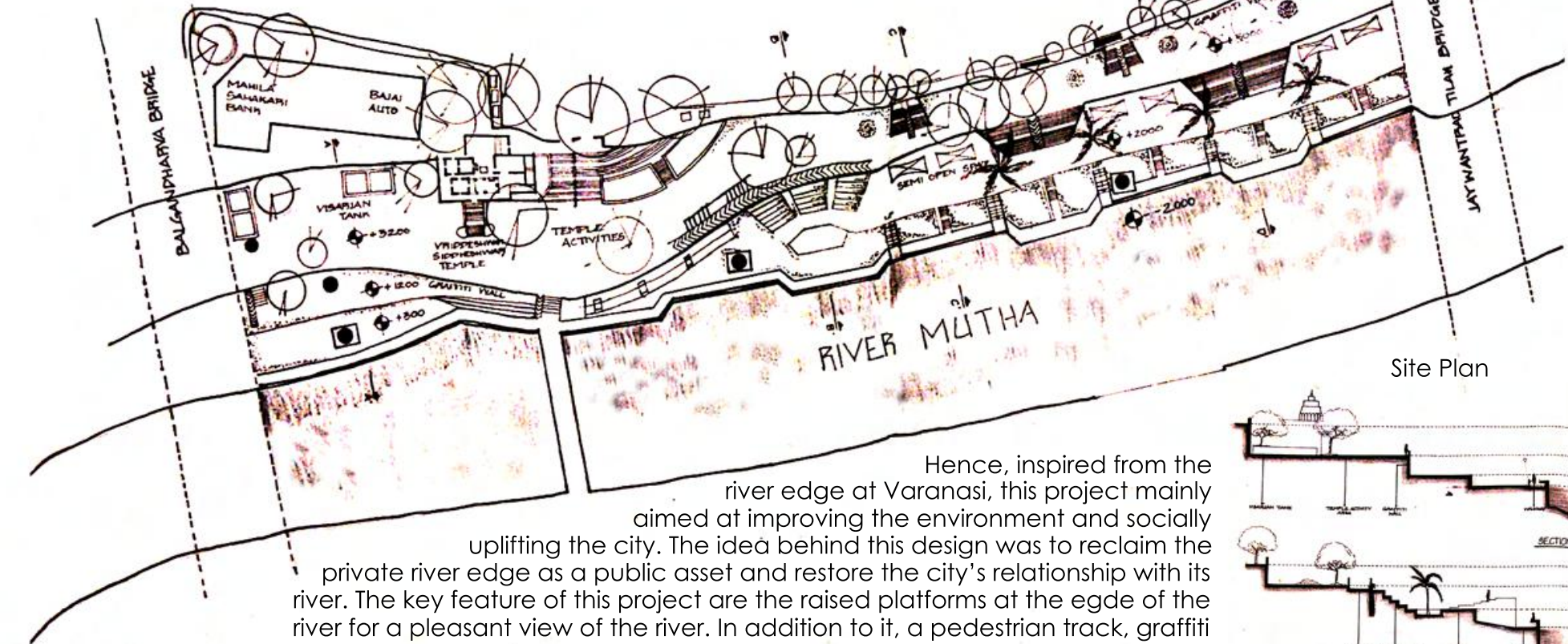
Section



Elevation

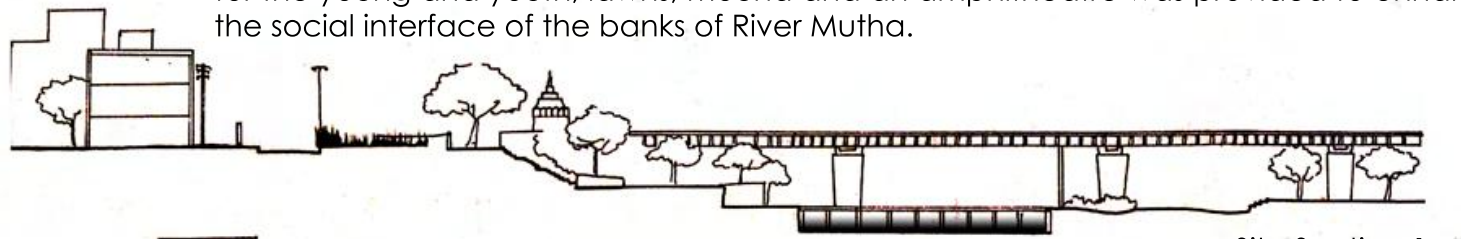


The river banks of Mutha river to be developed stretched from Balgandharva Bridge to Jaywantrao Tilak Bridge on the Congress House Road, Pune. The river was reduced to a water channel that carried sewage. Also the river banks were covered with dirt and filth due to bathing, ganesh visarjan, asthi visarjan, etc. There was no proper view of the river.

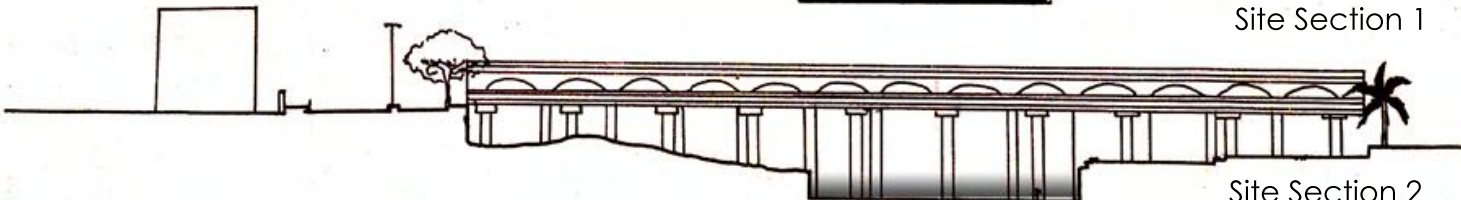


Site Plan

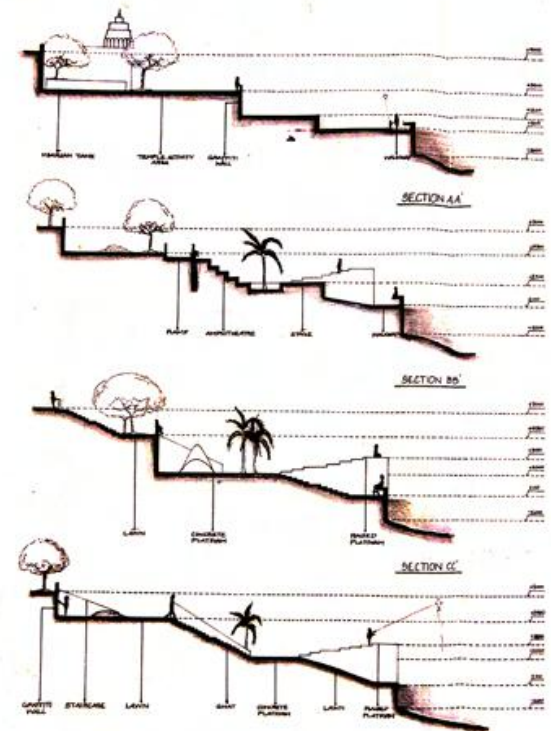
Hence, inspired from the river edge at Varanasi, this project mainly aimed at improving the environment and socially uplifting the city. The idea behind this design was to reclaim the private river edge as a public asset and restore the city's relationship with its river. The key feature of this project are the raised platforms at the edge of the river for a pleasant view of the river. In addition to it, a pedestrian track, graffiti for the young and youth, lawns, mound and an amphitheatre was provided to enhance the social interface of the banks of River Mutha.



Site Section 1



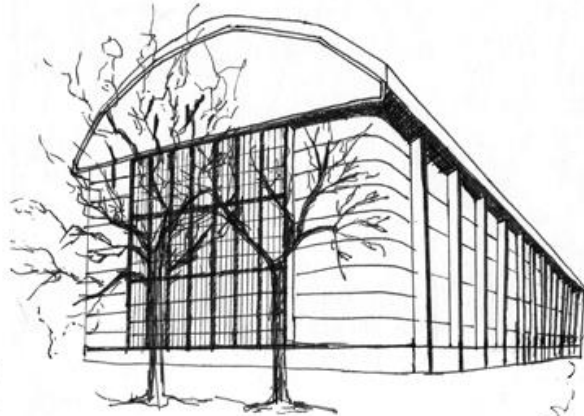
Site Section 2



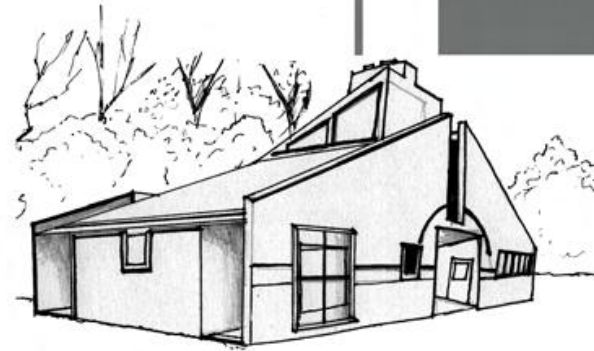
Developed Sections



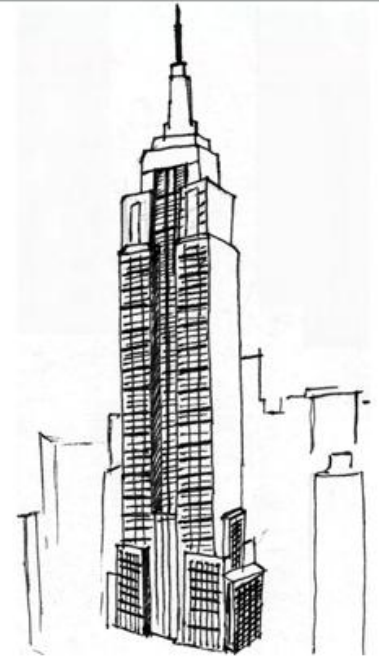
Eiffel Tower, Paris



AEG Turbine Factory, Berlin



Venturi House, Philadelphia



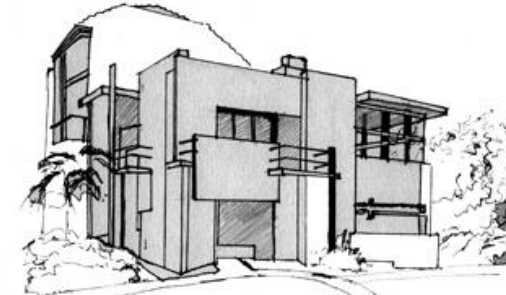
Empire State Building, New York



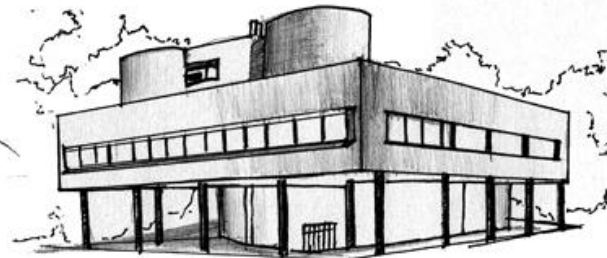
Rashtrapati Bhawan, New Delhi



Einstein Tower, Germany



Schroder House



Villa Savoye



Fagus Shoe Factory, Alfred



Red House, Bexley

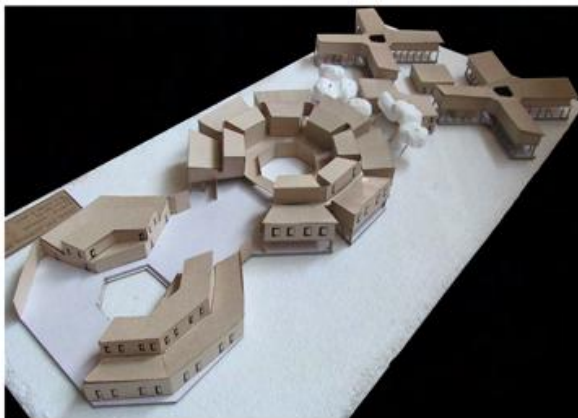
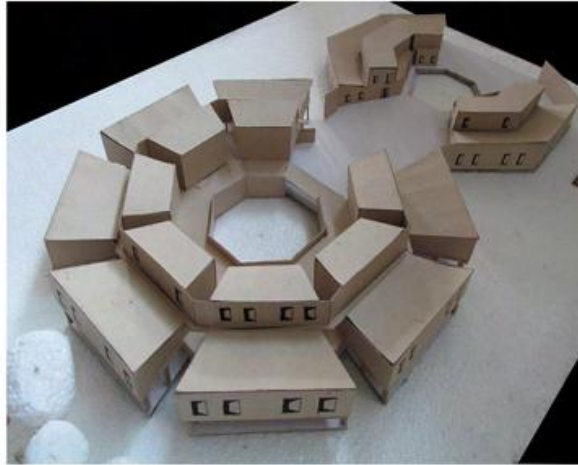


Kanchanjunga Apartments, Mumbai

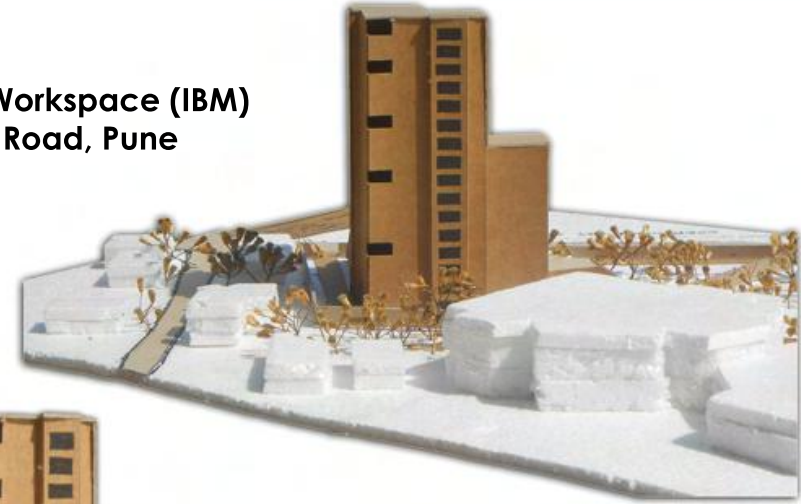
High Rise Structural System



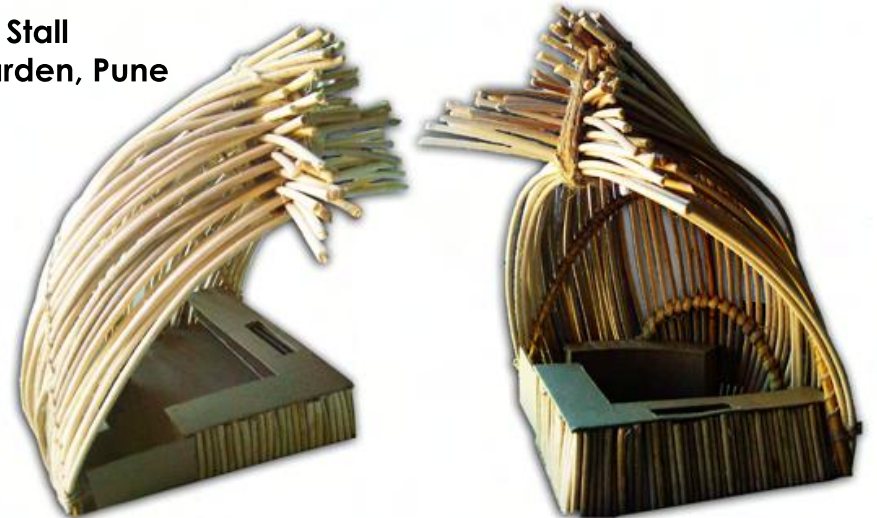
School of Architecture  
Nagar road, Pune



Design of Workspace (IBM)  
Karve Road, Pune



Food Stall  
Empress Garden, Pune





### Singing Competitions



### Dance Competitions



### Book Cover Design



### Orchestra Performances



### Rangoli Designs

