SPACE TIME MARVELS

A SCI-FI MUSEUM AND ENTERTAINMENT HUB

B.V.D.U. COLLEGE OF ARCHITECTURE, PUNE

THESIS DESIGN PROJECT
BY ALIASGAR ASIF | 1918110054
GUIDED BY : AR. MAITHILI GANORKAR MA'AM

WHAT IS SCI-FI ?

Science fiction, often abbreviated as **sci-fi**, is a genre of speculative fiction that explores **imaginative and futuristic concepts**, often involving **advanced technology, space exploration, and alternative realities.** It delves into the impact of scientific and technological advancements on society, offering creative visions of the future or alternate worlds.

What is a sci-fi museum & entertainment hub ?

A sci-fi museum and entertainment hub is a facility that **showcases exhibits, artifacts, and interactive displays related to science fiction.** It serves as a space where visitors can explore the genre's **history, iconic works, and futuristic concepts.** Additionally, it may offer **immersive experiences, events, and entertainment activities** to engage and entertain enthusiasts of science fiction and also to **generate the revenue** from various activities.

NEED OF THE PROJECT :

The main need to design a Sci-fi museum is to **transform the museum culture in India and to elevate the user experience from just traditional or historical museums to tech-savy or tech based advanced museums.** Here are some potential points that explains the need in brief :

VISION BEHIND THE PROJECT :

- To promote **futuristic design approach in museum infrastructures** rather than having only traditional ones.
- To **educate people about the multidisciplinary topics and techs** developing the whole nations.
- To make **students curious** about the sci-fi concepts like **possibilities of life on exoplanets, Cosmos, AI, Mixed realities etc.**
- To **generate the revenue and make employment opportunities** to contribute to the GDP.
- To promote **community building** & focus more on the themed events like Comic cons & galas.

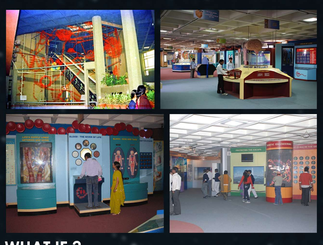
WHY A SCI-FI MUSEUM IS REQUIRED IN INDIA ?

- As we can see, Countries like UAE, USA etc. focusing more on the **futuristic infrastructure to attract the tourism** and as a developing nation, The Govt. of India is also focusing on the infrastructure by providing crores in budget allocations during Annual Budget Meets.
Budget allocation for infrastructure in F.Y. 2023-2024 was 2.4 Lakh crores and,
Budget allocation for infrastructure in F.Y. 2024-2025 is 11.11 Lakh crores. It's a highest total ever.

- The requirement of a Sci-fi museum and Entertainment hub is based on the fact that IT sector in India is growing rapidly, which drives the interests of the people towards more **tech-based museums** rather than historical or traditional museum typologies.

"Historical museums or Science museums in India are becoming old-fashioned day by day. The Science museums are more like designed for kids rather than for all age groups because of which nowadays, youngsters don't prefer to go to the museums." (Review by a user during interview)

EXAMPLES :



Observations :

- Poor choice of colours for exhibits. Making them look more funky rather than something interesting.
- Everything visually seems like it's for kids because of the graphics and colours expressing them in that way.
- No digital displays to explain the concepts or theories. Everywhere all the written boards are placed.

WHAT IF ?

- The historical museums or traditional museums has their own charisma and vibes. And as Indians are deep routed cultural people So, we can't just demolish them or ignore them. Instead.

What if... we revive them by some interactive exhibits, holographic displays etc.

"Just imagine, We're actually experiencing the Human Evolution through AR/VR rather than just read it from the boards placed near the glass encased (non interactive) exhibits. or able to see and feel the big bang from the Space Stations. or able to witness the extinction of Dinasaurs from the earth to find the possibilities of Human life on exoplanets."

What AREAS COULD BE ACCOMMODATED ?

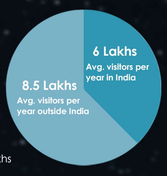
A sci-fi museum and entertainment hub can encompass a variety of areas to offer a comprehensive and engaging experience for visitors. Here are some potential areas that could be accommodated:

- Artifacts Galleries
- Holographic displays
- multimedia galleries
- literature galleries
- live simulators
- seminar rooms
- multipurpose halls etc.
- planetarium
- FNB Stalls
- robotics galleries
- skydeck
- depository
- ar vr experiences
- funplex

VISITORS RATIO STUDY :

Ratio in India (visitors/year) :
National Science Centre, Delhi - 8.5 lakhs
Nehru Planetarium, Mumbai - 2 lakhs
Science Center, Surat - 6.5 lakhs
Science City, Ahemadabad - 8 lakhs
National Museum, Delhi - 7 lakhs

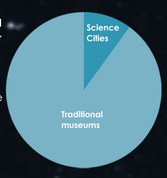
Ratio outside India (visitors/year) :
Museum of the future, Dubai - 10 lakhs
Chengdu Science Fiction Museum, China - 10 lakhs
Soumaya Museum, Mexico - 7 lakhs
Shanghai Astronomy Museum, Shanghai - 7.5 lakhs
The Broad Museum, Los Angeles - 8.2 lakhs



RATIO of HISTORICAL and science museums (in india) :

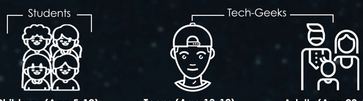
According to the National Council Of Science Museum (NCSM) There are nearly **1000 traditional museums in India and only 26 Science Centers or Museums are in India.**

Govt also planning some likewise tech-savy projects and focusing on the development of the same. Yashobhoomi convention center at Pragati maidan is a best and most recent example in this project category. Govt also collaborating with many IT firms to develop the projects which are futuristic.



Visitors Typology :

Following are the age groups who visits the science or tech based museums more in India :



Childrens (Age 5-12) | **Teens (Age 13-19)** | **Adults (Age 20-50)**

Existing scenario in india & in other countries :

National Museum, Delhi
Typology : Traditional infrastructure

Museum Of The Future, Dubai
Typology : Modern infrastructure

Exhibits : Glass encased
Static, No interactive experience

Exhibits : Holographic
Dynamic, Interactive experience

Interior : Old & Traditional

Interior : Futuristic & Vibrant

Experiences : Mixed reality experience

Experiences : Live Simulators

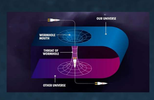
How is it different from traditional or historical museums ?

- **Thematic Focus:** Sci-fi museums center on the **specific theme of science fiction**, exploring its history, impact, and futuristic concepts.
- **Interactive Entertainment:** Unlike traditional museums, sci-fi hubs emphasize **dynamic, interactive experiences** through virtual reality, live performances, and themed events. In which people can gather and improve the networking.
- **Futuristic Concepts:** These hubs delve into **speculative & futuristic ideas**, incorporating cutting-edge technology to showcase creative visions of the future.
- **Community Engagement:** Sci-fi hubs serve as **community spaces**, hosting events, meetups, and activities to engage and connect science fiction enthusiasts. In contrast to traditional museums, sci-fi hubs celebrate the **pop culture aspect** of the genre, highlighting iconic characters, franchises, and their impact on mainstream entertainment.

CONCEPT :

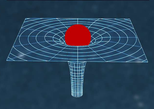
INSPIRATION #1 (Zoning) :

TIME, SPACE, REALITY.... *It's more than a linear path. It's a prison of endless possibilities, Where single choice can branch out into infinite realities, creating alternate worlds from the one you know. - The Watcher (What If...?)*



INSPIRATION #2 (Circulation) :

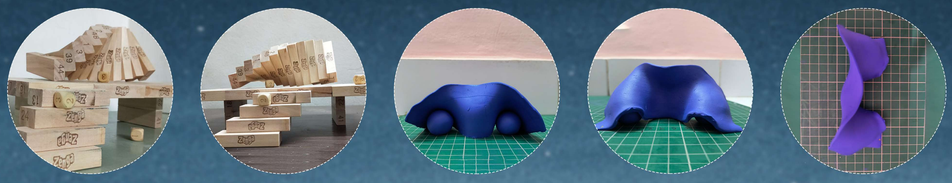
WORMHOLES OR WHITEHOLES THEORY.... *Physics is often stranger than science fiction, and I think science fiction takes its cues from physics : higher dimensions, wormholes, the warping of space & time, stuff like that. - Michio Kaku (Sci-fi writer)*



INSPIRATION #3 (Planetarium) :

BLACKHOLES.... *A black hole is so dense that gravity just beneath its surface, the event horizon, is strong enough that nothing – not even light – can escape. The event horizon isn't a surface like Earth's or even the Sun's. It's a boundary that contains all the matter that makes up the black hole. - NASA*

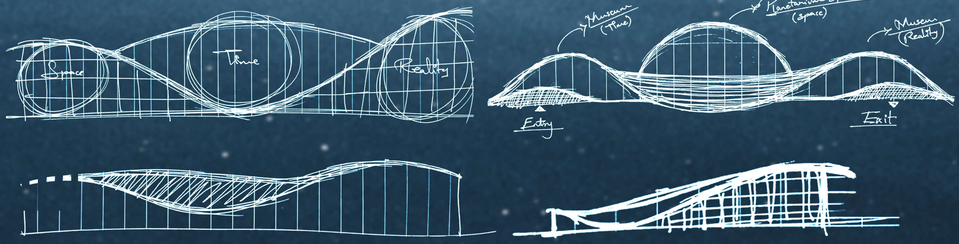
STUDY MODEL PHOTOS :



FORM FINDINGS :

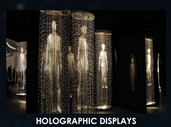
DESIGN ITERATION #1

DESIGN ITERATION #2



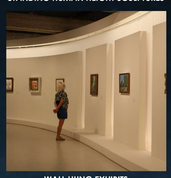
DESIGN ITERATION #3 (FINALISED FORM)

EXHIBITS REFERENCES



HOLOGRAPHIC DISPLAYS

STANDING HUMAN HEIGHT SCULPTURES

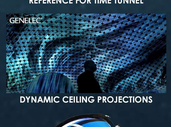


WALL HUNG EXHIBITS

DIGITAL PANEL EXHIBITS

LED SCREENS IN MULTIMEDIA GALLERY

REFERENCE FOR TIME TUNNEL



DYNAMIC CEILING PROJECTIONS

LIVE SIMULATOR POD

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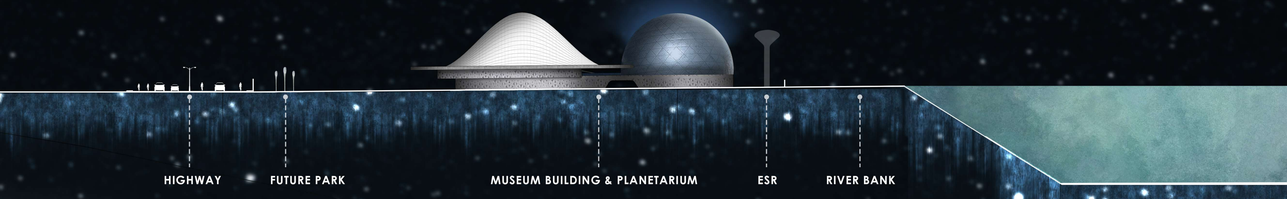


SITE SECTION
(SCALE 1:750)

LEGEND :

1 PEDESTRIAN ENTRY
2 TICKET COUNTER & SECURITY CHECK
3 FUTURE PARK
4 PLANETARY GARDEN
5 SCIENTISTS MEMORIAL
6 CENTRAL AVENUE
7 SITOUT SPACE
8 HYDROPONICS MAZE
9 ARRIVAL PLAZA
10 SERVICES

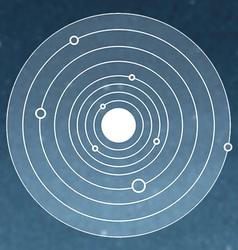
SITE PLAN
(SCALE 1:750)

LANDSCAPING DETAILS :

CONCEPT -

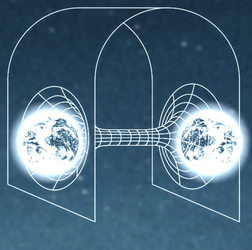
SACRED GEOMETRY

FUTURE PARK IS DERIVED FROM THE CONCEPT OF "EVERYTHING IS CONNECTED" REFERING TO THE PAST, PRESENT AND THE FUTURE.



PLANETARY MOTION

THE GARDENS ARE DESIGNED WITH THE CONCEPT OF PLANETARY MOTION WITH A MEMORIAL PLACED CENTRALLY REFERRING TO THE SCIENTISTS AND THEIR CONTRIBUTION.



WORMHOLE

THE CENTRAL AVENUE IS DESIGNED IN A WAY WHERE YOU CAN EXPERIENCE THE TRANSITION TO THE SCIF-FI WORLD RIGHT FROM THE ENTRY POINT.

BLACKHOLE

EDUCATIONAL HYDROPONICS MAZE LET'S ONE EXPERIENCE HOW THE FARMING CAN BE DONE ON THE OTHER HABITABLE PLANETS.

SOFTSCAPE DETAILS -

THE LANDSCAPING IS DONE WITH THE LOCALLY AVAILABLE TREES, FLOWERING PLANTS AND FRAGRANT PLANS FOR AESTHETICS AS WELL AS TO ENHANCE THE OVERALL EXPERIENCE OF THE VISITORS WHILE MAINTAINING THE SCIENCE PARK.

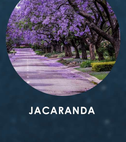
BOXWOOD SHRUBS

ARECA PALM

SAPTAPARNI

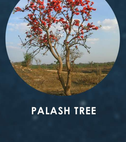
CHINESE IXORA

GULMOHAR TREE



JACARANDA

COCONUT TREE



PALASH TREE

HARDSCAPE DETAILS -

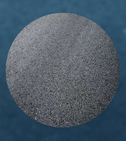
THE HARDSCAPE MATERIALS ARE CONCRETE FOR INTERNAL ROADS, NATURAL STONE PAVINGS, GRASS PAVERS, AND GRANITE PAVERS ARE PROPOSED TO CREATE DIFFERENT EXPERIENCES BASED ON DIFERENT ZONES.

LOW HEIGHT TREE FOR SHADE

75 MM WIDE WOODEN BATTENS SEATING

CIRCULAR SEATING

COBRA SEATING DETAILS



CONCRETE

NATURAL STONE PAVERS

GRASS PAVERS

GRANITE PAVERS

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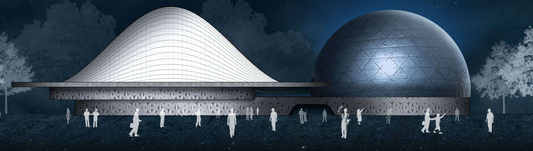
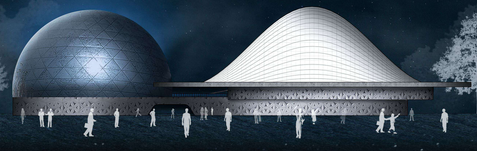
SOUTH-WEST ELEVATION



SOUTH-EAST ELEVATION

NORTH-EAST ELEVATION



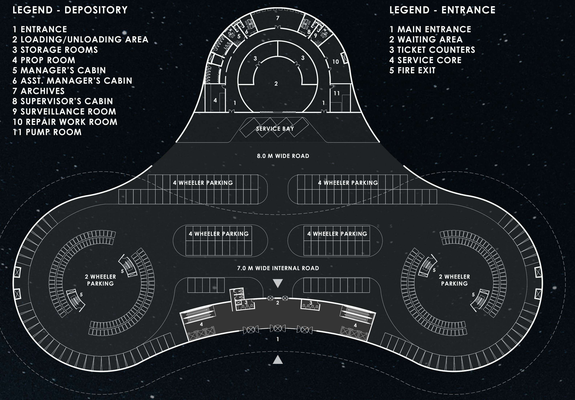
NORTH-WEST ELEVATION

LEGEND - DEPOSITORY

1 ENTRANCE
2 LOADING/UNLOADING AREA
3 STORAGE ROOMS
4 PROP ROOM
5 MANAGER'S CABIN
6 ASST. MANAGER'S CABIN
7 ARCHIVES
8 SUPERVISOR'S CABIN
9 SURVEILLANCE ROOM
10 REPAIR WORK ROOM
11 PUMP ROOM

LEGEND - ENTRANCE

1 MAIN ENTRANCE
2 WAITING AREA
3 TICKET COUNTERS
4 SERVICE CORE
5 FIRE EXIT



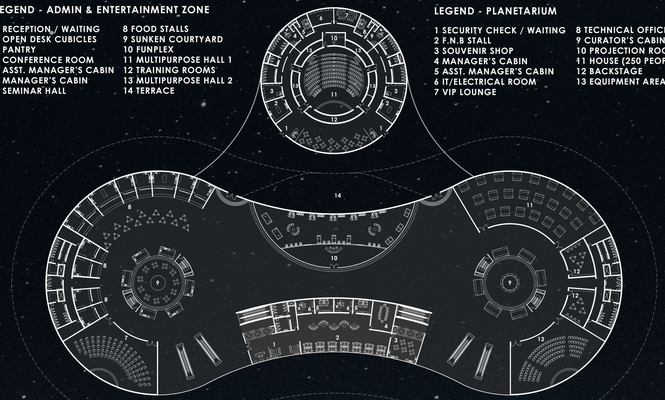
ENTRANCE FLOOR PLAN
(LEVEL 1) SCALE - 1:500

LEGEND - ADMIN & ENTERTAINMENT ZONE

1 RECEPTION / WAITING
2 OPEN DESK CUBICLES
3 PANTRY
4 CONFERENCE ROOM
5 ASST. MANAGER'S CABIN
6 MANAGER'S CABIN
7 SEMINAR HALL
8 FOOD STALLS
9 SUNKEN COURTYARD
10 FUNPLEX
11 MULTIPURPOSE HALL 1
12 TRAINING ROOMS
13 MULTIPURPOSE HALL 2
14 TERRACE

LEGEND - PLANETARIUM

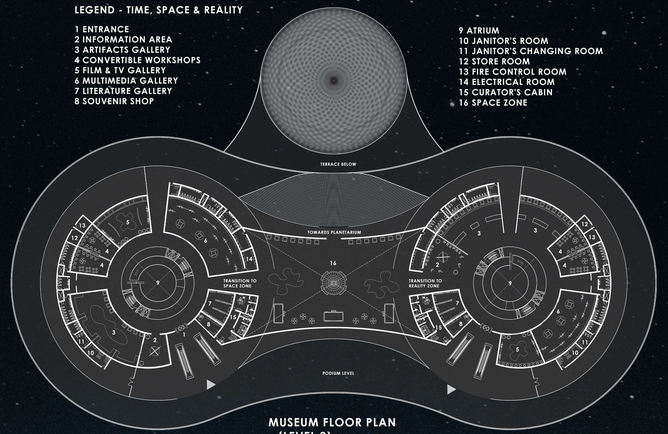
1 SECURITY CHECK / WAITING
2 F.N.B STALL
3 SOUVENIR SHOP
4 MANAGER'S CABIN
5 ASST. MANAGER'S CABIN
6 IT/ELECTRICAL ROOM
7 VIP LOUNGE
8 TECHNICAL OFFICER'S
9 CURATOR'S CABIN
10 PROJECTION ROOM
11 HOUSE (250 PEOPLE)
12 BACKSTAGE
13 EQUIPMENT AREAS



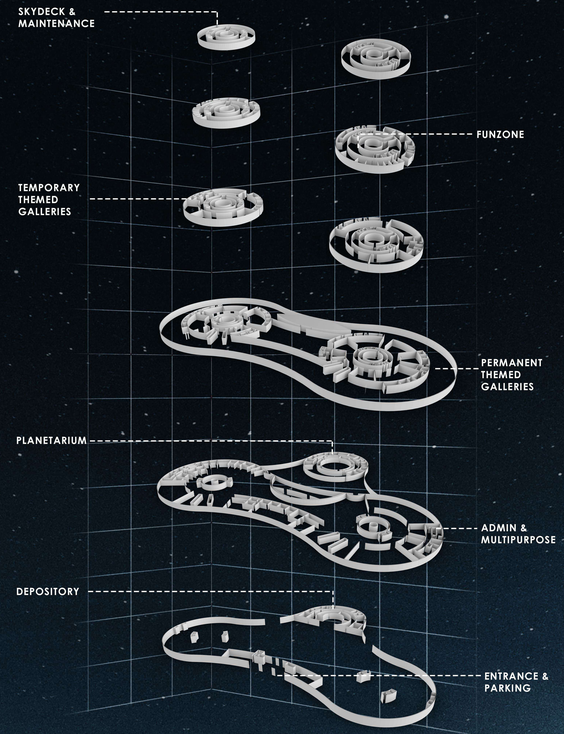
PLANETARIUM & ADMIN
FLOOR PLAN (LEVEL 2)
SCALE - 1:500

LEGEND - TIME, SPACE & REALITY

1 ENTRANCE
2 INFORMATION AREA
3 ARTIFACTS GALLERY
4 CONVERTIBLE WORKSHOPS
5 FILM & TV GALLERY
6 MULTIMEDIA GALLERY
7 LITERATURE GALLERY
8 SOUVENIR SHOP
9 ATRIUM
10 JANITOR'S ROOM
11 JANITOR'S CHANGING ROOM
12 STORE ROOM
13 FIRE CONTROL ROOM
14 ELECTRICAL ROOM
15 CURATOR'S CABIN
16 SPACE ZONE



MUSEUM FLOOR PLAN
(LEVEL 3) SCALE - 1:500



AXONOMETRIC VIEW OF
FLOOR PLATES

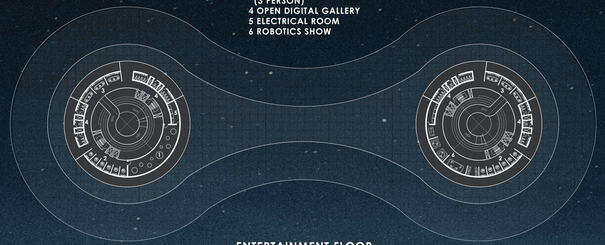
LEGEND - TIME & REALITY ZONE

1 OPEN DIGITAL GALLERY
2 SPECIAL EDITION / SOLO GALLERY
3 ALTERNATE REALITIES GALLERY
4 CHILL-OUT / RESTING AREA
5 TIME TRAVEL GALLERY
6 JANITOR'S ROOM
7 STORE ROOM
8 SCREENING GALLERY
9 ROBOTICS GALLERY

MUSEUM FLOOR PLAN
(LEVEL 4) SCALE - 1:500

LEGEND - TIME & REALITY ZONE

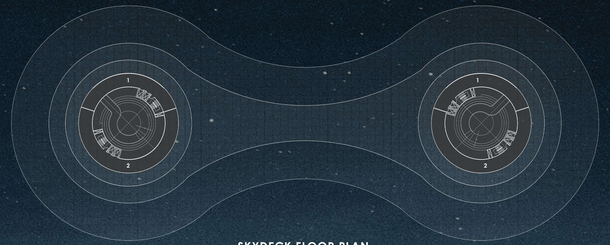
1 HOLOGRAPHIC GALLERY
2 LIVE SIMULATOR EXPERIENCES
(1 PERSON)
3 LIVE SIMULATOR EXPERIENCES
(3 PERSON)
4 OPEN DIGITAL GALLERY
5 ELECTRICAL ROOM
6 ROBOTICS SHOW



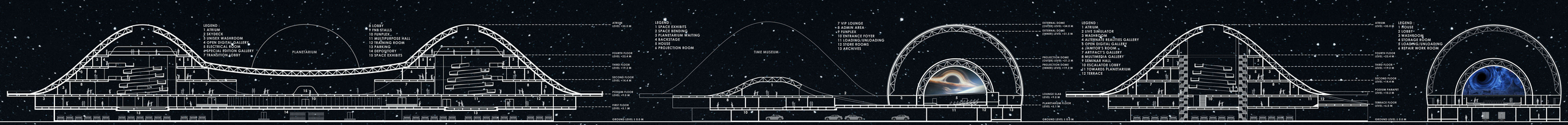
ENTERTAINMENT FLOOR
PLAN (LEVEL 5) SCALE - 1:500

LEGEND - TIME & REALITY ZONE

1 SKY DECK
2 MAINTENANCE AREA



SKYDECK FLOOR PLAN
(LEVEL 6) SCALE - 1:500



SECTION AA'
(MUSEUM BUILDING)

SECTION BB'
(MUSEUM AND PLANETARIUM)

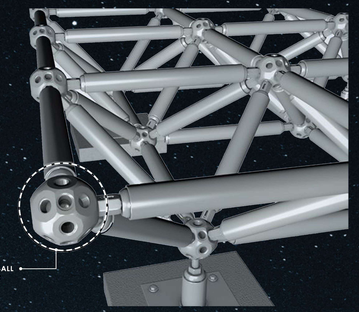
SECTION CC'
(MUSEUM BUILDING)

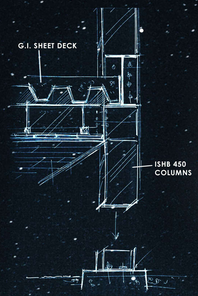
SECTION DD'
(PLANETARIUM)

STRUCTURAL DETAILS :

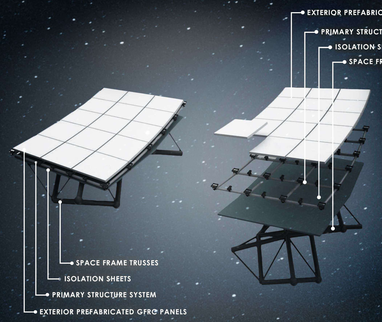
• SPACE FRAME & STEEL STRUCTURE STUDIES :

THE OVERALL STRUCTURE IS A COMPOSITE OF SPACE FRAME & STEEL STRUCTURE. FOR STEEL STRUCTURE ISHB 450 BEAMS ARE USED ALONG WITH G.I. SHEET & CONCRETE DECKING. THE MAIN GRID SIZE FOR SPACE FRAME IS 2M X 2M, AND THE THICKNESS OF THE SPACE FRAME STRUCTURE IS ABOUT 1.75 M.

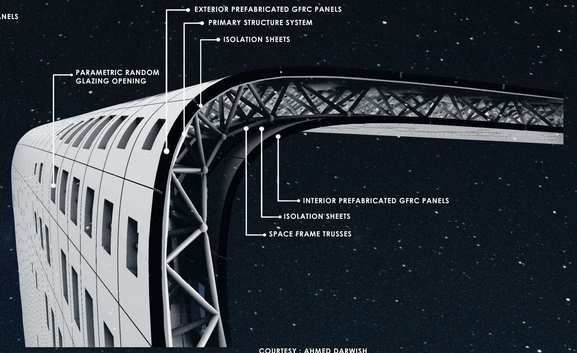




• SKIN STUDIES :



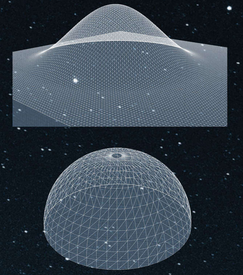
COURTESY : AHMED DARWISH



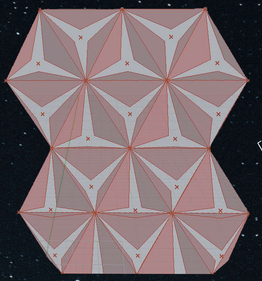
COURTESY : AHMED DARWISH

• WIREFRAME GENERATION IN RHINO :

FOLLOWING VISUALS ARE THE GEOMETRY GENERATIONS DONE IN RHINO FOR THE FACADE AND THE SPACE FRAME STRUCTURE STUDY.



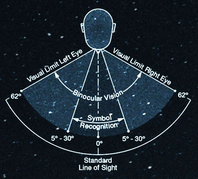
WIREFRAME OF SPACE FRAME TRUSSES OF MUSEUM & PLANETARIUM BUILDING



PARAMETRIC OPENINGS FOR THE LOWER STOREY FACADE

• ANGLE OF VISION STUDY :

HORIZONTAL FIELD OF VIEW : THE HUMAN EYE CAN PERCEIVE A VISUAL FIELD OF APPROXIMATELY 180 DEGREES HORIZONTALLY.
VERTICAL FIELD OF VIEW (FOV): THE HUMAN EYE CAN PERCEIVE A VISUAL FIELD OF APPROXIMATELY 135 DEGREES VERTICALLY.



HORIZONTAL FIELD OF VIEW

VERTICAL FIELD OF VIEW

SITE SERVICES :

FIRE TENDER MOVEMENT
TRANSFORMER
GARBAGE COLLECTION

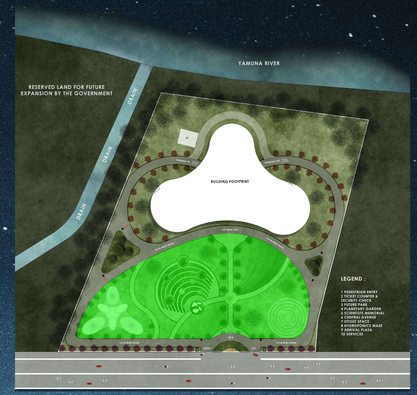
FIRE TENDER MOVEMENT

UGT
ESR
RAIN WATER STORAGE
MUNICIPAL LINE

WATER SUPPLY LAYOUT

STP
INSPECTION CHAMBER
WASTE WATER LINES

SEWAGE LINES LAYOUT



NO VEHICULAR ZONE

TRANSFORMER (3500 KVA) : 5M X 3M

S.T.P. (165-170 M^3/DAY) : 14M X 6M

U.G.T (450 - 550 M^3/DAY) : 12M X 8M X 2.5M

E.S.R (200 M^3) : 8.5M DIA.

RAINWATER HARVESTING (375 M^3) :
14M X 7M X 4M

PEDESTRIAN FRIENDLY ZONE

NOTE : ALL THE CALCULATIONS OF THE SIZES ARE TENTATIVE. MAY VARY DURING THE EXECUTION PROCESS ON SITE.