Redefining the Game

Video game development

Final Year Thesis Report

In Partial Fulfillment of the Requirement for the Degree of

Bachelor of Architecture

Presented by

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Redefining the Game

Thesis Report

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School of Art Design and Architecture
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FOR ALL THOSE THAT DREAMT OF THE IMPOSSIBLE.

Acknowledgments

For my father, of unwavering will and strength.

For my mother, her constant guidance and words of comfort.

For my sisters, for their accomplishments and for forcing me to do something out of the ordinary.

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For all those who picked on me when I was younger and called me a ‘nerd’.

For ICEFROG, the anonymous internet name, the creator of DOTA.

For all those who told me, to design something ‘simple’.

And

For Gaben, may you suffer for ruining my favorite game.

Abstract

In view of recent events and rise of technology, a new form of entertainment has risen in the form of video gaming. Starting from a subculture of the new media, the usage of video and computer gaming has increased at an exponential rate. Gaining popularity at a slow yet steady rate, the boom in video gaming came to with its involvement with the internet, which has now become an integral part of our lifestyle. The population of in-home shut-in gamers has now become a massive community online, interacting with each other using the internet on multiplayer platforms, designed specifically for hosting such activity. Growing in social networks, it has turned from entertainment to competition, bringing out the best of the best on the most popular of stages.

While this happened on one end, over the past twenty years, the evolution of games has been massive. Shifting from 8-bit environments to 2D and then finally onto 3D with photo realistic imagery, immersing yourself in a virtual world has become a past time of all ages. Due to the realism in games, high profile companies have employed over 200+ professions in creating a single game with massive risks and immense pay-offs. However, it is the smaller countries that suffer. With bright individuals talented in playing and modifying game structures on computers, many environments are created in the South East Asian region without any credit to the ones that make them come to life. The idea of this project is to bring a together all those that play, create and appreciate the reality of games and provide them a platform on which they can develop and produce video games under supervision and professional support.

Table of Figures

Figure 1 – Game scape imagery 1

Figure 2 – Level Design Sketch 2

Figure 3 – Minecraft Architecture 3

Figure 4 – Dark Souls Gameplay Architecture 7

Figure 5 – Vision Barring Architecture 12

Figure 6 – Conceptual Sketches 13

Figure 7 – Game Consoles 15

Figure 8 – Design Work Flow 16

Figure 9 – Mario Conceptual Sketch 18

Figure 10 – Mario Conceptual Sketch 2 19

Figure 11 - Sectional Sketch of Mario 20

Figure 12 – Changing with technology 23

Figure 13 – Monetization of Games (MAP) 24

Figure 14 – Site Overview 25

Figure 15 – Macro View of Site 26

Figure 16 – Site and contours 27

Figure 17 – Sunlight and Wind 28

Figure 18 – Site 29

Figure 19 – Section of Site 30

Figure 20 – Linkages to Site 31

Figure 21 – Basic Maze Structures 33

Figure 22 – Labyrinth Overhead 34

Figure 23 – Labyrinth Conversion 35

Figure 24 – Initial Planning 35

Figure 25 – Overview Section 37

Figure 26 – Inside the Reception 38

Figure 27 – The Maze 39

Figure 28 – Free Space environments 40

Figure 29 – Isometric of structure 42

Table of Contents

Chapter 1

Introduction	1
Discussing Parameters	3
Expected Architectural Typology	3
Thesis Statement	4
Objectives	4
Methodology	6
Design Aspiration	7
Conclusion	8

Chapter 2

Introduction	10
Architectural Typology	11
Perceived Spatial Nature	13
Program Brief	14
Conclusion	17

Chapter 3

Introduction	18
Rationale to Precedence Selection	18
Precedence	19
Breakdown Analysis	19
Conclusion	20

Chapter 3

Introduction	22
Need for Programmatic Introduction	22
Users and Impact	25
Vegetation	27
Climatic Interactions	28
Site Views	29
Site and Location	29
Site and Thesis Statement	30
Conclusion	31

Chapter 5

Introduction	33
Design Translation	34
Design Development	35

Spatial Connections 36
Conclusion 36

Chapter 6
Introduction 37
Element of Intervention 37
Design Description 37
Thesis Statement Justified 40
Final Design 41

Bibliography

Chapter 01 | Introduction

1.1 Project Castellum | Video Game Development Complex

This thesis project is solely based on the development of a complex that would integrate the most basic uses of video game development into a cognitive environment, which would incorporate the essence, and ambience that is portrayed inside a virtual reality world. The project aims to create a space that would allow for maximum efficiency towards its programs but all the while allowing its users to experience and take part in various forms of activities that are directed towards the playful style of game creation.

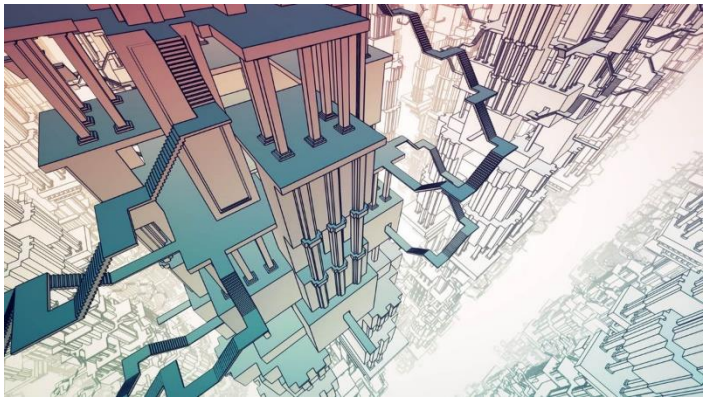


Figure 1

As a stand-alone project, this project is inspired in light of recent events and the exponential rise of technology. As new forms of entertainment have condensed into the form of video games over multiple platforms, human indulgence into artificial worlds has gained popularity in the world. Twenty-five years ago, games would be targeted towards the younger masses of the population, however due to the availability of on the go technology and high-speed internets, all categories of the population spend multiple hours of their break time enjoying video games over their phones/ computers or console stations.

The boom in video game technology came with the abundance of internet availability, which allowed the creators to mesh multiple players into cross-colliding worlds. The population of in-

home shut-in gamers slowly grew into a massive online community over platforms capable of hosting high server loads. Apart from that, the ease of communication that was brought together through social media applications allowed the world to become more cohesive in communication. As time passed, Electronic Sports became more popular and the developers themselves came from multiple professions. Imagination, being the key to creation of games, took hold of thousands of players and non-players, allowing them to create their own worlds where they may allow others too also indulge themselves.

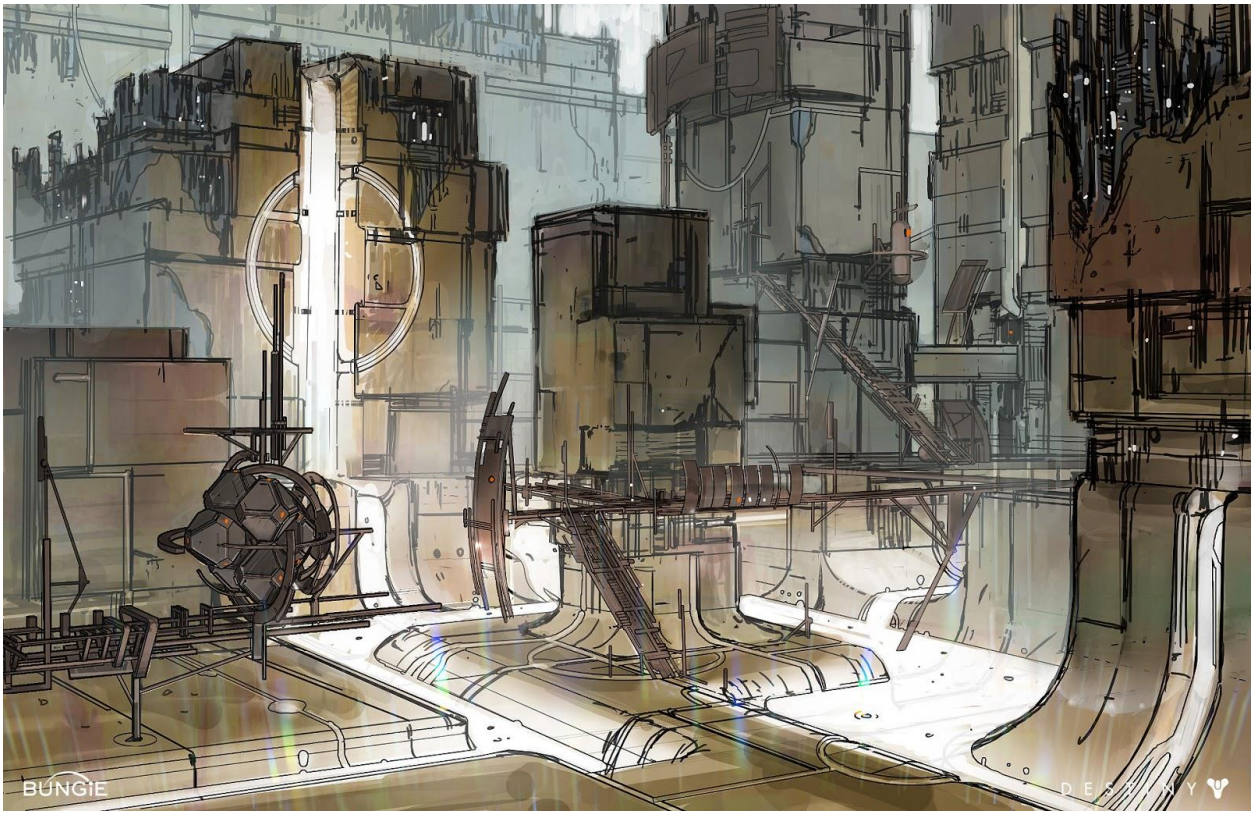


Figure 2

1.1.1 Discussing Parameters |

The project intends to create a complex that cohesive with a newly developing space. Within the confines of the structure, over a thousand users of both working and visiting environment may use the area to their wants at a single point in time. The project aims to be diverse in its program indulgence with the user, whilst also retaining its sizes to a degree of efficiency. Being one that works with nature, the project also will be using as much naturally created spaces as possible in order to simplify the degree of destruction caused by manufactured creations.

1.1.2 Expected Architectural Typology |

To understand the typology of the project itself, one must understand the structure of the game world itself. Game environments are created taking into account different narratives, or in this case, different programs, and merging them together to form a cohesive level that best explains the route of the user itself. The project aims to have a typology that would set it apart truly from its surroundings. Boasting a program of imagination and possibilities, the building itself should portray its ability to be innovative while also being pleasing to the eye from its own point of view.

Figure 3

The use of contours is essential to typology, which will give rise to embedded structures and high vantage points according to the site itself. While these will be the dominating factors, multiple

series of bridges and unobstructed levels will be created, all centering on a playable maze structure upon which the project will be designed. The typology of the project will exude a cohesive environment that brings the corporate work environment with the play environment, while being integrated around each other around a development center in itself.

1.2 Thesis Statement |

To create a dialogue between development and recreational factors, related to video game culture in Pakistan while simultaneously creating a productive work environment for avid game developers.

1.3 Objectives |

To understand the correlation of the project with its stakeholders and to bring about a cohesive result in its creation, the objectives of this thesis project are simple and direct.

1. *Create Awareness towards Video Game Development*

   Video games are not considered a viable work interest for a massive part of the South East Asian population. They are looked upon as possible misdirection of one's time and efforts as they whittle away their hours looking at screens and twiddling on controllers. Whilst to a certain extent the statement holds true, the percentage of gamers and developers who numbly dive into games are very few. Most of the game users, utilize their times learning, understanding and strategizing real time events through games themselves. Not only do they hone their senses towards games, but also help in bettering their real life decisions due to quick thinking and processing of information.

Apart from the direct users, developers are not only a certain select group of people that harness their imagination and cross-process them into games, but rather a large group that comprises of over 150+ professions. Due to realism and technology directed towards creating highly realistic and plausible worlds, from designers to physics engineers are required to create the feeling of reality inside the CGI (Computer Generated Imagery) world.

2. *Providing a Platform for Hosting such an Industry*

The creation of this complex is based on providing a platform which is able to host such a multi-million-dollar industry. By doing so, you not only place Pakistan upon the map of video game culture but also put the country alongside the big players of the industry such as Japan, China and Korea. Due to Pakistan becoming an outsourcing country alongside India for game rendering environments and character creation, the lack of story-boards and direction of high processing games places the developers of Pakistan into the backseat. By creating the platform, you not only allow them to host their own servers and create their own games, but also the chance to provide the large youth masses of Pakistan the ability to have their imagination test-run by millions of game-hungry players.

When both such instances are accounted for, there is but one-way to bring them together make the imagination of a gamer, developer, come to life. While most of the developers and beta testers of gamers are outsourced into smaller countries such as India, Bangladesh and Pakistan, high profile countries such as China and America do not heed the cry of the population. Backed

by the government themselves, the projects related to game environments are highly emphasized on and funded, providing the users working within with reputable careers and professions. This allows them to create and live the lifestyle of their choosing, while being questioned by none. By creating an architectural envelope / structure and providing the users of Pakistan with a base where they are given the same technology and preference, we can design a space where they can hone their skills and thus create professions and careers in the rapid advancement of the gaming era.

1.4 Methodology |

To advance upon the idea to turn into a workable concept, three different types of research theories will be required to be applied. The first and foremost research conduction will be the Exploratory Theory. We must first understand and help define the problem of why such an issue continues to persist within Pakistan when most of the world has accepted and adapted towards it. By exploring and surveying using secondary research, we will be able to understand most of the misconceptions which will help us to pursue phase two. Here we will be required to pursue the interests of the projects and its designing by creating focus groups and testing multiple layouts over different personas available in the vicinity. This provides you the base research to why the gaming is looked down upon in our society whilst also giving us the wayfinding techniques of the very personalities that think so, in order to create an environment where they would be intrigued to go further and explore.

Here we will be required to conduct Grounded Theory research. By the means of methodic gathering and analysis of data, we will be able to conduct a hypothetic-deductive approach

towards the possibility of an existence of such a complex within our society whilst also using historic data of the past twenty years to see the rise and fall of revenue generation related to the project program itself. This will allow us to provide valuable proof as to why this project is a necessity in order to further the development of the country in the technological sector.

The third phase will be Correlational Research, where we will be pursuing a systematic investigation between multiple variables only to be able to create architectural design solutions to progress further on.

Design Aspiration |

"A well-designed world can tell its story in silence."

Hidetaka Miyazaki

Figure 4 (Dark Souls by Hidetaka)

The world of Dark Souls created by Hidetaka, provided the most brutal environment for gamers, with every step providing either death or reset or a scenario where survival seems impossible. Scraping through the game is one of the easiest way to make it through using luck and grinding techniques. However, the game itself provides an environment, which accesses the most basic of human instincts,

Determination. Though it is a game to its very essence, it nudges and provokes the user to do things they would probably not.

To create the design for this complex, we will first understand movement and want of the user to which program they want to access first. By doing so we will create way-finding methods, which will in the end be incorporated towards the most important of all programs, the circulation core.

While using narrative based descriptions to further the design of the structure, the complex will be harboring a very intense but exploratory ambience, which allows the user to understand that the building in itself is challenging them.

1.5 Conclusion |

To conclude upon the matter of the need for such a platform or space, the answer is yes. As the world changes so shall the programs within architecture. Data centers and technological parks provide for better worth in the end than most substantial programs of other architectural typologies. The currencies of the world are stored in data on computers while most everything runs using the internet and algorithms on mainframe systems. One may not consider it, but video games too have a high role in society. With generation after generation being born and taught to use digital devices, it is statistical shown that imagination and growth factor is of a higher rate than that of a child from the 1960s. To tap into it and to create a game structure would henceforth provide not just the betterment of a society, but also a structure with a

program that a country could be proud off. One game changes the life of millions (Mario, Pokémon, and Need for Speed).

Chapter 02 | Architectural Program

2.1 Introduction |

The program that is to be included in the complex that is to be designed for this thesis project is a very specific program that deals with the culmination of recreational and industrial ideals. By doing so, the program will be heavily based on way-finding and exploratory exercises that will allow the user to traverse through the programs in a unique way. The user will not be asked or directed into a certain circulation flow, but rather they would be finding their own ways according to what they wish to see first and how they would like to progress through the precocious levels that are designed within the complex itself.

As most precedent studies related to this project deal with either offices of game development industries or technologic giants, they are unable to provide a cohesive environment which provide an efficient work flow whilst providing a recreational work space. The one study that comes close would be the Google head office in Mountain View, USA. Allowing a progressive recreational route to its employees, the workspace is more efficient than most other offices that focus more on home to office designed spaces. As these spaces allow for more comfortable spaces, they negate the exploratory option towards new users, be whether employee or visitor. Everything is directed and concrete.

All third person games that have been released in the past ten years have focused on expanding virtual worlds and allowing the user to find and choose what path they wish to follow. By doing

so, the user is allowed to understand the mechanics of the game better. By integrating that into architectural typology, one not only creates a more fun and intense design but also provides an impactful user experience based on what they wish to see and where they wish to end up.

2.2 Architectural Typology |

The typology of this specific building is fusion of three different elements brought together by one. Using the idea of a cylinder, while two of the three elements reside on either edge, one of them circles within bring them together. The two elements are industrial and corporate while the one bringing them together is recreational.

Now the building whilst representing recreational ideals in the highest of details, also uses a certain color palette and design languages that is a playful stimulation on the user in itself. The play on spaces incorporated into this structure has to be one that is very direct while simultaneously complicated in a certain way. By providing a complicated space, which utilizes a different array of wall heights and floor to ceiling ratios, you are able to create a sense of perception and depth towards each space uniquely. This helps to understand the recreational factor of the structure in itself.

While the heights may be changing, vision barring techniques will be meshed into the design using design elements available. By doing so, you provide the user the ability to perceive the space little by little which makes it interesting. Rather than just providing them the space in one single go, you peak the curiosity of the user as they enter different spaces for different

programs. They are able to understand and traverse through each level much like in a game with a determination/ want to know what comes next.

Figure 5 (Obstructed Vision)

The typology of the architecture is determined mostly through the playable workspace, which mostly revolves around the circulation core. The core itself will not be a generic lift/staircase/walkway structure, but rather a program in itself. Using maze structures at different levels with the incorporation of bridges and other tensile structures, alongside raised platform routes, the circulation core becomes the passageway, or game map, which will help the user move towards where they want as they enter it. The program of circulation also allows for breaks in user movements and more experiential spaces according to specific personas.
Thus, the typology of the architecture becomes a mesh between two different worlds. The ideal straightforward path of a revenue generation industry meshed together with the playful fun of a recreational facility.

2.3 Perceived Spatial Nature |

The spaces incorporated into the structure will be a collective bunch. Ranging from large spaces to small introverted spaces, the complex will be harboring a typology that constitutes of post-modernist techniques with the aesthetic quality of brutalism. While the spaces will be using minimal layout elements, where the elements are to be found, they will be dense in nature with open spaces around their vicinity.

Areas which will be experiencing large user influx such as the atrium or courtyards will have high vaulted structures that serve the purpose of an intimidating look of the building itself.

The sketches on the right hand side are conceptual sketches that portray the nature of the space that may be involved in the complex design in itself. The sketches themselves provide a very virtual reality feeling for these spaces either seem too tight or too large, however when visualized and played through a video game manipulation method, these spaces become very direct towards what they wish to show. The spaces talk on their own of what they portray and what one may find in such an area.

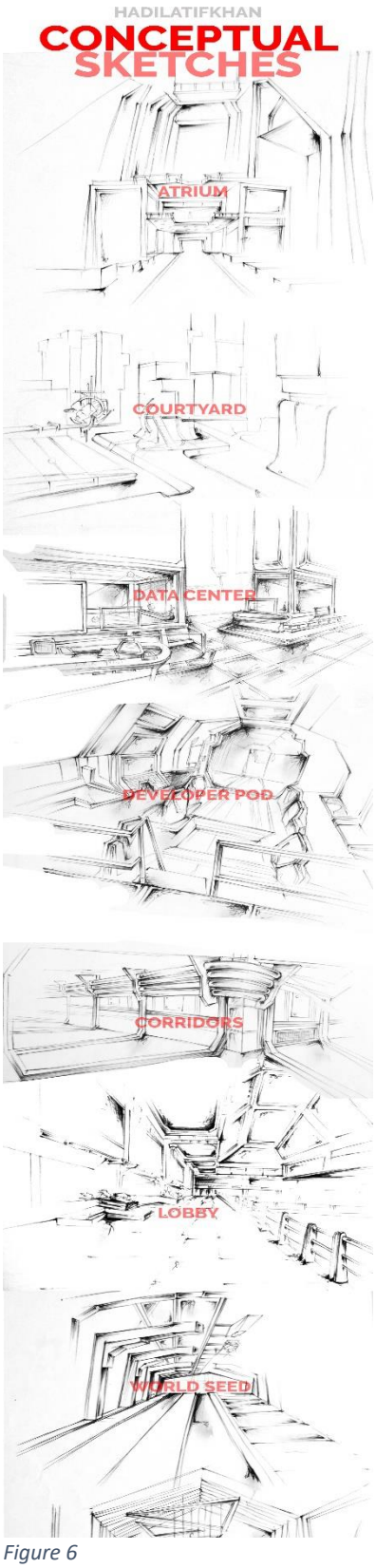


Figure 6

The developer pod for example portrays a scenario where one may be sitting inside the console of a submarine. It shows that this is where the hard work happens, this is a closed space and for very users to utilize. One may view upon the developers as they work but the space itself dictates the nature of the work that takes place.

If one may view the corridors or hallways that are incorporated, one can feel the raw touch, designed within. The structure itself has to prove and show the user that the induction of all these programs towards our society is a new concept in itself, it is in the rawest of its states but that does not interfere with its efficiency, at which the assembly line is not disturbed. Taking into account circulation being a forefront, this symbolic design technique is required to allow the building to talk for itself.

Much like the quote by Hidetaka Miyazaki, the space truly has to speak for itself for the usage of signage and directions will be almost insulting towards the nature of the complex itself.

2.4 Program Brief |

The program of the structure deals with five fronts, which together will be bringing about the complex together.

The first front deals with developing of games itself. The program will be using simple, linear spaces that will provide for an efficient workspace for all its users. Here, the developers, designers, artists, will be creating storylines and storyboards for an interactive space. Music,

being an important instrument for story telling will also be created here, so chambers for acoustical composition will be incorporated. Running through a single level of the structure, each area will have access to the one that is required before it and to the one that comes in next of the assembly line of work.

Figure 7 (Game Controllers)

The second front deal with the design industry itself. Since this one is important towards development, it constitutes to maximum space provided in the smaller levels. Here one will be able to experience the sculpting and drawing of new characters. Their development on computers. Photography and videography of the models and their movements that are used as referencing along with the animation and rendering sequences of the design itself. As these involve heavy machinery, this program will be located on the lower levels with certain programs cordoned off. Certain open spaces will be provided to its users where they have access to natural

sunlight and the easy breeze of the site where the structure sits.

Figure 8 (Design flow)

The third front deals with corporate. This is the most generic of all programs where the marketing and production line of the games take place. Using small generic space with adequate office standards and user-integrated spaces, this program will be placed in a certain portion of the complex where the common person cannot access due to then nature of work that takes place here.

The fourth front deals with exhibition spaces. Here one will be able to move around multiple spaces created for upcoming technologies. From Augmented reality to Virtual Reality to the real world itself, these spaces are designed for digital world based experiences alone. Having a certain aesthetic and enclosed space, these areas will spread through the complex map of the structure itself allowing them to be break out spaces and resting spaces alongside recreational spaces in themselves as well.

The fifth and final front will be incorporating the fourth front as well. Incorporating the recreational side of the structure alongside the exhibition spaces, the complex itself will become a play space for its users. By being able to see the technical side of the development of games, the users will also be able to try multiple new technologies that have been created while also being able to play new games that are in beta testing. The complex allows for movement in an exploratory way, and creating new spaces just for the recreational side of work will show the development of games in its entirety.

2.5 Conclusion |

The program itself is important to the designing of the Development Complex, for it is where the structure takes shape. Starting from circulation paths and moving into sectional planning, the program was required to be figured out first in order to take and understand the dynamics of the site properly and to understand how the structure is to be designed due to its expansive nature.

3.1 Introduction

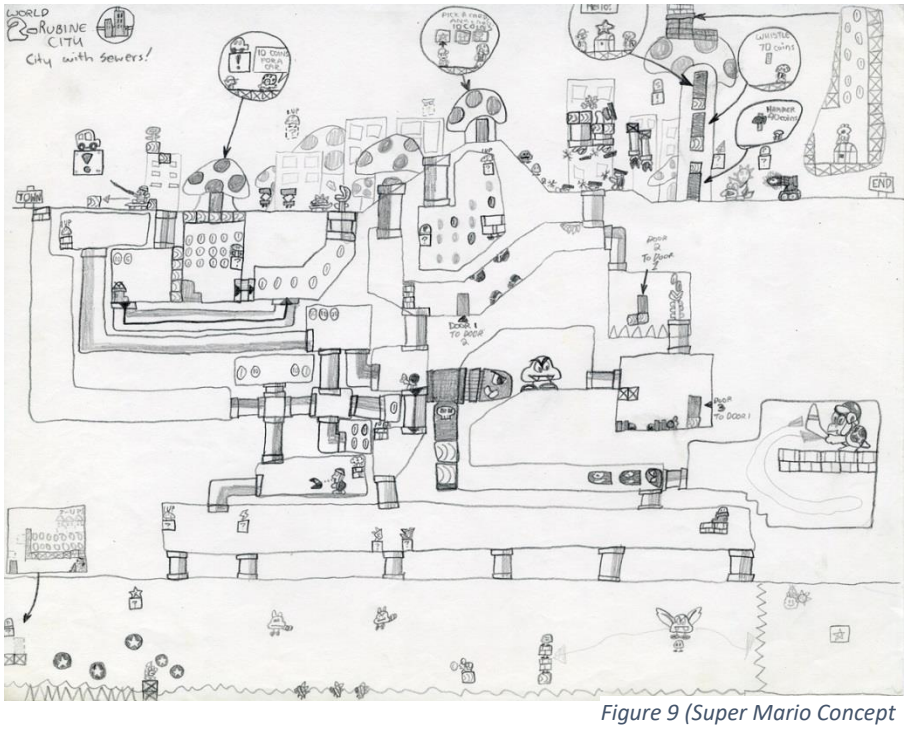


Figure 9 (Super Mario Concept Sketch)

In relation to creating a structure solely based on the development of games and their marketing, one must also derive most of their concepts and building analogy from games themselves. Due to this complex being the first of its kind, there is no existing precedence that would fit the role of the program that resides within. However, that cannot deter us from using ideologies in how to go about creating and planning the building.

3.1.1 Rationale to Precedence Selection

The usage of precedence for this project is quite different from what one may normally receive. Since most architectural projects use existing structures and building concepts to twist and work about their own strategies, this one cannot. Due to an intermixed typology and the combination of old programs with new ones, the building takes on a form that screams ‘New World’. Due to this reason, the concepts that were chosen and built upon were derived from video games themselves and how they were used to perfect the games we love so much.

3.1.2 Precedence: Mario and Kishotenketsu ||

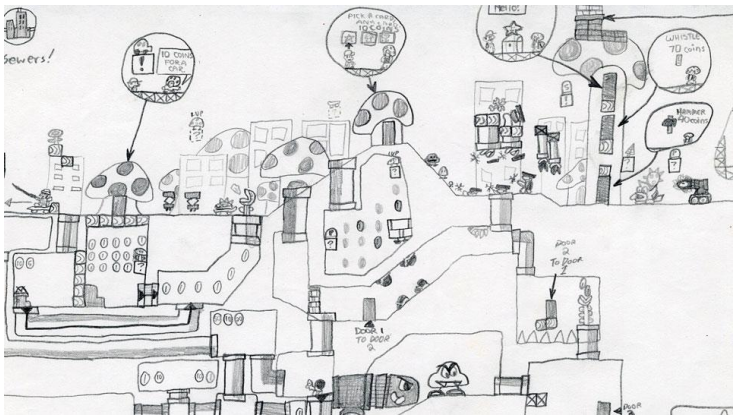


Figure 10 (Concept Sketch 2)

Creator: Shigeru Miyamoto

While one word is a commonly used name to provide the image of a 2D illustrated Italian plumber, the other is an unheard Japanese word that does not come into common use most of the times. The word Kishotenketsu refers to the usage of a four way story arc that provides the user of the story with a player, a scenario, a climax and resolution in a graceful movement of thinking that also encapsulates differing thinking scenarios.

While the story arc of Kishotenketsu is a formidable force in itself, the secondary word of Mario takes on a completely different take of the concept. By using the concept of Kishotenketsu, the creator of Mario broke down the level design of the game into four simple steps.

3.2 Breakdown Analysis |

Each level introduces its concept in a safe environment. For example, the level Cakewalk flip starts with the displaying of red panels. Once the user jumps onto a panel, the light turns from red to blue providing you the secondary step to the third platform. The first batch panels also have an underside of secondary single file panels that are used as a safety net in case you fall. The concept is then established further with the removal of the safety net, if you fall, you lose a

life. When it comes to the third stage of design, hence enters the twist. As the stage comes to a closing end, the concept flips either to challenge your mastery or to make you think about the whole level with a fresh perspective. It could be a requirement of jumping the panels while simultaneously avoiding fighter blasts or the disappearing of the panel turned blue with a given time. Upon reaching the conclusion, you are provided with the old flagpole sequence.

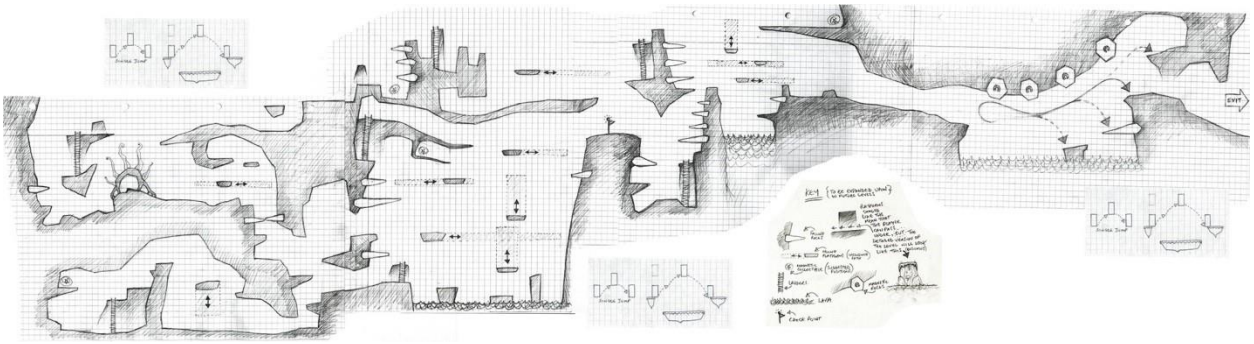


Figure 11 (sectional sketch of Mario 2)

3.3 Conclusion |

In this simple movement or decision making for the level design, the game levels provide a satisfying arc of introduction, development, twist and conclusion with a subsequent architectural design that can be derived with the movement that was used. Since Mario started out using sectional geometry and thus further progressing into 3D progression structures, it was much like architectural planning in a broken format. Using the sections created from imagination to create maps, and thus when technology allowed, progressing the game format into a three-dimensional map that allows detailed usage of structural elements to provide the imagery of realism while retaining its childish charm.

In order to use these two concepts hand in hand with each other, the project program allows for imaginative thinking that must be incorporated into a functional and effective environment to allow for progressive thinking towards the ideology of video game culture. We can take creative thinking and turning it into sectional ideology whilst ending with a usable architectural plan that can provide a form for a new complex of different programs.

Chapter 04 | Site Study and Analysis

4.1 Introduction |

The site chosen for this specific project has been selected within the flowing contours of Fateh Jung. Next to the vast territory of the airport lies a large portion of unused land sitting between private lands and the new airport itself. The site itself provides a setting for the formation of new kinds of architecture.

As the saying found within many architectural reports;

'New programs breed new architecture'

The same can be said for new forms breeding new forms of architecture itself. Due to the influencing nature of the design and aesthetic, the new Islamabad Airport provides a new look on space truss design along with its evolution of using old concepts of steel and glass. As the form of the new airport takes on a completely new outlook towards Islamabad and the nature of design that is followed within the city, it can be observed that the space around Fateh Jung will soon be influenced heavily by the induction of new architectural typology and design strategies.

4.2 The Need for Programmatic Introduction

The idea of building a new programmatic function that is never before seen within the confines of South East Asia, also require a space that is completely open and ready for evolution. Thus, the introduction of a Game Development center along this previously uncluttered and rural site,

which only harbors small village settlements that have overtime succumbed to drastically changing times.

Technology has a way of changing the experience of every space in a small way. New workflow designs, such as the development of transit stations, or centers, help to change the outlook or purpose of the entire site in itself.

Figure 12 (Changing with Technology)

With the induction of the new airport into the area, the motorway was automatically rerouted towards it, providing quick and easy access to the site. By doing so, the site also becomes efficient in access towards the public.

Not only so, with the rise in hotel facilities, hospitals and residential commodities being introduced and falling under construction as the site rises in popularity, the entire four kilometer radius will soon turn into a technological based smart city. Much like the project of Bill Gates

based in Southwestern Arizona, the area will somewhat become a space which caters to developing new kinds of technology which is a requirement for Pakistan in the highest need capacity sector. Here the project comes into play, bringing its new ideation in development of games, which is currently one of the highest revenue generating businesses that can be observed around the world. With China being the forefront in leading its youth into the play and work sides of gaming, many countries such as Russia, Latvia, Singapore, Indonesia and India have followed suit in creating hubs and incubators which cater to this very need.

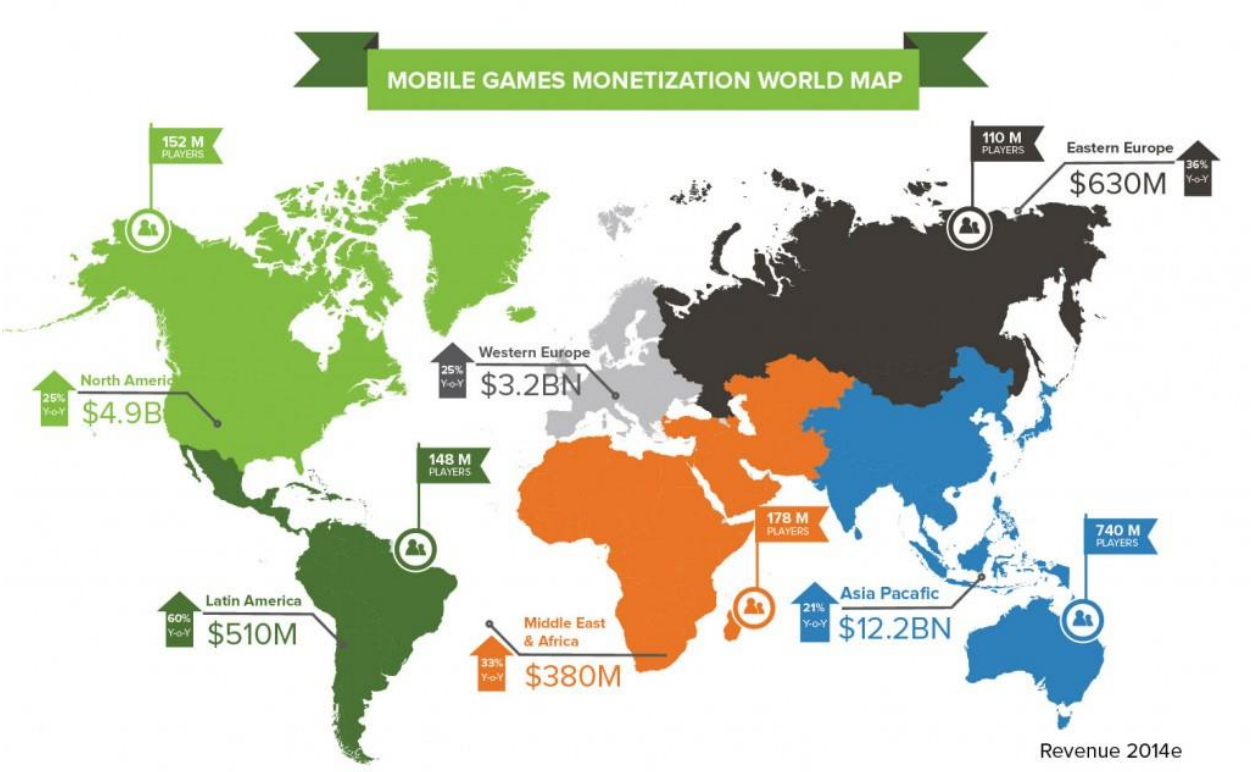


Figure 13 (Monetization of Mobile games across the world)

When we return to the site itself, we observe that the site is much like a sandbox in a virtual environment. With long flowing contours that provide massive amounts of space for creation, with the differences of contours being from five feet to thirteen, the site allows for maximum

space allocation for large building structures.

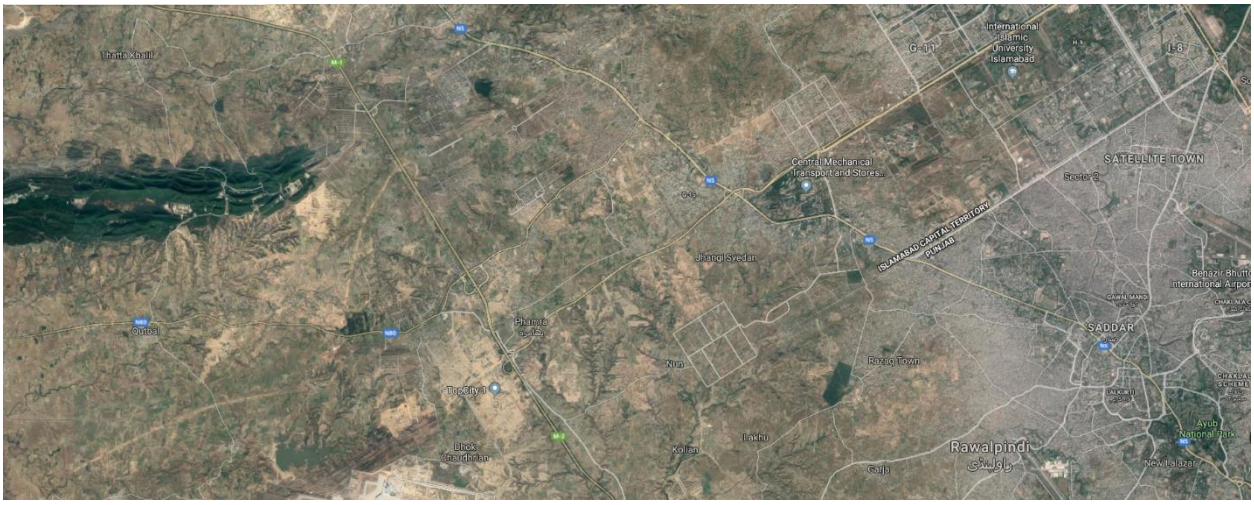


Figure 14 Site Overview

The soil integrity of the site also reaffirms the need for strong structural base into the ground for pylons and embedded curving structures. Not only so, the ground also provides the space to create and manipulate the contours without removing large amounts of land much as normal structural techniques require.

4.3 Users and Impact

When talking about the users with the site, it must be understood that most of the contextual users will be coming into play in roughly four to eight years. The reason for this being, that most of the middle class and upper classes of society will be purchasing and shifting into the smart cities being built in a span of five years. In addition, the project gains popularity as the airport gains its ground. The airport is the hub for all business and commercial ventures into the city, catering to all tourists and in-city inhabitants.

However, it must be understood that the development for gaming is not just a treat for a specific

class set, but for all those whose imagination runs wild. Due to the increasing shift in poverty and wealth, most of the youth are not provided the gains and ability to design what they wish, having to work under outsourcing programs for game development that they may access through the internet. The commodities available in the project are for all that wished to create and expand their imagination into an environment that is accessible to all.

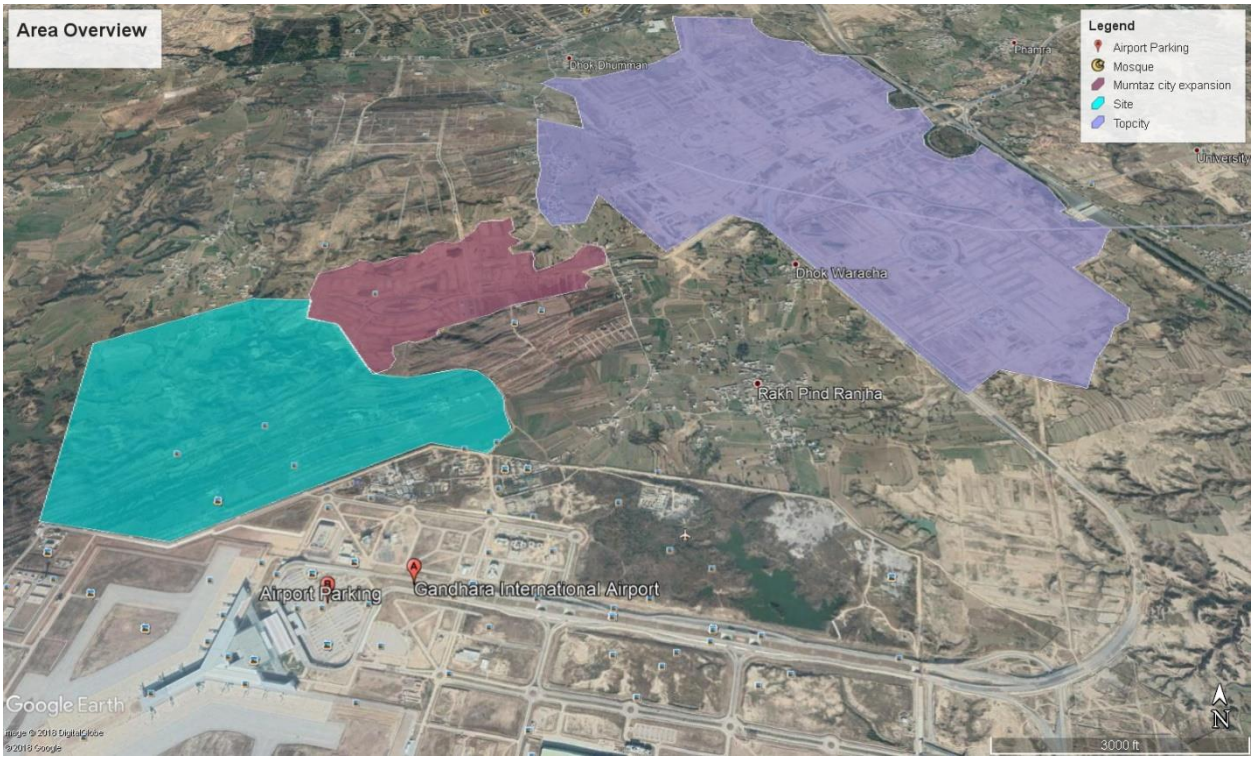


Figure 15 Macro Overview of Site

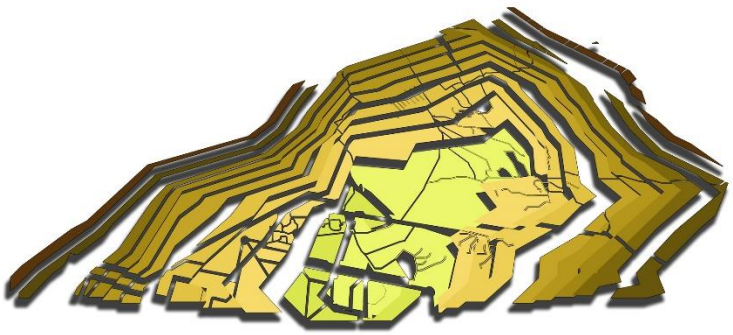
Much like one of the most popular games ever to take rise; Final Fantasy was a project, which was given its name under the circumstances that it was the last game that the company, Square Enix was to produce before they went into bankruptcy. A child's dream and being the last of its kind, the game hit a platform of users that made it explode into an enigmatic experience for all the gamers of its generation.

The imagination of a game is not based on how much you have learnt from a college or a school or by the amount of the games you have played, but from the want to create a fantasy or a storyline. This is one of the truest reasons for the most popular games and shows that exist (example being Pokemon, the dream of a sick child to live in a world of friendly monsters that can fit into your pocket, thus the name Pocket Monsters abbreviated to Pokemon). Thus the project is for all those that have a dream, or the want to create something that lots of people can enjoy as they wish to pursue a quest or a side mission in a world where reality cannot interfere.

4.4 Vegetation

The vegetation around the site also helps to create a scenario where such a building is possibly. With the incorporation of VR and AR environments, the need for naturally occurring obstacles to create possibly mapping frames for a realistic outlook is much appreciated. This helps to ease the construction possibilities needed and helps to provide a natural look onto the project in itself.

Figure 16 Site and contour breakdown



The vegetation is sparse but abundant for shadowing and providing a cool climate. This also helps to produce small microclimates that are cool in nature and allow for a therapeutic environments for those enclosed around small confined spaces of their choice. The vegetation around the chosen site is also broken and dispersed, with the selected space for designing the main building being completely free of natural vegetation. By having this, neither the need for cutting or uprooting trees is established while also having the soil compacted over time without any disturbance of any kind for structural resolutions.

4.5 Climatic Interaction (sunlight/wind)

The site also experiences maximum sunlight introduction. With the major obstacle being roughly one and half kilometers away (Islamabad Airport), the site is devoid of high rises or man built obstacles, providing free entrance towards sunlight and an unobstructed pathway for free flowing winds. This helps to ensure that all users may experience most of the natural sunlight while being off constructed site and also to enjoy the natural winds running through the compacted structure.

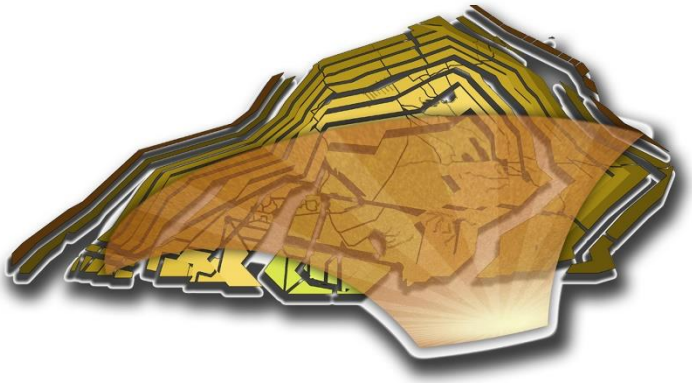


Figure 17 Sunlight and wind break down

4.6 Site Views (internal and external)

When it comes to views being questioned, the site does not experience many issues. Due to the lack of construction around the area, no area is obstacle by man-made creation. The site provides a view from a height towards the flowing contours looking over towards the airport without disturbing it's privacy due to the distance between the two structures, while it also provides the view towards the Margalla Hills, though it is very less in nature.

4.7 Site and Location

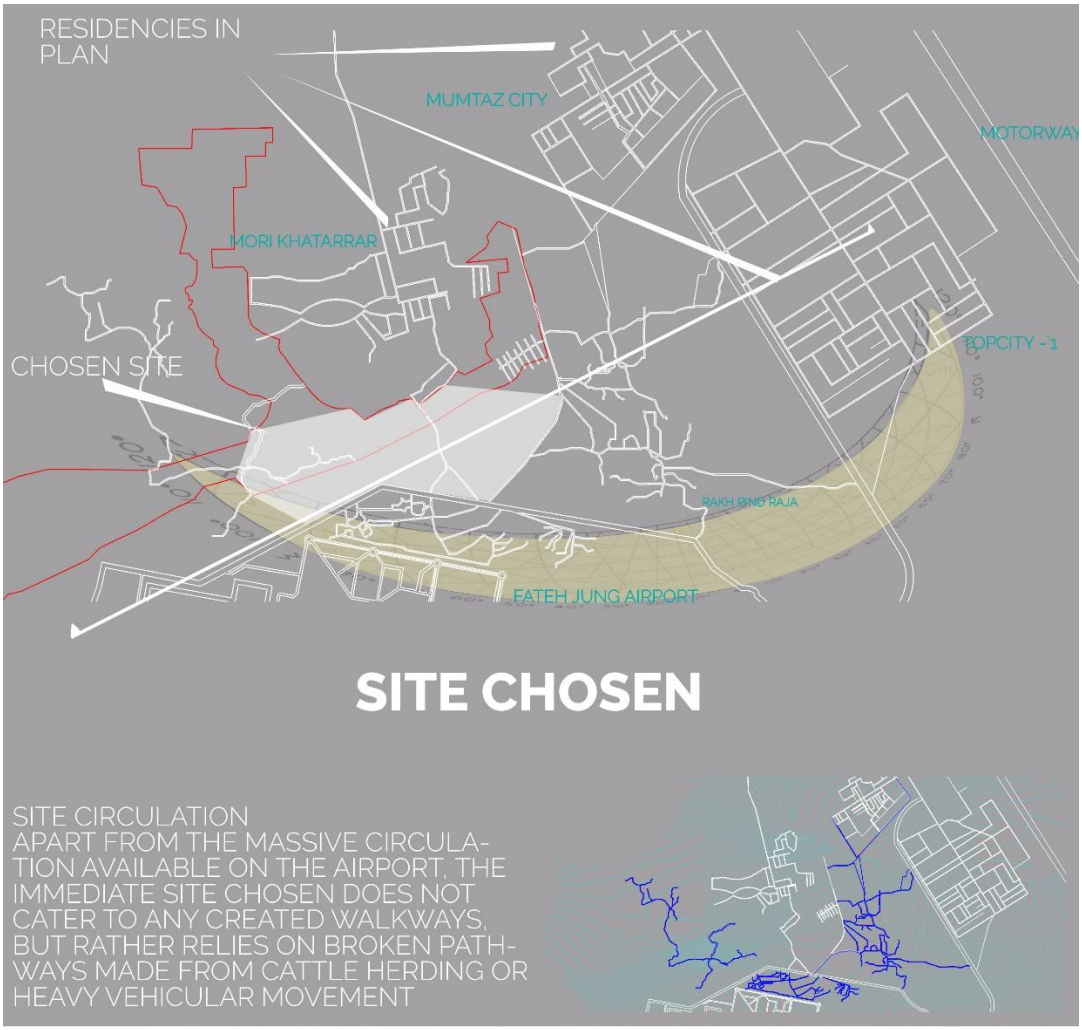


Figure 18

The white portion of the map portion provides the space that can be used for the creation of the complex that is to be designed for this thesis project. The space as can be seen, sits between the under development residencies of Topcity-1 and Mumtaz City.

With the generic sun path portraying the movement of the sun across the planes, the site can also be utilized to have an overlooking portion towards the airport. Due to the distance between the airport and the site itself, the site also sits snugly away from the elevation markers set by the airport in the vicinity while also providing enough distance between the two complexes to ensure privacy.

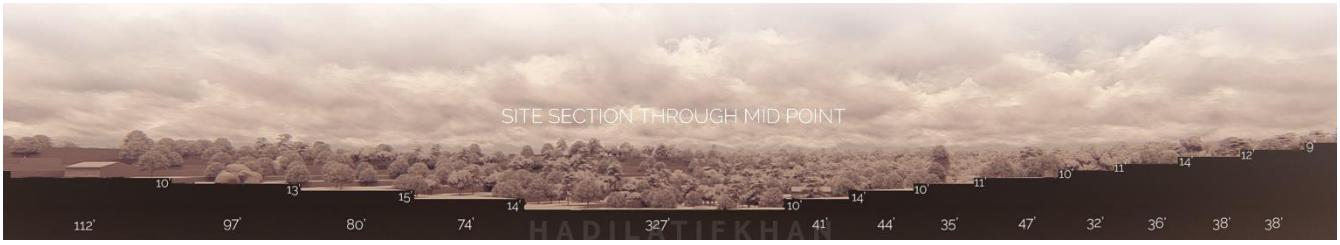


Figure 19

The site section provided above shows the movement of the site and the creation of a dipping point right in the middle of the site, which is selected. Having masses in vegetation. The contours dip inwards to make a space between the overlapping spaces providing a good position for a complex to be created in relation to the type of program that is to be created.

4.8 Site and Thesis Statement |

The thesis statement talk's ab out creating a dialogue between recreational and industrial factors related to video game culture existence Pakistan. Taking this into account, the site also requires the need to cater to this requirement. When one thinks about the unmanned contours of Fateh Jung, it seems to be a daunting task to imagine such a dense functionality structure. However,

the location is perfect for the program envisioned. One of the major reasons to create the building on such a site is because the dialogue between work and play using technology also requires a setting upon which nature takes a major role. Though nature cannot exist within the confines of the structure, it can exist upon the outside. The amount of structural mass for the complex with a high density of natural setting allows for the opening up of spaces using sunlight and atriums. These help to reduce claustrophobia and discontent within the users. The structure also cannot survive in condensed areas for it will stick out and provide an obnoxious nature towards its users. This one thing is required to be held at bay for the introduction of such a program into society cannot exist under the generic architectural aesthetic of Islamabad and Rawalpindi.

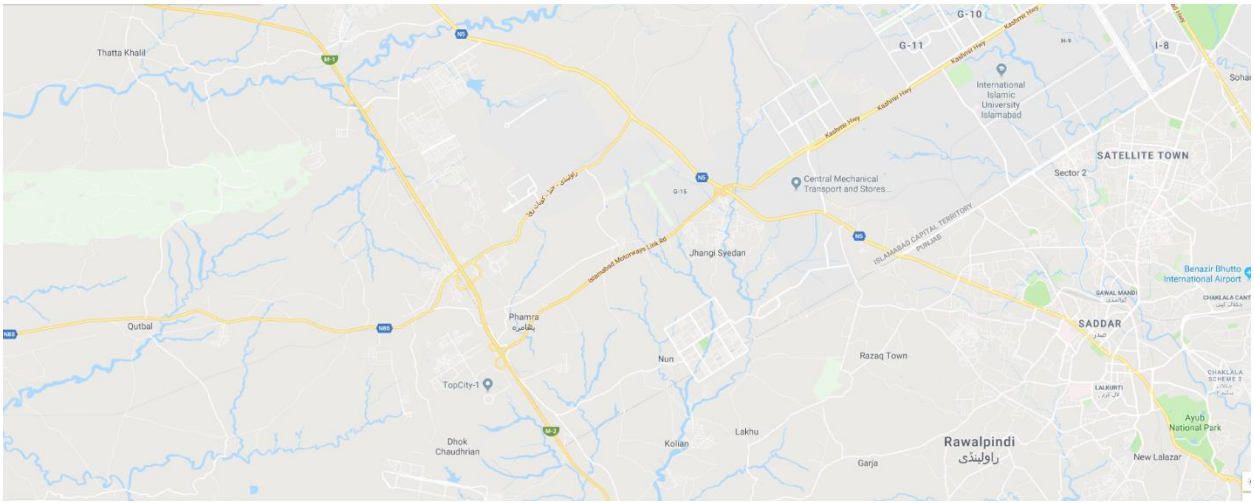


Figure 20 Linkages to Site

4.9 Conclusion |

Due to the ideology of new architecture breeding new forms and programs in its context, the site seems to be ideal in terms of unconventional programs and structural requirements. The site also caters perfectly to the need of the playful architectural style with flowing contours, which

were sought for during the initial design process. With major road linkages being created over time and direct access to the outside world literally and figuratively, this thesis project will sit beautifully upon the chosen site.

Chapter 05 | Design Process

5.1 Introduction

To breakdown and understand how the design of the building is being processed, we must first assess the lead that was required to jumpstart the designing phase of the complex itself. As the design of the building focuses on intensity of the circulation itself, a challenge was required to

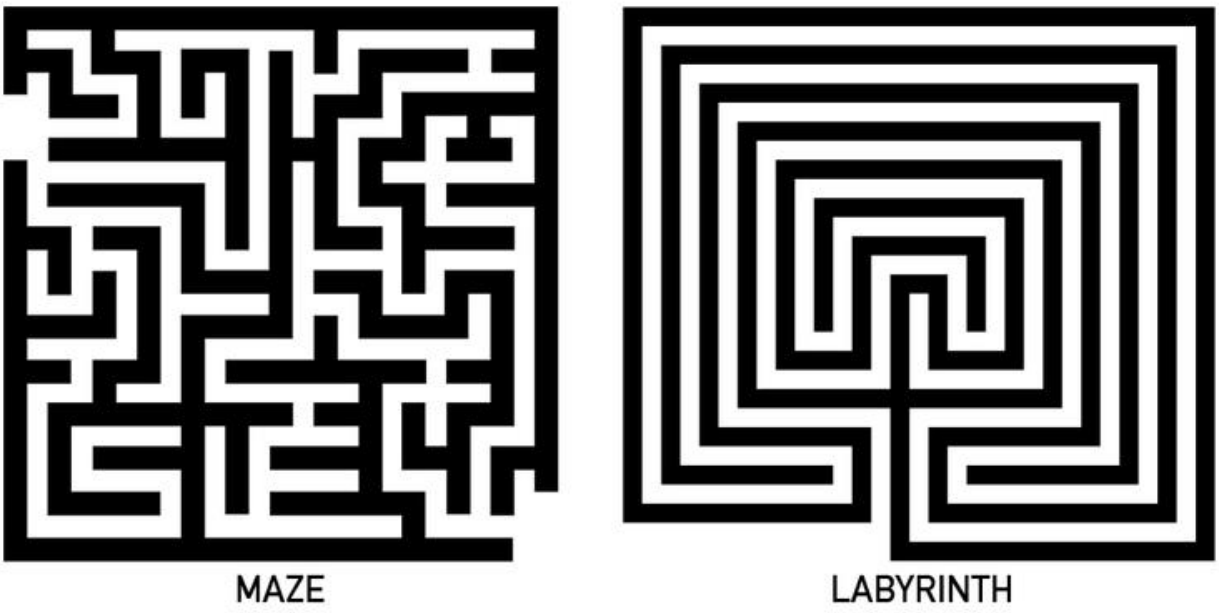


Figure 21 Basic Maze structures

make the circulation a playable walk through in itself. The idea of users moving around a certain part of the building whilst having fun and exploring the structure, it was required to provide them a space that actually encompassed all of that.

5.2 Design Translation |

There came the idea of a labyrinth incorporated within the building itself. A labyrinth based on providing circulation paths with smaller recreational and commercial programs incorporated within. The labyrinth serves to test the patience of the user itself, swapping its complexity with the ability to see through all paths yet having to find a possible accessible route that would take you to the area you wish to reach.

Figure 22

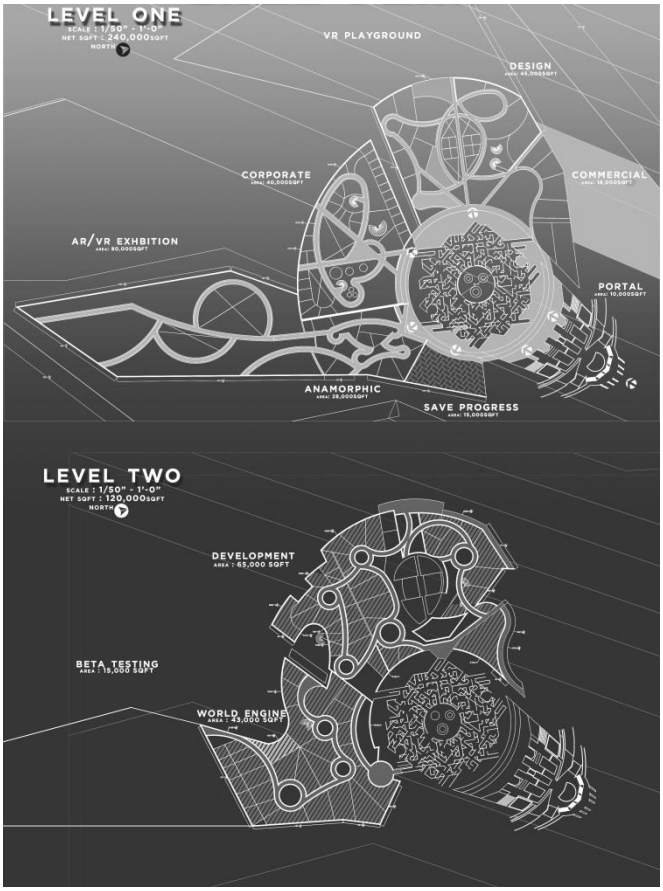
To design the labyrinth itself, a social test was created and used upon 150 people that display differing personality traits. The personality shifts in the test allow us to access their ability to traverse through the labyrinth while it also provides us the how and why they chose those paths specifically. The labyrinth test helped to understand user movement according to age, personality, imagination and curiosity. By using scripted text, we understood how important signage will be within as well as material usage that was required. Here it was decided that the usage of a complicated labyrinth would come to no use but to only provide users with frustration.

5.2.1 Design Development |

Once the labyrinth test was completed, we had a basic labyrinth structure. Once established we used the geometry of the labyrinth to create the spaces that are required by the programs themselves.

Figure 23 Labyrinth Conversion

It was also observed that the traditional techniques of creating architecture were being challenged by using a labyrinth. As the Parthenon design, structure involved pushing the users into an open space, the Maze design structure forces a user from an open space into a labyrinth. However, in this design space, the user is categorized, and broken into groups that will take on the labyrinth and from there they will enter the building itself.



Once the user is to enter the programs within, they will come upon more provided

access routes. These routes are generated according the spaces and their positioning. Each access route will help the user to move across the structure with the view of the whole place, however to access the places one must follow the route and 'play the game'.

5.3 Spatial Connections and Conclusion |

The spaces within however will provide a secondary twist, using step elevations and platform structures, the spaces will move up and down in levels. By doing so, the area is broken down into spaces that require no walls but only accessible barriers.

Using open space frame structures, with a design that seems to be lifted from a game within, the building is to portray the idea of exploration and efficiency, which is the basic theme of all games. This concept of building exploratory systems allows us to provide users a more fun loving and an experience they will not ever forget. Due to this approach of level design, some games leave its users with an impact so strong they cannot ever forget the game. Be it the story, the characters or the environment, it is all about the exploration.

Chapter 06 | Design Culmination

6.1 Introduction and Element of Intervention

The final design of Project Castellum (Project Fortress) comes to fusion of using curvilinear geometry derived from the maze structure itself. The maze acts as the central core and circulation unit while also hosting a massive playable surface. Having several points where kiosks and stalls can be installed, these spaces act as resting points or save points for weary explorers as they traverse through the two level maze in order to find a route.

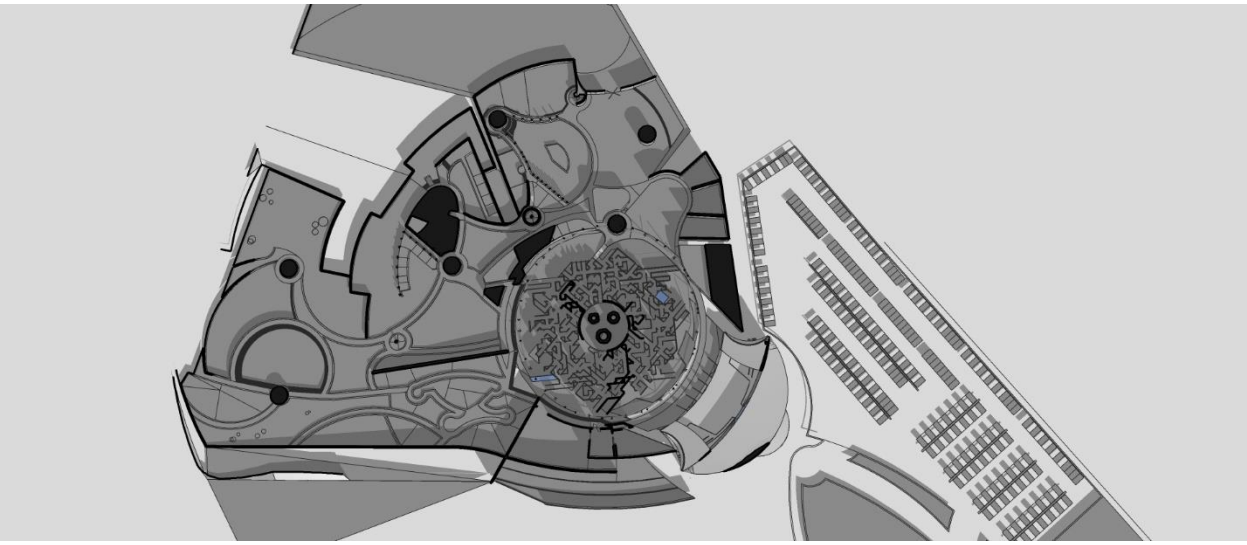


Figure 24 Overview section cut

6.2 Design Description

Before we enter the maze, all users are thrust into a reception, which allows them to see upon the maze, and the complex that they wish to peruse. The reception provides a geometry, which is strict and different from the one that is to follow through. This is to provide the feeling of normality and a generic quality. The reason for this pertains to the ideology of allowing the users

to see the bend of how games are but an immersion of oneself from reality to a virtual environment.

From the reception, we enter into the maze, encompassed inside a massive geodesic dome. Apart from structural resolution, the dome also encompasses the transparency of the world to the outside. A slight shift, the ground to which you hold the virtual world upon. By doing so, you are able to provide the user with the hope that the world of video games is not one that is far off from the one they live in; rather it is separated from the reality through a thin transparent film. One cannot get lost in the game if they do not wish too, but that also does not curtail to the fact that they need to hold onto reality as well.

The structures of the reception to the maze inside the dome help to break down the concepts of gaming for a nonprofessional through visual and tactile feedback. As such, things cannot be forced into understanding, one must see and allow their inner child and imagination to take root and break away from what they are used to seeing. This allows them to be more open minded and curious, thus allowing them the want to explore and tackle the maze.

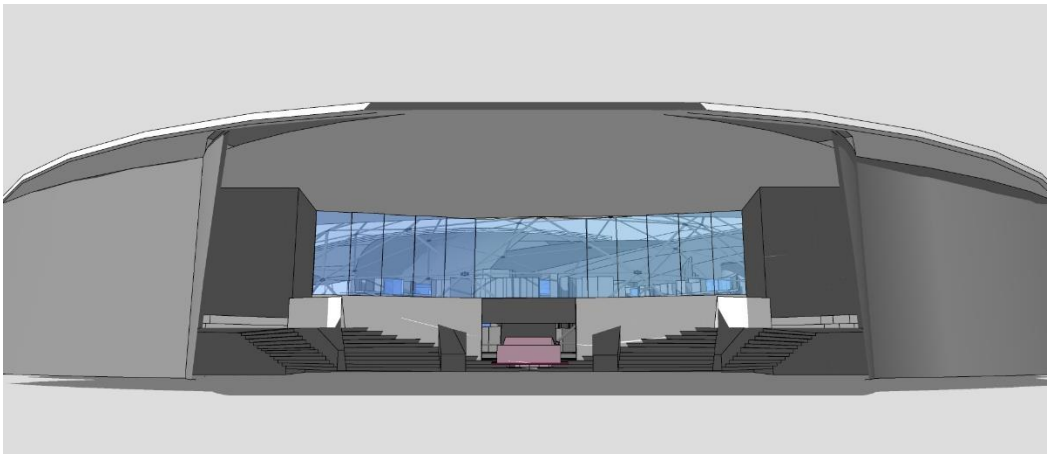


Figure 25 inside the Reception

As the maze is designed in a specific fashion, one cannot get lost inside. Using material shifts and transitional spaces derived from experimental tactics, the maze allows the user to sift through the concrete, glass and wood, only to find more welcoming views and small commercial programs scattered throughout.

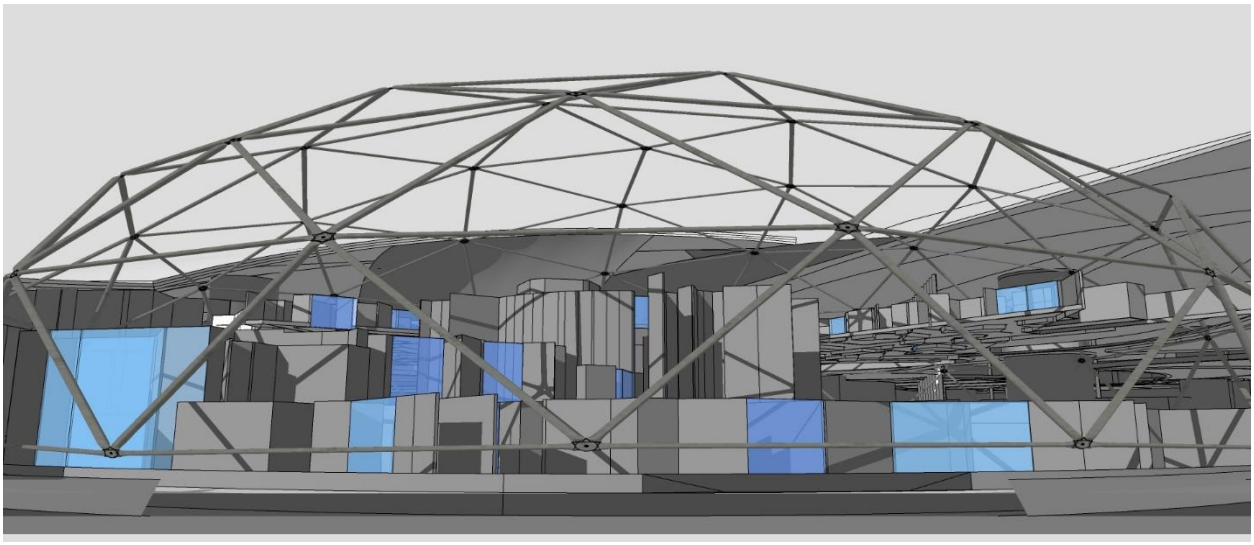


Figure 26 the Maze

One the user reaches the end of the maze; they find the looming curvilinear structure up ahead. This is the complete break from the norm of architecture available in Pakistan. The structure is bold and looming. It allows the user to feel awe and humble, while also peaking their curiosity. Inside the structure, they find more paths. These circulation pathways allow the user to observe the mechanics related to the video game culture, without disturbing the assembly line workflow created in the free space environment.

The idea of free space work environments is highly popular and here it works even better. Most developers are imaginative users that have a certain aesthetic, which allows them to harness their best of ideas. Design can be brought out under strict corporate planning, however, to

produce heart touching and life changing narratives, one must allow themselves to be in their own specific natural environment. The free space work environment hence allows the creation of an assembly line layout, while also allowing each user to personalize their own space in however manner they wish. Due to the lack of walls, each area is cordoned off using step elevations. This allows for unobstructed views but private spaces are created.

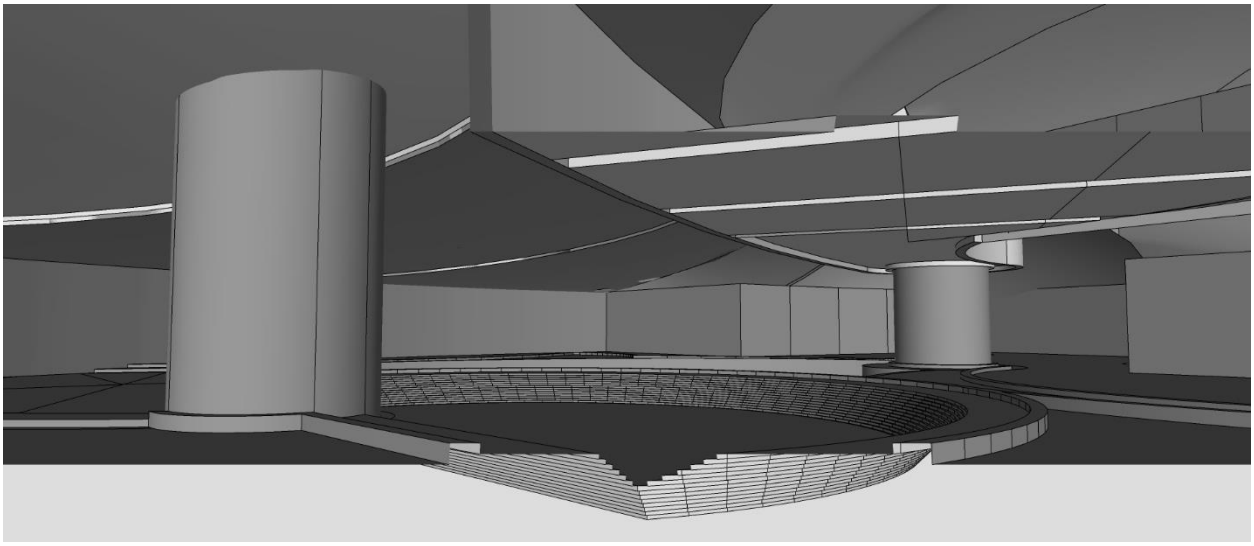


Figure 27 free space environments

6.2.1 Thesis Statement Justified

To create a dialogue between development and recreational factors, related to video game culture in Pakistan while simultaneously creating a productive work environment for avid game developers.

Here we can observe that the thesis statement is indeed justified from the afore mentioned abstract. A dialogue is created between the development and recreational side of the complex; however, this also allows each user to be inside a productive work environment of their own

choice. Based on certain assembly line characteristics, each user is capable of producing their own work on specific deadlines without feeling displaced or uncomfortable.

6.2.2 Final Design

The final design of the entire project swoops to strengthen the claim of the need towards technological complexes based on certain types of programs. The design of the project not only helps to justify why the project is needed, but also the type of environment and structural massing it would require standing out. When referring to social connections, the structural change of the project would also help to gain attraction from those unwilling while the allure of VR and AR exhibition centers would call for people from a fifty-kilometer radius.

The project does not demand immediate attention towards what it has to display, for it will create the hype and attention on its own. It speaks for itself and is a natural call to all imaginative stakeholders across the country. It is an invite to all dreamers to come and take a look of the small piece of earth dedicated to their type of imaginative thinking.

Residing in a context far from the city and near the new airport does not make the task of inviting users a daunting one. Every day the airport will amass massive amounts of visitors, those with an hour or two on their hands. A look from afar will justify their want to know what is this complex about and why is it shaped the way it is.

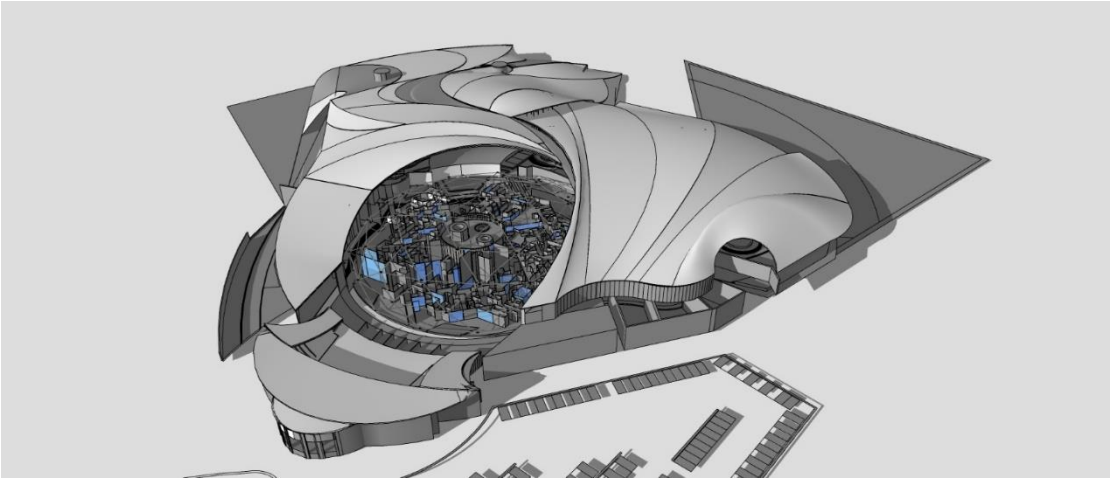
In most cases, being too curious helps to develop habits, which may have disastrous effects on a person, however, that is not always true. It was man's curiosity, which allowed them to scour the depths of the ocean and create a way to fly within the clouds. This is a very small form of

curiosity, which will ultimately lead to the popularity of the design and the program, which sits within.

The program is a just requirement. As time progresses, every country and every residing member must adapt to the change. When the era of phones arrived, long distance flights to make important meetings slowly dwindled to conference calls. As time passed, it is unbeknownst to know a person within a social circle to not own a cellular phone.

In the past twenty years, the evolution of gaming has been fast and trigger friendly. Taking the world by storm games have become the new best thing about owning any electronic device. Speed tests and graphical output are now measure by game rendering engines, while these engines also help to create all types of social media output such as movies and internet websites. Though it may seem to be a project with a scope that none may yet see, it is the imaginative that win the hearts of people. The design itself speaks a language that is currently unpopular with the conventional architectural practices in Pakistan. To change, experimentation is required. What better way to experiment would there be if not for immersive yourself into the digital realm of dreamers.

Figure 28



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