UNIT 3

ARCHITECTURE AS LEVEL DESIGN

THE LIGHTHOUSE

AAVS MELBOURNE 2021

Form follows function...

Form follows treasure chest...

"X"
Never, ever marks the spot...

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INTRODUCTION

Nature and its relationship to the human body has been studied, mapped and analyzed for centuries- that architecture should respond to the proportions of the body. Building codes and patterns defined by Da Vinci, Le Corbusier (or, even better, Charlotte Pierrand), Leon Alberti, among many others exist today based on general universal measurements, from bodily relationship of one's elbows to the foot, arm, palm, etc. The perfection of Cindy Crawford itself.

As architects, we are equipped to think on a human scale, the gestures that accompany each bodily movement increase user presence. We've been taught to design in regards to the program of space, to create emotional landscapes that intensify the physicality of a users' gestures as they circulate, augmenting feelings of presence.

Just like how we intuitively manipulate physical objects, architecture can manipulate how a user inhabits a space. We must crouch or crawl in small tunnel spaces, descend with ease down a ramp. Simple elements that make up a building, their proportions and material qualities push the user to move and react. Breaking one of these codes can be dangerous: like the obnoxious "women staircases" designed by men in the 70s to fit the perfect "female stride" that satisfy nobody but cause people (both women and men alike) to misstep and plummet down the steps... Afterall, form follows function.

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And then came
virtual reality...
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BACKGROUND

As designers began creating the digital worlds for users to grow virtual crops, explore or kill zombies, the primarily role of virtual architecture was to frame vistas and views to these simulated lands.

Even though these spaces were called "immersive," they also were also, well, kind of not… the general design approach to inhabiting these worlds consist of mainly gamified mechanics, teleportation via button clicks, moving virtually (and getting violently sick) with the joystick and sad visuals that try to reproduce the real world in vain.

Game designers took the language of video game mechanics and applied it spatially, but locomotion and navigation was often reduced to a flick of the thumb.

The result of this "immersive experience" is most often people strapped into a VR headset, sitting on the couch staring directly ahead. Passively. Yes, they may actually be traversing a virtual simulation, but **physicality** apart from occasionally looking around, **has largely been ignored.**

How does Corbusier's Modular theory hold up when your arms are giant tentacles that are over 10 meters long, or walking requires you to first scale down the environment via non-Euclidean architecture illusions. (We are talking about architecture, not hentai, stay focused).

So we thought to increase immersion by making haptic suits that literally shock your muscles to feel the impact of a virtual bullet or blast connected fans during gameplay to give the illusion of taking flight in VR.

But what if we use architecture in level design to increase physicality and manipulate users to move, think and perceive an entirely new reality? What if you could endlessly explore a new dimension in a 2 meters by 2 meters boundary for kilometres without feeling like you are walking in circles? What if we open that damn static window and do something really immersive?

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Form
follows
tentacle arms?
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COURSE DESCRIPTION

DESCRIPTION
In this course, students will design a level for a virtual reality game. The game's core mechanic is based on the concept of **The Lighthouse** (see next page) and will require navigating and using a 2 x 2 meters area as an infinite plane to inhabit the world. An endless lighthouse effect. Each level will uniquely play with space, physicality and gestures in the physical and virtual world. **We will do this by learning game design, user experience design, supernormal interactions and building these spaces with new proportions.**

Students will experiment with non-Euclidean architecture, interaction design, and do case studies on VR experiences that have a physicality in terms of navigation and perception of virtual architecture.

PRIOR KNOWLEDGE
Students will need to be able to build their structures in a 3D software of their choice. Ideally, each student should have some knowledge of Unity.

READING
Prior to the course, students must read the book An Architectural Approach to Level Design by Christopher Totten as well as the UNIT 3 Required reading pdf.

We will also provide students with a list of games and experiences to try in virtual reality and/or via a gaming console. Yes, that's right, you will be required to play video games.

PRESENTATIONS
During the two weeks we will invite experts from the video game and animation industries to come and speak (or join us in VR) about their work/process and to rebound off of our ideas and experimentations.

MATERIALS
Students should have their own laptops/computers with a 3D software on it. Students will have a crash course on designing for virtual reality (in Unity) and interactions that can be implemented from game mechanics to designing the worlds in which we inhabit.

During the course, we will provide and implement a framework for students to place their level design ideas in a multiplayer virtual reality environment. We've developed our own application tool to move, scale, manipulate and build architecture/create level design in virtual reality. This process will inform a lot of the decisions and your methodologies. It's also multiplayer, so you can work in pairs or alone on your designs.

REQUIREMENTS
Students must have an **Oculus Quest 1** or **Oculus Quest 2** device. We will meet in virtual reality for part of the course and actively use our custom tool in virtual reality to build our spaces and level designs.

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COURSE OUTCOMES

OUTCOMES
The course will be a collective think-tank and experimentarium, creating a new set of rules and methods for designing user embodiment in virtual architecture. During the first week we will map, diagram, play, distort and break all of the rules that govern our physical world... we will push it until Corbusier rolls over in his grave.

During the second week, we will collectively build a puzzle game for the Oculus Quest (virtual reality). This will be in the form of an application. Each student or pair will design, make and build their own level in the game.

In order to create and design these levels students will:

- Make maps and diagrams/drawings of case studies of architectural illusions, non-ecludian architecture and experiment with virtual locomotion and circulation in space.
- Create models/drawings/level design/ visions for the levels and defining it's virtual context
- Diagram the user's movements and circulation as they progress through the infinite staircase in 2 by 2 meters
- Create 3D representations of the level and interaction mechanisms to be implemented (we will help with the coding of this)

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Navigate
this...

GAME STORY
THE LIGHTHOUSE

You are the keeper of this lighthouse. You have been here for 3 weeks, your space is comfortable, warm and simple. The waves of the fall season are getting higher and higher, and you can hear them breaking during the night along the outside wall. You appreciate that all the controls are close to you, so you don't have to climb to the top of the tower. Nevertheless, that persistent creaking for 4 nights on the floors is starting to get your attention. And it might be time to check it out.

When you reach the top floor, on top of the worn and rickety steps, you find a short note hanging on the closed door telling you that the emergency key is in the old tower toilets. But when you decide to descend, you have the feeling that you can no longer see the ground. The first floor is plunged in darkness. A few paper lanterns have lit up along the ramp, and you can make out more floors than you feel you've climbed.

In the lighthouse, distances and time no longer have the same logic. The durations become successively very short or excessively long, the steps between the floors, which you cannot count, become more numerous, and the floors innumerable. But above all, with each door you open, the spaces become twisted, voluptuous and filled with dreams. An ancient spirit still lives here. A knight of the round table? A sorcerer? A goddess prisoner?

Although each place gives you an initial sense of dread, you discover that each room holds a memory of a life spent guiding the most unlikely ships and vessels, observing extraordinary and monstrous sea life, and refusing to leave a cherished place dedicated to guarding a world you know nothing about.

The Lighthouse is a narrative architectural wanderer. An interactive puzzle-game where the level-design teaches you as much about your character as it does about the designer of each room. The Lighthouse is Lovecraft X Pirates of the Caribbean X Aliens. With a touch of Daniel Sloss and his Jigsaw.

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COURSE SCHEDULE

We're based in France, with a time difference of 8 hours which complicates things a bit.

Classes will be taught everyday for 2 hours, from 15:00 - 17:00 Melbourne time. All students are required to be present during these sessions.

Depending on student materials, we will meet in on zoom or in our Virtual Reality Multiplayer Application. Students will work together in groups and arrange the rest of the day to read and work on the assignments and materials.

During this time, students can write or message me to ask for advice or feedback. Deadlines will be set to submit materials for the instructors to rebound on via email, messaging or during the online classes.

WEEK 1

Monday
morning: AAVS meeting
15:00 -17:00: virtual class kick-off
afternoon: group work

Tuesday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Wednesday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Thursday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Friday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

WEEK 2

Monday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Tuesday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Wednesday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Thursday
morning: group work
15:00 -17:00: virtual class
afternoon: group work

Friday
morning: group work
15:00 -17:00: virtual class/wrap-up
afternoon: exhibition & celebration

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CONTACT

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Join us, to build the Lighthouse