Color Legend

Black – fixed items (don't change)

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Grading

Design Document Sections I - XIII (78%, 6% each)

General (21%)

Use correct spelling, grammar, and syntax. (5%)

Follow the layout/formatting shown here* (fonts, indenting, etc.). When you copy/paste from another document into this document, make sure it doesn't break the layout/formatting. (5%)

* If you're a DIYer, feel free to modify/improve the template layout and formatting. But, if you do, make 100% sure that you are utterly consistent in your modified styling!

Delete all instruction text before submitting. (2%)

Make sure all text is in black before submitting. (2%)

Delete this page before submitting. (2%)

Convert to a PDF document before submitting. (5%)

236 Project 1:
Game UI Design

Design Document

Team Rocket

Design Document Sections

I. Product Goal Statement
II. Functional Specification
III. Contextual Inquiry
IV. Context Analysis
V. Personas
VI. Use Cases/Scenarios
VII. Word Lists
VIII. Mood Boards
IX. UI Sketches and Wireframes
X. Usability Test Report
XI. Rough Mockups
XII. Critique Report Report
XIII. Final Mockups

I. Product Goal Statement

Context

A quick, easy simulator for the design and construction of architectural structures. Fun, can be recreational, but not “gamey”. A union of open-ended game and utilitarian drafting tool.

Problem

Professionals in need of a simple interface for rapid design iteration with frustration and overhead kept to a minimum and gamers who enjoy the construction aspects of other games without enjoying the explicit goal-oriented structure of games need a light, user friendly application to allow them to get their ideas from their heads to a screen as efficiently and enjoyably as possible.

Solution

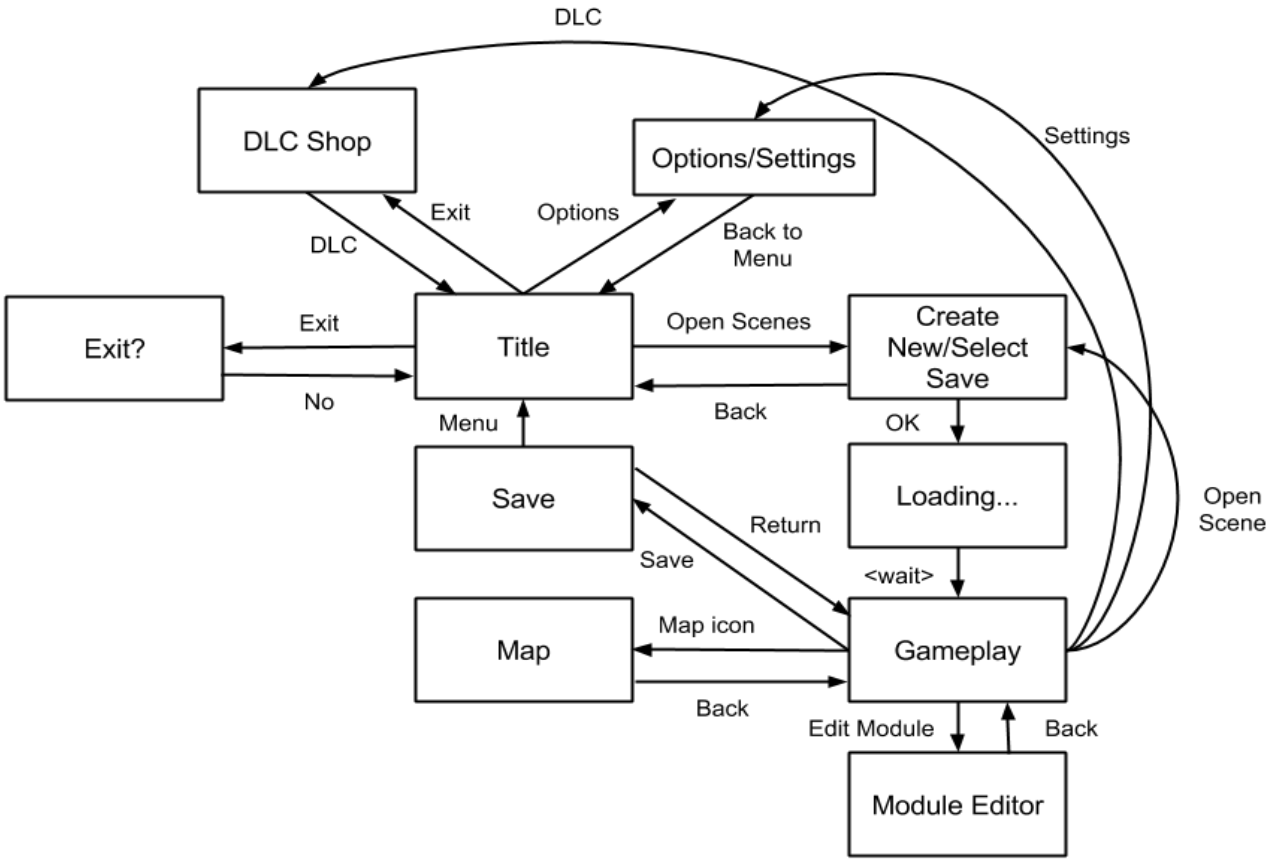
An application with a modular, simple, but powerful UI would allow the user to become intimately familiar with the aspects of the UI that they need, eliminating some of the precision of more specialized software, but also adding significant usability and ease. Using some of the standards in similar games can bridge the gap between entertainment and utility, making this practical app a pleasure to use, and even a worthwhile diversion in its own right.

Theme

Fluid Creation

II. Functional Specification

Screen Flow Diagram



Functional Descriptions

Title	The title screen, also known as the main menu. This acts for the hub for the application functionality outside of gameplay - the user can select which menu set to navigate to with mouse clicks on buttons.
Save	Takes the file path and desired file name from the user and saves the current scene as a file in that location in external memory.

Map	Displays the entire map on screen, to augment the in-game minimap. Allows the user to become better oriented and to see overall layout.
Loading	Reassures the user that the application is still running even during extended loading times by remaining visibly dynamic.
Gameplay	The main environment of the game, encompasses all modes. Where creation happens.
Module Editor	A set of splash screens containing further options and tools that are not available in the main gameplay GUI.
Exit	Confirms that the user wants to exit the application, then terminates the application if confirmed.
Options	Contains options related to controls configuration, audio, graphics, text size, and other similar settings to allow for accessibility and customization not strictly related to gameplay.
DLC Shop	Provides an organized and integrated environment where users can purchase and install new content modules in one step.
Create New/Select Saved Scene	User can decide to either create a blank scene or load a previously saved scene from a specified file path, and is then brought to the gameplay environment with their selection loaded and ready to edit.

III. Contextual Inquiry

Interview 1

User Summary

Name: Josh
Description: 20 year old caucasian male college student.

Interview

Question 1: How much experience do you have with the genre?

I've played Rollercoaster Tycoon all through middle school and I occasionally play Minecraft and Space Engineers.

Question 2: What is the most positive experience you've had with a user interface in the genre?

Space Engineers has the best UI in my opinion. The user interface is simple on the surface but very complex and powerful under the hood.

Question 3: What stood out to you as the best parts of that user interface?

Simple repetitive tasks have shortcuts. For example, there's a command to toggle through the 4 different types of symmetry for building ships.

Question 4: What effect do you think those elements had on the experience?

It saves me a lot of time, and keeps me from getting bored with the game.

Question 5: What elements do you expect in a UI for this type of game?

Shortcuts for simple or repetitive tasks.

Question 6: What is the most frustrating UI element you can think of from this type of game?

A cluttered and/or ugly HUD. I hate the sight of them. Most games allow you to enable or disable certain portions of the HUD though.

Question 7: What is the most frustrating UI element you can think of for any game?

Cryptic controls with no way to customize them for yourself.

Question 8: Is there a particular preference you have for UI style in general?

I like Minecraft's, although equipping armor and clicking and dropping items into crafting table squares gets a little repetitive(I don't know if Mojang has patched this). Space engineers tweaks Minecraft's UI. Crafting a component in Space Engineers requires only the raw materials for the component, The user makes requests to the assembler of what they want built, the assemblers tells

the user what materials it requires. For a tycoon genre of game you can't really go wrong. Good camera logic(easy to control, doesn't get caught on things, can give a complete view of the map(or whatever the user is building)) and a basic actions/items panel separated in a logical way is all that's required.

Conclusions

- Shortcuts for common commands are a good idea.
- Any HUD should be clean and organized.
- Controls should be clearly outlined and customizable.
- Logical organization of elements is important.

Interview 2

User Summary

Name: Paul
Description: 26 year old caucasian male, bartender.

Interview

Question 1: How much experience do you have with the genre?
Have played some tycoon games, sims, and god games like *Zeus/Poseidon/Sim City*.

Question 2: What is the most positive experience you've had with a user interface in the genre?
Rollercoaster Tycoon 2

Question 3: What stood out to you as the best parts of that user interface?
It was extremely functional. The camera was smooth and worked, the toolbars were intuitive, and the whole thing just plain worked.

Question 4: What effect do you think those elements had on the experience?
It let me play for hours without getting frustrated.

Question 5: What elements do you expect in a UI for this type of game?
Toolbar, hotkeys, grid/coordinate system, and a reliable and intuitive way to effect the camera view.

Question 6: What is the most frustrating UI element you can think of from this type of game?
Whenever it is hard to navigate the environment quickly and efficiently, it's incredibly hard to get immersed in it for me. Rotating, translating, and scaling the map, as well as whatever materials you are using, is essential.

Question 7: What is the most frustrating UI element you can think of for any game?

Whenever an important UI feature behaves completely differently from what feels natural. If a game feels "wrong" most of the time I'm playing it and I don't get used to it within the first 5-10 minutes, I'll probably abandon the game. Also, thinking both of personal preference and disabled gamers I know, not being able to change the control layout is a big deal breaker.

Question 8: Is there a particular preference you have for UI style in general?

I prefer clean UIs overall, the less clutter on the screen the better. If it doesn't get used more than once an hour, it doesn't really need to be on a toolbar or anything, it can go in a dropdown.

Conclusions

- Basic functions like camera and map manipulation must be intuitive and easy.
- Being able to customize the control layout and UI is important.
- Only things used frequently need dedicated UI space.
- A good UI will keep a player playing the game.

Interview 3

User Summary

Name: Ian
Description: 18 year old caucasian male Game Design and Development major.

Interview

Question 1: How much experience do you have with the genre?

I've played a fair bit of Minecraft. I did a bit of Zoo Tycoon when it came out on the DS, but I never immersed myself enough to get good at it.

Question 2: What is the most positive experience you've had with a user interface in the genre?

Minecraft's NEI. That's the best improvement of the genre that I can think of. In juxtaposition, *Zoo Tycoon*'s navigation just became kind of cavernous. It was like walking through a cave with no light.

Question 3: What stood out to you as the best parts of that user interface?

Readability, easy access, and high visibility.

Question 4: What effect do you think those elements had on the experience?

I haven't touched Zoo Tycoon in years at this point because going through the menus is so frustrating. Vanilla Minecraft doesn't have NEI, but in modded Minecraft it's crucial. Without it nothing makes sense, nothing works. Of course, the game still has to be fun.

Question 5: What elements do you expect in a UI for this type of game?

Definitely what different types of things do. Knowing what your resources do and how you can use them is very important for the usability perspective. At the same time, you don't want to make things blatantly obvious because that's boring.

Question 6: What is the most frustrating UI element you can think of from this type of game?

Too many menus. Way too many menus. [In Zoo Tycoon] if you wanted to do anything you needed to go through a round of four menus first.

Question 7: What is the most frustrating UI element you can think of for any game?

You can't tell what something does because the UI doesn't tell you about it. You can't tell how healthy you are because the UI doesn't tell you that. The little subtle things you need moment by moment - if they aren't visible, it's not going to be a good play experience because they aren't visible when you need them.

Question 8: Is there a particular preference you have for UI style in general?

Despite my emphasis on narrative, I honestly don't mind if the UI is external from the game's story, and just something that's there that the characters can't see at all. I think that's just part of the general usability and not something we can just expect for games to do.

Conclusions

- Remove submenus where possible
- UIs should prioritize information by accessibility
- UIs should not explain the whole game to the player
- Focus on usability over integration into the game

IV. Contextual Analysis

Analysis Goal

To determine the environmental factors surrounding the development of the game, both internal and external, and evaluate the positive and negative factors that contribute to its production and release.

Using this knowledge, we can construct a production plan and design which will capitalize on our strengths and minimize our weaknesses, allowing us to reduce competition and appeal to a specific demographic of users.

External Analysis

Political:

- It is not entirely infrequent that video games are brought to the spotlight as a potential factor in violent crimes and developmental problems in young people. It is important to avoid any association with these controversies, but given the content of the game it is unlikely to be an issue.

Economic:

- As of right now, there are no competitor releases announced, but that is not guaranteed during the entire development process.
- Smaller, and therefore less expensive, games seem to be more likely to result in a net profit in the current game industry economy.
- Digital distribution is favorable for a small indie title at the present time.

Social:

- Current push for environmentally friendly building materials/designs could influence the theme of the game.
- Corporations and purely profit-driven decision making may be poorly perceived by the public - this can affect both the theme of the game and the way we present ourselves as a company.

Technological:

- Given the long turnaround on development, it is unlikely that the platforms we will develop and test on will be the extent of what is available on release.
- Portable gaming is a huge market at the moment
- With the above two points in mind, development with an eye to portability is essential. It is not necessary to stay on the cutting edge of technology, but it is preferable to be able to change platforms as easily as possible.

Demographic:

- It may be preferable to appeal to a wider audience than the archetypal gamer, especially due to the style of the game.
- Appeals to architecture and design students and employees as a way to quickly get ideas out and simulate environmental effects and layout.
- May appeal to parents and children, as a relatively simple game with no violence or adult themes. The open-endedness of building allows for the creativity of children.
- Accessible for more casual gamers, due to non-competitive nature.

Competitor Analysis

	Team Rocket	Minecraft (Microsoft)	SimCity (Electronic Arts)
What is this company's market share?	• No market share	• Significant market share, household name.	• Significant market share, genre-defining.
What are the strengths of this company?	• No risk (no budget) leads to greater comfort with innovation and experimentation • Student developers can lend themselves to more novel ideas.	• Lots of capital and market pull for marketing • Well known brand • The product itself has almost a 'cult' following and is beloved.	• Very powerful presence in the game publishing industry • Very recognizable brand • users/consumers have a good idea of what to expect from the franchise.

What are their weaknesses?	• No market share, no budget, extremely indie, no brand recognition.	• No longer under control of original developer (Notch). • Unsure future as a franchise. • Popularity and uniqueness of the brand and style makes it difficult to try truly innovative features in future titles, especially for a large company.	• Poor public relations currently following the release of Sims 4 and the latest SimCity. EA in general has poor public relations. • Original development team (Maxis) has been dissolved, and the strength of the brand makes it difficult to justify innovation.
Why would a consumer choose this company/franchise's product over the others?	• Our company has the potential to present a product that is fresh and compelling, while at the same time affordable due to low overhead costs.	• The most likely to present a polished, AAA experience that will be well received by players and critics.	• Brand recognition, nostalgia, and strong legacy of releases.

SWOT Table

	Helpful	Harmful
Internal Origin	<u>Strength</u> • High potential for creativity and innovation • Freedom to take risks • Not beholden to expectations from previous titles	<u>Weakness</u> • No brand recognition • Low visibility on release • No capital

External Origin	Opportunity	Threat
	● Not a release dense genre ● Competitor releases in the next 2-3 years are unlikely	● Niche market ● Competitors are very well established in the market

Company Brand

The company is a small team of game design and development students, creating fresh and unique games with an eye towards genre revival and innovation. For this company, the focus is to create something interesting, and building a reputation in the industry is of greater immediate importance than revenue.

Company Interview Report

Representative Summary

Name: John Q. Smith
Description: A long time employee at the development company on the design team.

Interview

Question 1: What do you think is the most promising thing about your organization?

Response: Probably the strength of the design team. As a team of students, we're all still pretty fresh and enthusiastic about the process, and we have a lot of great ideas and can really have a lot of fun with what we do. With a big AAA company, I think they kind of go into development with an idea of what they want - or maybe an idea of what they think gamers will want from them. We don't have that and it's got its own kind of freedom.

Question 2: What kind of user do you generally see as your target consumer?

Response: We kind of imagine a wide range of people, really probably coming from the types of people we know ourselves - you know, you have like, the players who have played a million games like ours, and just want to see if we've brought anything new to the table, while not really wanting to learn a whole new way of looking at things. We've

got kids, and they'll… you have to make it simple enough to understand, but they'll put in the effort to learn and dig into the game, but you don't necessarily want them to have to do that. And then you have I guess the 'casual' gamers, or maybe just adults new to games, and they want everything right in front of them. They don't want a learning curve, they don't want to feel frustrated and dejected, I mean nobody does, right?

So I guess that pretty much covers who we think about when designing, how to balance the traditional, the engaging, and the approachable to make something that will hit all of those targets.

Question 3: What do you think is the strongest selling point of the product?

Response: I think its uniqueness and focus is probably its strongest selling point, there's not a lot of games that really lock down on just the building aspect, polish it, and make it its own experience. And really, the big franchises that did do that, they've kind of dropped off in the past few years. I think there's a real gap in the market out there for us, but we just need to know if that's a gap that wants to be filled.

Question 4: The weakest aspect of both the company and the product?

Response: Obviously our size and our lack of visibility in the industry is a big concern. We can make the best game ever made, but if we don't find a way to get it out there and get players to well, play it, it won't do us any good. Bigger and older companies and products don't have that problem so much - they know how to move units and get publicity, and they have the money to make that happen. We have neither the methods nor the means.

Question 5: What are your plans to overcome these weaknesses, and what information do you need to address them?

Response: I think that really our best bet is to get an idea of where the gaps in the market are, try to get a good, solid, enjoyable game out there that appeals to a wide variety of people, and just get an idea of what kind of game will be competitive out there, and will move. As for information we need - getting an idea of where the gamers that will like our game will be likely to find it, and what we can do to make our game the perfect game for them, that would be the best thing.

Conclusions

- The company needs to know what spaces remain to be filled within the genre.

- The biggest strength in the company and the product lies in how innovative they are.
- The company is uniquely free to take risks.
- The target demographic is very wide and varied, and finding a way to market to them successfully is going to be a challenge.

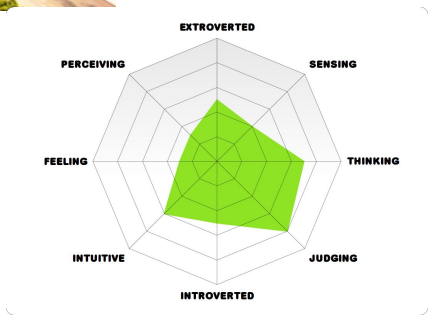
V. Personas

Primary Persona

Émile, 21

Architectural Design Student

"I've got time to experiment!"



Income Minimal

Education Currently enrolled in a Bachelor's Program

Attitude

- Creative
- Curious
- Procrastinator

Skills

- Access to wide range of software through his university
- Very aware of latest design trends
- Savvy tech user

Needs

- New software that lets him explore design concepts in different ways, even if it requires some fiddling.
- To get basic, solid designs out with a few hours' work.

Frustrations

- Starting a project over because of software limitations.

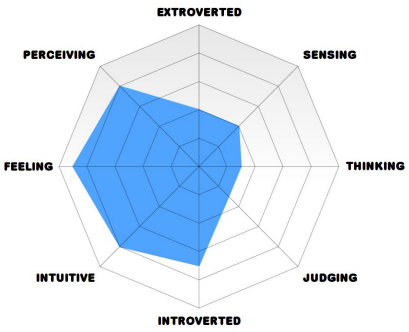
Notes Émile wants software that lets him be creative in new, interesting ways, but also takes into account his tendency to procrastinate on important projects.

Secondary Persona

Anna, 32

Independent Architectural Designer

"Everything I make looks professional to a T."



Income $80,000 - $100,000 / year

Education BA, unfinished MA

Attitude
- ❖ Focused
- ❖ Rushed
- ❖ Professional

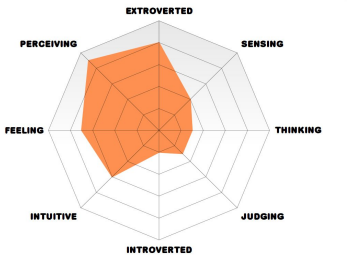
Skills
- ❖ Strong architectural & design backgrounc
- ❖ Very familiar with design software
- ❖ Little experience with video games

Needs
- ❖ A way to show lots of potential designs to a customer in order to quickly narrow their ideas down to a final design.

Frustrations
- ❖ Buggy software
- ❖ Slow UI

Notes Emily's focus is on the speed she can develop potential designs, since each design might equal a commision. If something about the software slows her down she could easily switch over to a more different or more expensive one.

Tertiary Persona



Noah, 12

Middle School Student

"Look what I made!"

Income	None, dependent.
Education	Sub-high school
Attitude	❖ Creative ❖ Unfocused ❖ Unstructured ❖ Relaxed
Skills	❖ Tech comfortable ❖ Video game experience ❖ No architecture or design background
Needs	❖ A way to make satisfying and attractive structures with minimal architectural knowledge. ❖ Features that compel him to continue using the application without needing it for school/work.
Frustrations	❖ Being financially dependent on parents ❖ Continually running into specialized language that he doesn't understand ❖ Being bogged down in minute details and specifications instead of being able to intuitively and continuously create
Notes	His primary pleasure comes from creating and making things that are uniquely his.

VI. Use Cases/Scenarios

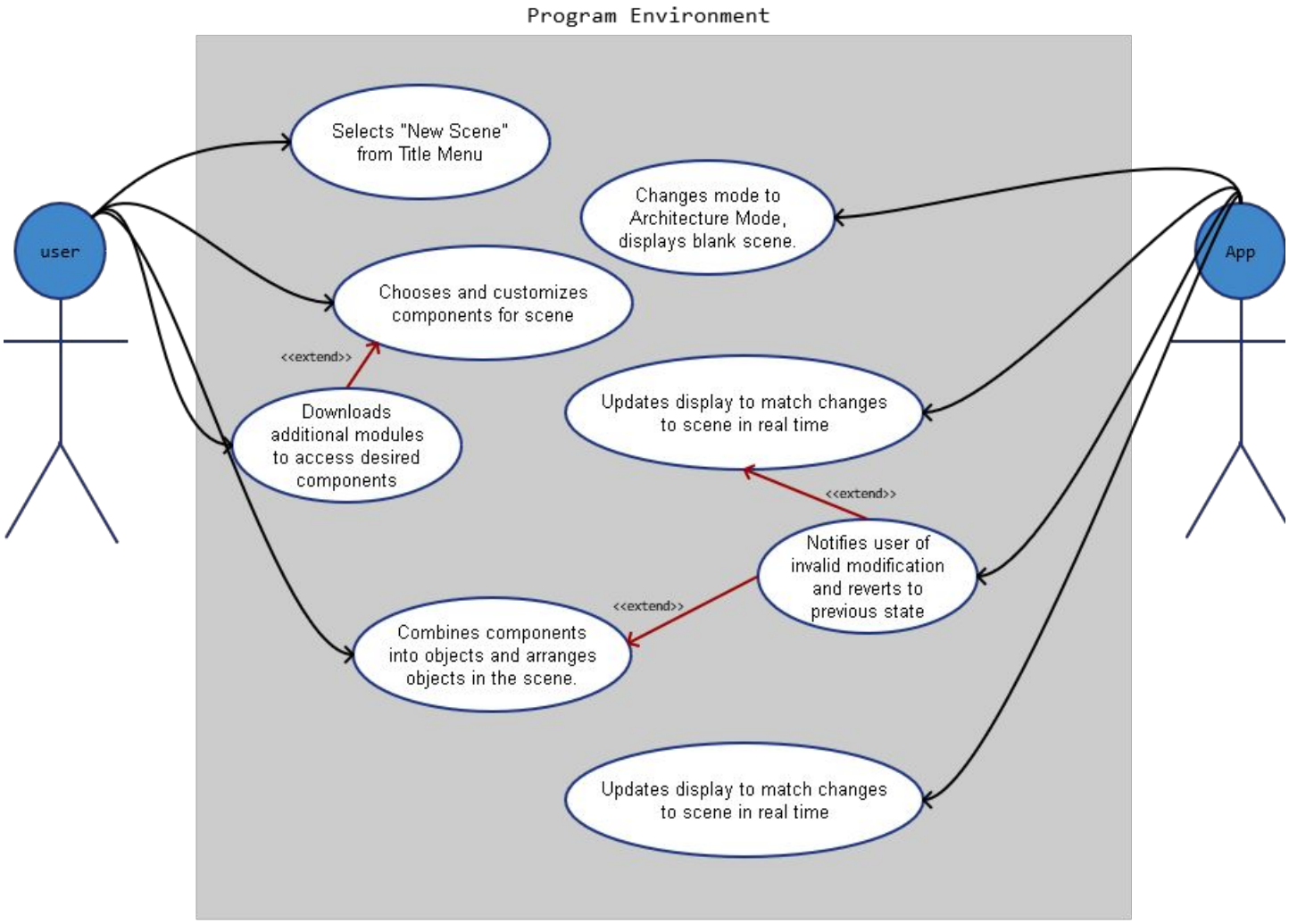
Use Case 1 : User Creates a New Scene

Case Document

Name: User Creates a New Scene
Goal: Creation of a scene that can then be saved or exported
Description: The user creates a new scene from the title screen and uses the UI of the gameplay screen to accurately construct and combine structures in the game world into their desired configuration..

Name	User Creates a New Scene
Goal	Creation of a scene that can then be saved or exported.
Description	The user creates a new scene from the title screen and uses the UI of the gameplay screen to accurately construct and combine structures in the game world into their desired configuration.
Actor(s)	User, Application, Network (Extension case)
Preconditions	The application is loaded and running on the computer.
Main Success Scenario	The user creates a scene from the title screen, constructs components, customizes the components, and combines them appropriately.
Extensions	❖ User does not have the appropriate module installed ➢ Must buy from DLC Store first ❖ Desired configuration is non-topological ➢ Application informs the user that the desired change cannot be made, and reverts to state before the problematic operation.
Postconditions	The user has a completed scene.

Case Diagram



Case Scenario

After a long day of classes, Émile still has an architectural design project due at midnight. He had the chance to start the project a few days ago, but decided to go out late with his friends instead. Now he needs to get this done as soon as possible.

ÉMILE: Can't believe I didn't start on this sooner. Come on, come on.

Émile opens the program and skips past the TITLE menu by pressing the OPEN SCENE button. This brings up the CREATE NEW/SELECT SAVE menu. After selecting CREATE NEW, Émile drums his fingers while the loading screen takes over the screen for a few seconds. He is then taken to the GAMEPLAY screen, which is already in Architecture Mode.

ÉMILE: Great, at least that was fast! Let's see, if I were a public transit hub then...

Émile takes his time laying out the scene using both prefabricated components and terrain and build-altering tools. It's very easy to get caught up in making minor adjustments when everything updates in real time, but when he looks back at the clock there's just a half hour left before the deadline.

ÉMILE: Oh no. I haven't even textured this yet. Uh, okay, okay, I got this.

He accesses the DLC SHOP menu through the small DLC button at the corner of the screen, and quickly flips to more modern categories. A bundle of textures catches his eye, and Émile justifies the (cheap) expense because he'll be able to use them again on other projects.

ÉMILE: Sweet, so I can just apply these…

Fifteen minutes later and the project is finished.

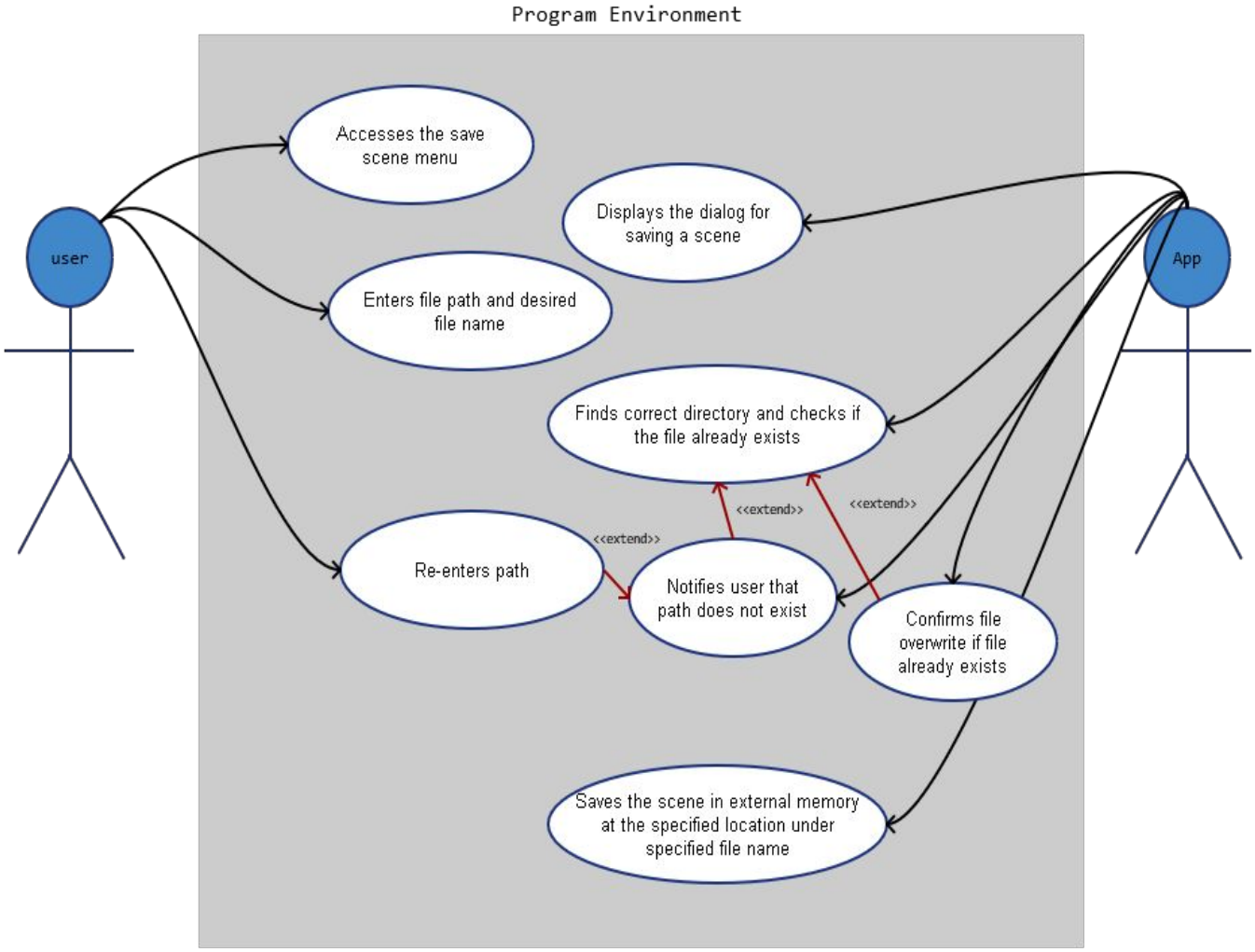
ÉMILE: That was way too close. No way am I doing that again. Then again, I did get it done and with a couple minutes to spare. Hmm.

Use Case 2 : User Saves Their Work on Current Scene

Case Document

Name	User Saves Their Work on Current Scene
Goal	Saving the currently loaded scene in an appropriate file format to be loaded at a later time.
Description	The user prompts the application to store the appropriate data from the current scene in the external file system of the computer, where it can be accessed later, and provides a path and name for the file.
Actor(s)	User, Application, Operating System
Preconditions	A scene is currently loaded into the gameplay environment.
Main Success Scenario	The user accesses the save scene menu, enters a file path and desired file name, and submits. The application then writes the data of the scene in the necessary format to the specified external memory.
Extensions	❖ Path does not exist ➢ Application prompts user for new path ❖ File name already in use at that location ➢ Application asks user for confirmation on the overwrite.
Postconditions	The data necessary to reconstruct the scene at a later time has been saved to external memory.

Case Diagram



Case Scenario

Anna's ready for a lunch break after a solid 4 hours of working on several designs for a new customer.

ANNA: This is probably a good stopping point. I'm in need of some Mexican and- ooh, a good stretch too. Let's just save this first.

From the current GAMEPLAY screen, Anna accesses the SAVE SCENE menu through the toolbar on the bottom. She has already made a save for this scene, but decides to save it as a different scene in order to make sure it's backed up.

ANNA: Let's give this scene a different name... hm, let's call you *Customer_Scene_3b*.

Anna has accidentally messed up the filepath while changing the name. The program pops up an alert box when she attempts to save.

ANNA: Oh. Uh, where was I saving it again? Ugh.

Anna closes out of the SAVE SCENE menu, then reopens it. The SAVE SCENE menu is restored to filepath and filename that the scene is currently saved to.

ANNA: Okay, at least it didn't change permanently. *Customer_Scene_3b*, and get it right this time.

The program saves the scene, and exits the SAVE SCENE menu, returning Anna to the GAMEPLAY menu in the same mode - Architecture Mode - that she was previously in. She exits to the TITLE menu with the EXIT button in the bottom toolbar, receiving no prompt to save because no changes have been made since the last save. She then chooses the EXIT button from the TITLE menu, and the program closes.

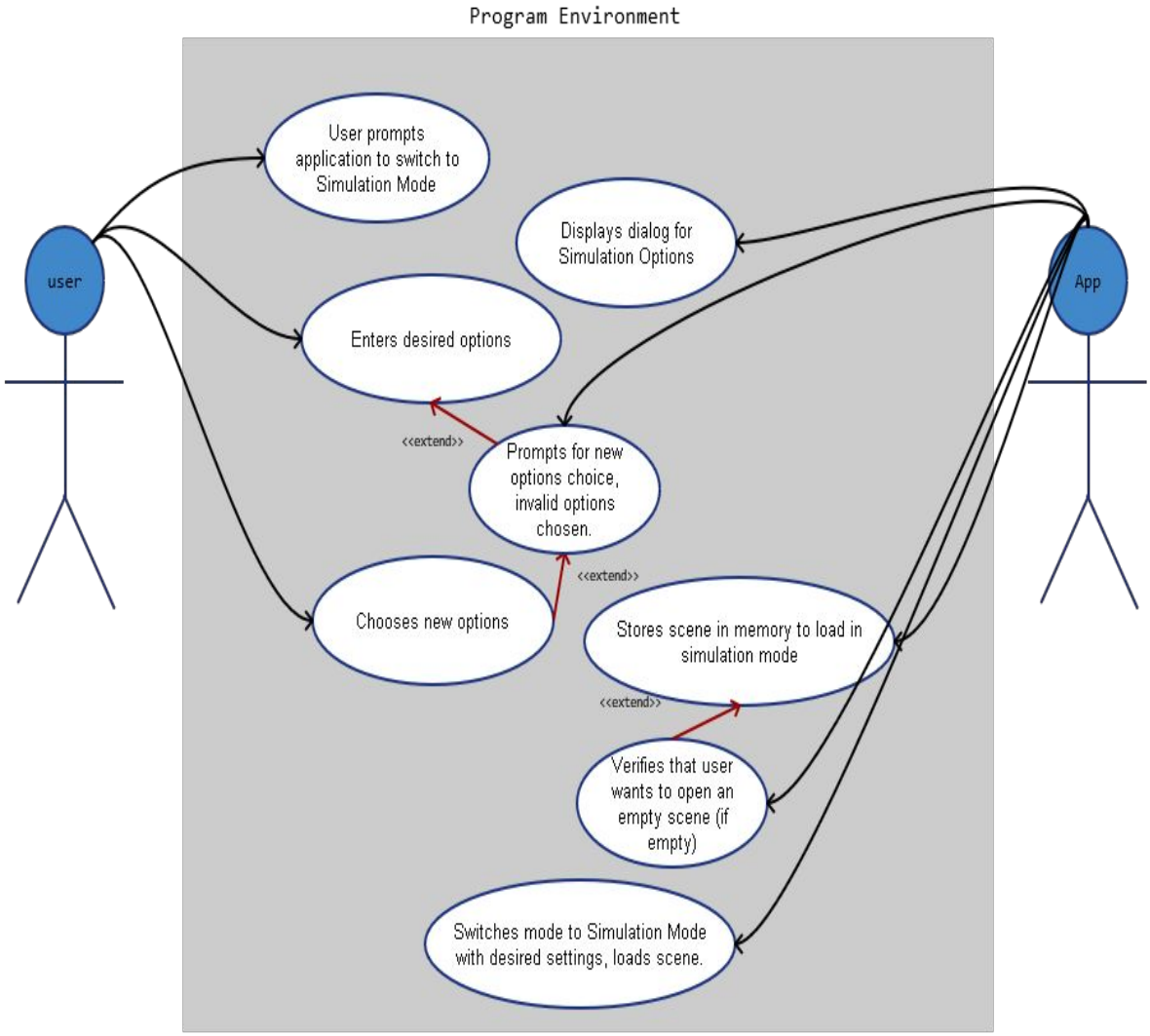
ANNA: All done! Mmh, now I just have to choose between Mexican and that new pizza place.

Use Case 3 : User Imports Current Scene to Simulation Mode

Case Document

Name	User Imports Current Scene to Simulation Mode
Goal	Opening the scene currently loaded in Architecture Mode in Simulation Mode.
Description	The user creates a new scene from the title screen and uses the UI of the gameplay screen to accurately construct and combine structures in the game world into their desired configuration.
Actor(s)	User, Application
Preconditions	There is a scene loaded into Architecture Mode.
Main Success Scenario	The user prompts the application to switch to Simulation Mode, selects their desired options, and submits. The application then switches modes.
Extensions	❖ User's option choices conflict with current scene ➢ Application prompts for new options choice. ❖ Scene is empty ➢ Application verifies that the user would like to run an empty scene in Simulation Mode.
Postconditions	The user's scene is running in Simulation Mode.

Case Diagram



Case Scenario

After a boring day in middle school, Noah is playing around on the family computer before soccer practice. He's already made a few scenes in his *ArchitectSim*, but just recently found out about Simulation Mode, and has decided to try it out. He opens the program up and navigates to a previously created scene that is in Architect Mode.

NOAH: Oh, so it's just the Simulation button down here?

Noah clicks the SIMULATION button, which opens the small dialog box for SIMULATION OPTIONS. He has no idea what most of the options do, but plays with a few that sound interesting - Type of Actors, Flow of Traffic - and ramps up the speed to 100x normal.

NOAH: I hope this doesn't break something. GO!

The scene is saved in memory before loading into simulation mode with the desired options. Noah watches it run for a few minutes, tiny people streaming through the twists and turns of his latest creation, before opening the SIMULATIONS OPTIONS dialog box again.

NOAH: It doesn't go any faster? Poop. What does this do?

Noah manages to input an invalid choice into one of the options fields, and the field immediately turns red. When he tries to go back to SIMULATION MODE the button depresses, but the dialog box does not close.

NOAH: What? Oh, I guess I can't do that. I wish I knew what they meant by- hey, I can hover over the options and they tell me more! Now what does *this* do...

VII. Word Lists

List

Clean	**Quick**	**Canvas**	**Topology**	**Ingenuity**
Simple	**Fluid**	**Sketch**	**Landscaping**	**Insight**
Organic	**Creation**	**Blank**	**Architecture**	**Artistry**
Minimal	**Design**	**Orderly**	**Planning**	**Originality**
Unintrusive	**Lines**	**Transparent**	**Scenario**	**Vision**
Intuitive	**Geometry**	**Straightforward**	**Outline**	**Visualization**
Inspiration	**Perspective**	**Formation**	**Pattern**	**Realization**
Structure	**Top-Down**	**Conception**	**Concept**	**Invention**
Multitude	**Small**	**Genesis**	**Form**	**Flow**

Refined List

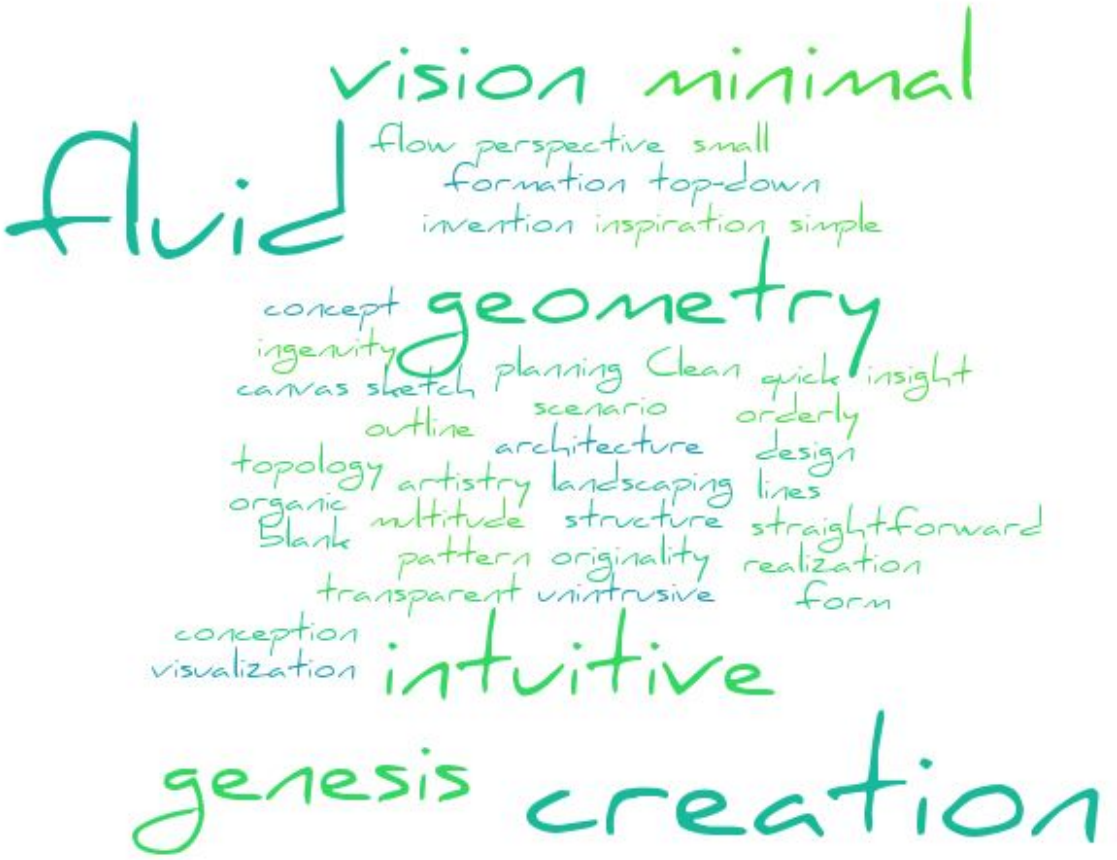
Theme

Fluid Creation

Words

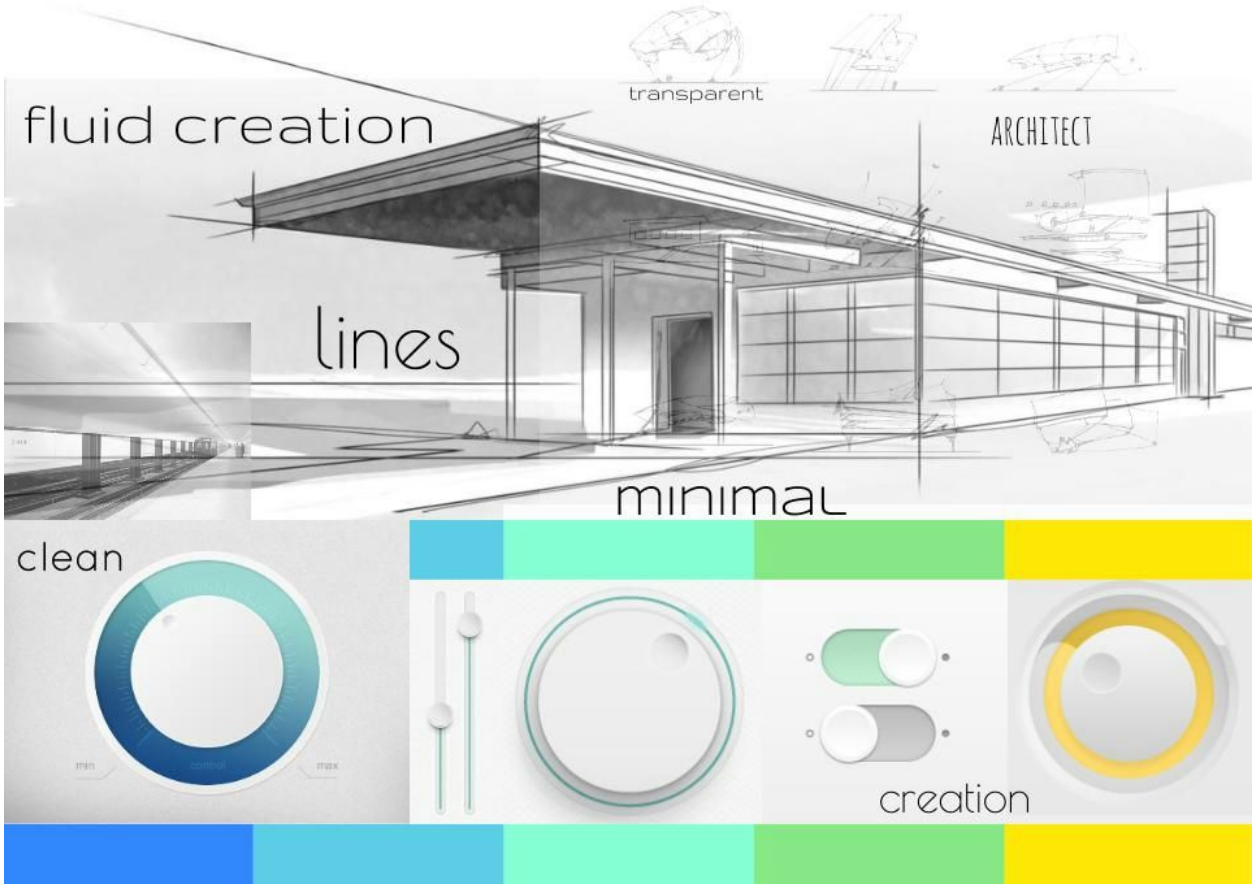
Minimal
Intuitive
Geometry
Genesis
Vision

Word Cloud

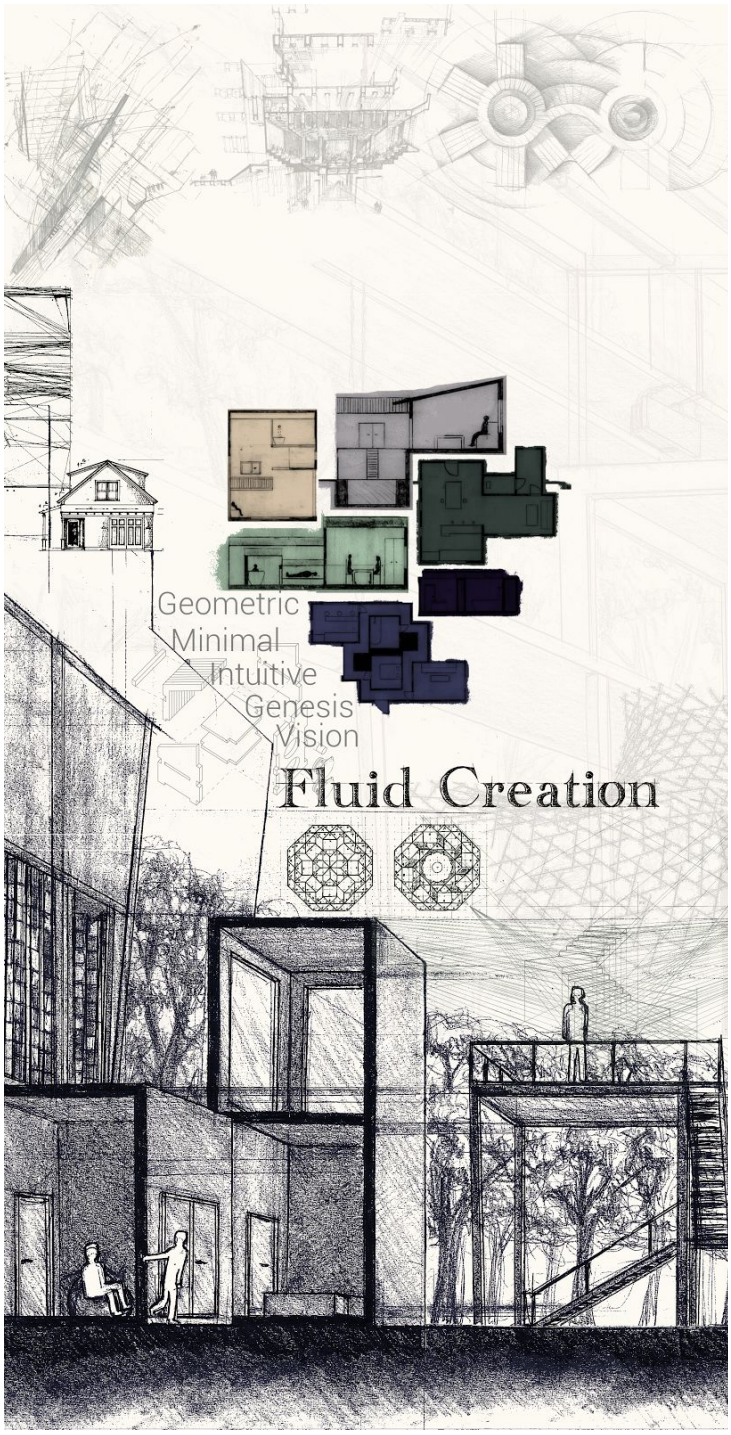

vision
minimal
fluid
flow
perspective
small
formation
top-down
invention
inspiration
simple
concept
geometry
ingenuity
canvas
sketch
planning
Clean
quick
insight
scenario
orderly
outline
architecture
design
topology
artistry
landscaping
lines
organic
blank
multitude
structure
straightforward
pattern
originality
realization
transparent
unintrusive
form
conception
visualization
intuitive
genesis
creation

VIII. Mood Boards

Mood Board #1

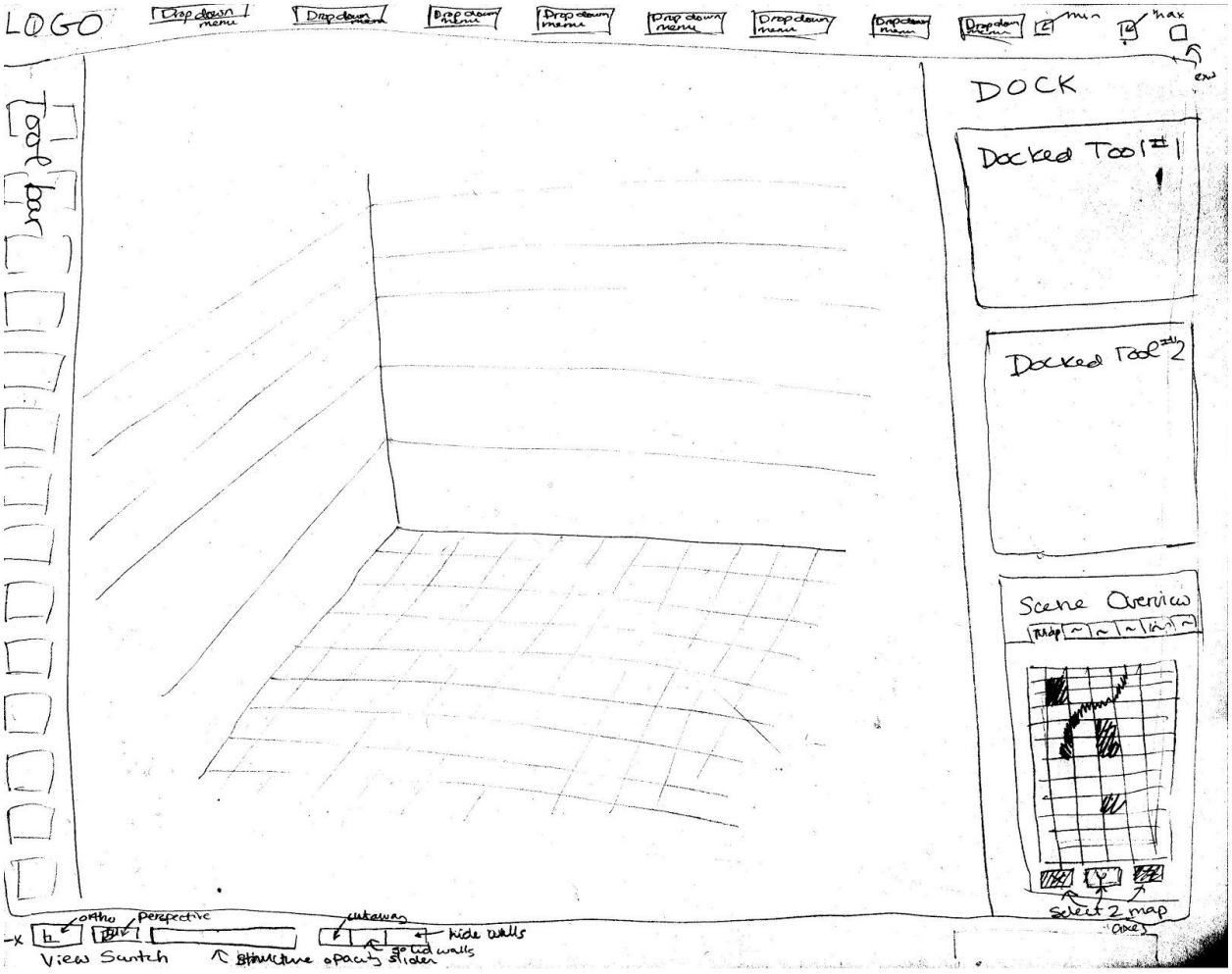


Mood Board #2

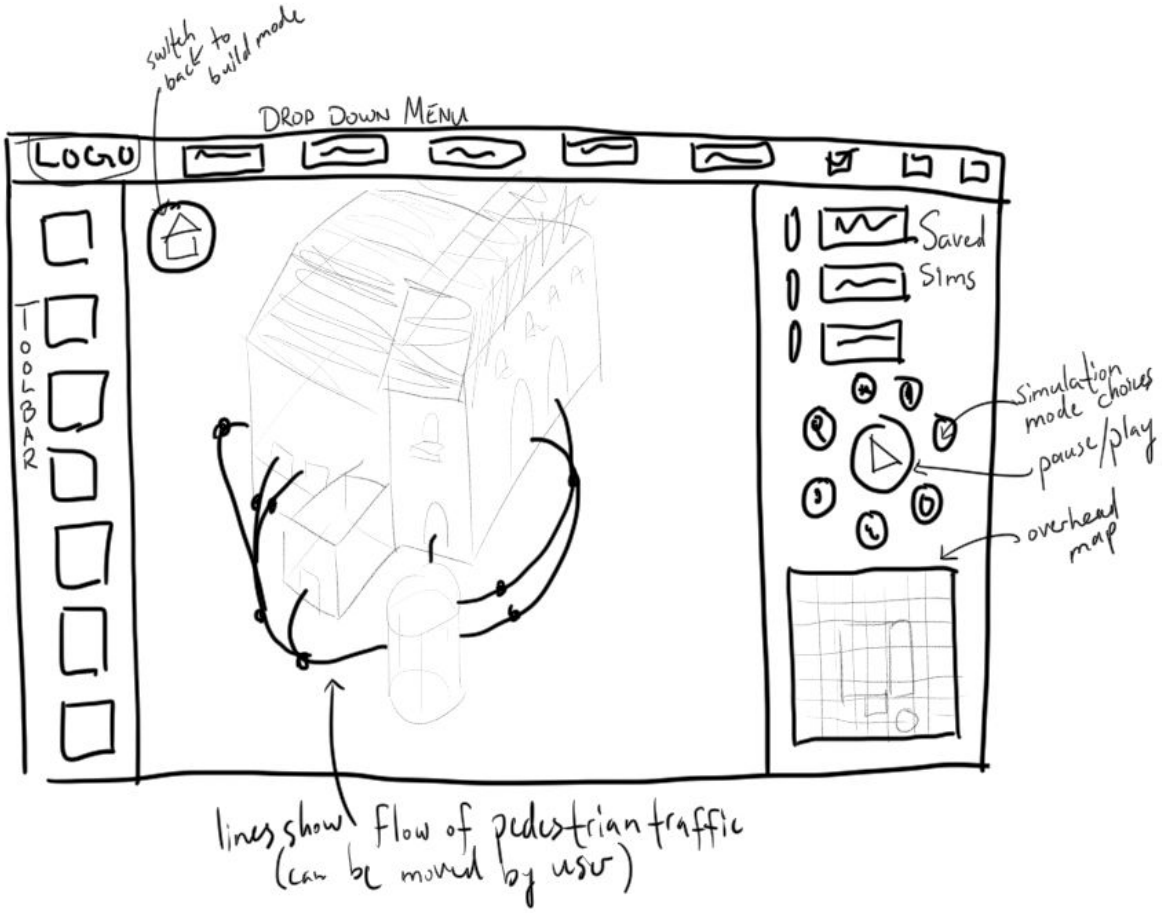

Geometric
Minimal
Intuitive
Genesis
Vision
Fluid Creation

IX. UI Sketches and Wireframes

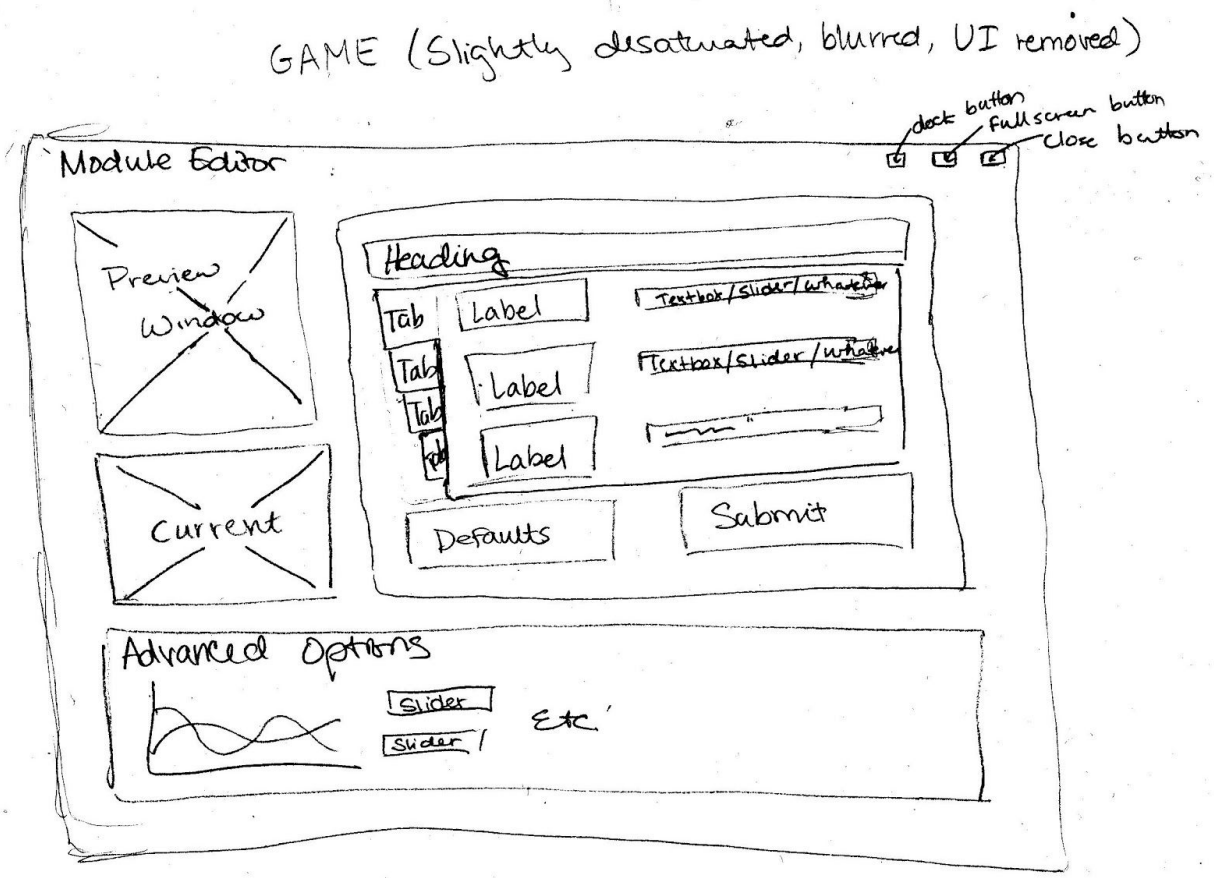
Construction Environment



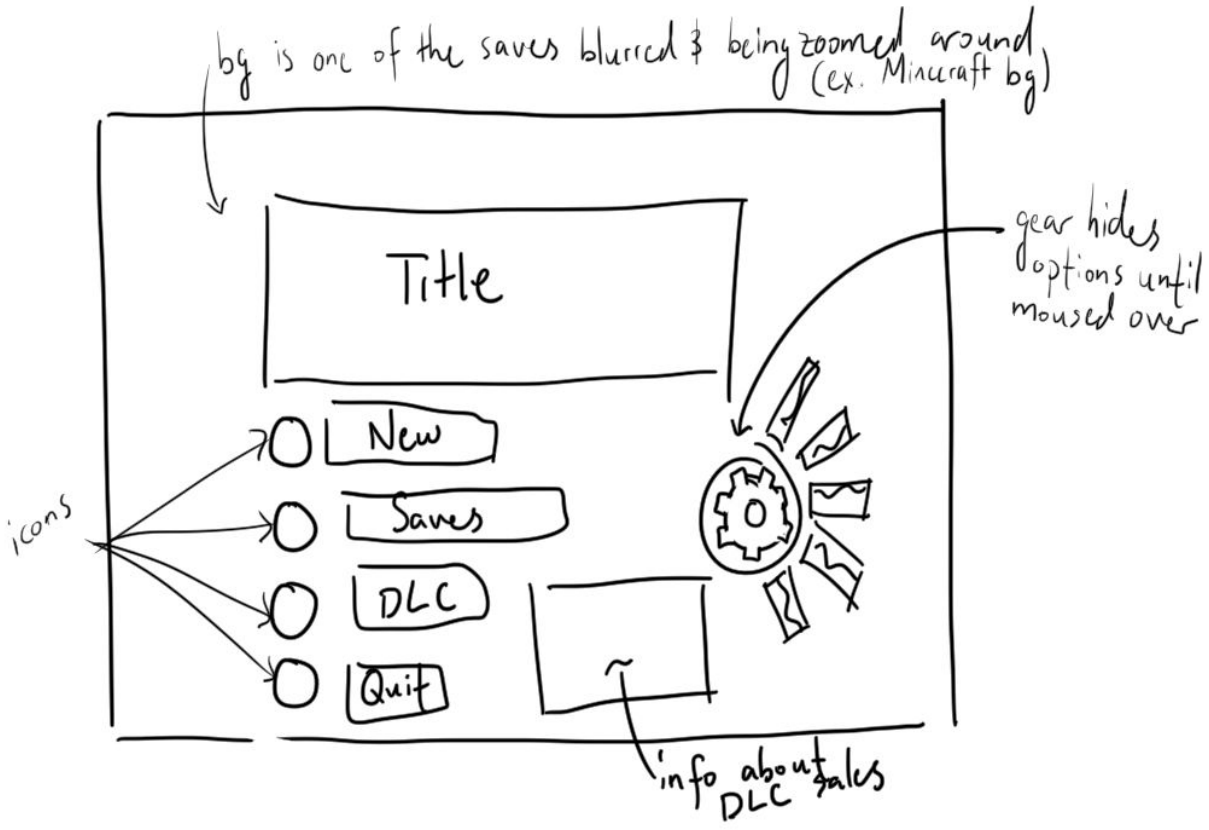
Simulation Environment



Module Editor

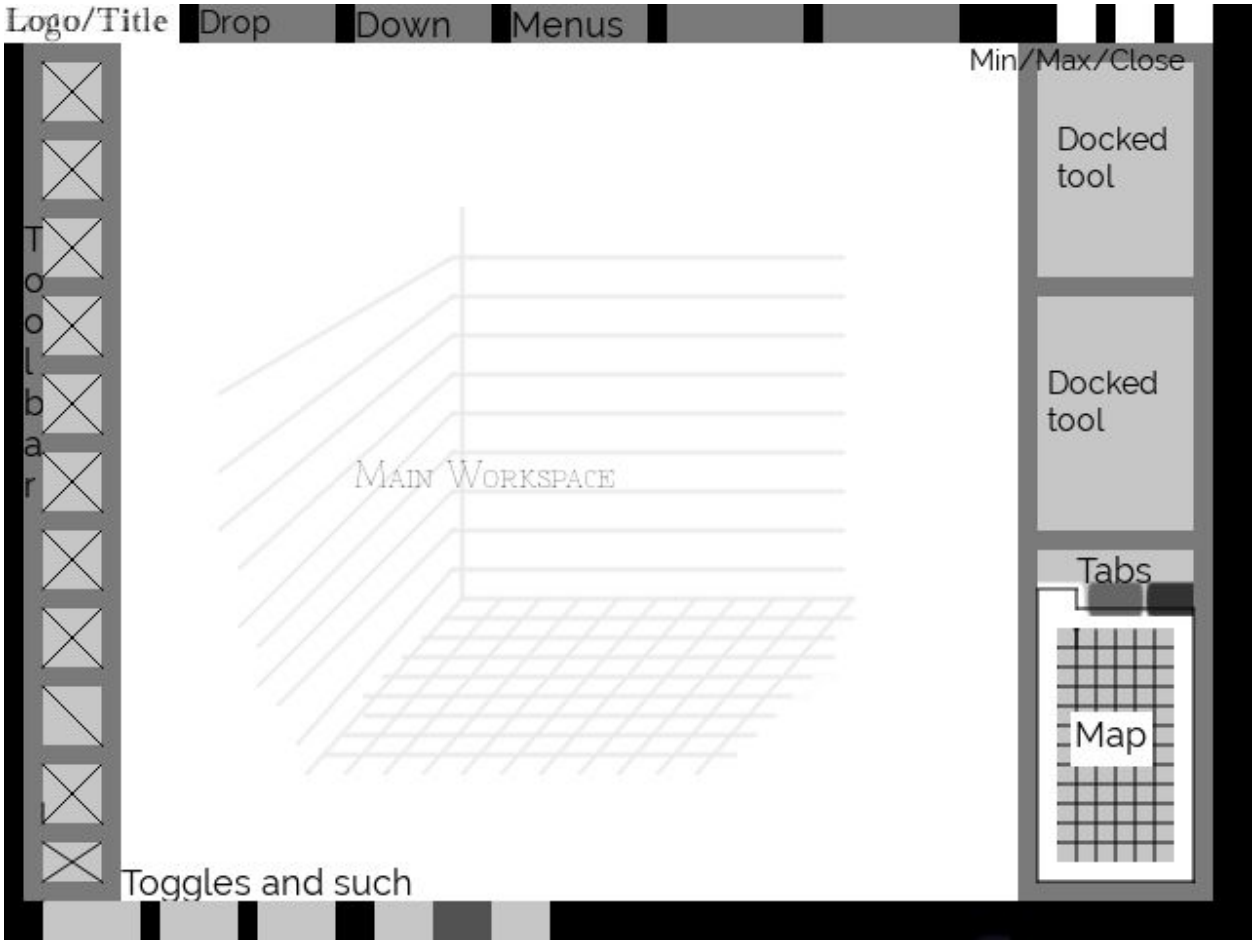


Title Screen

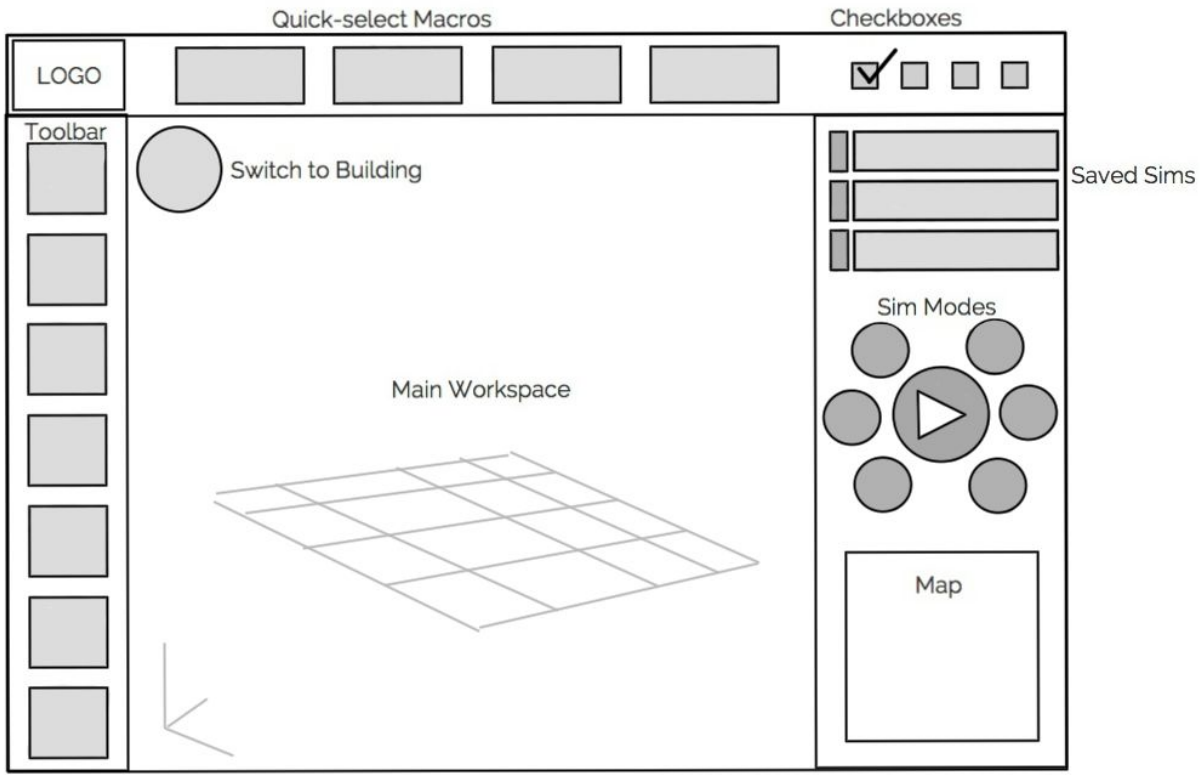


Wireframes

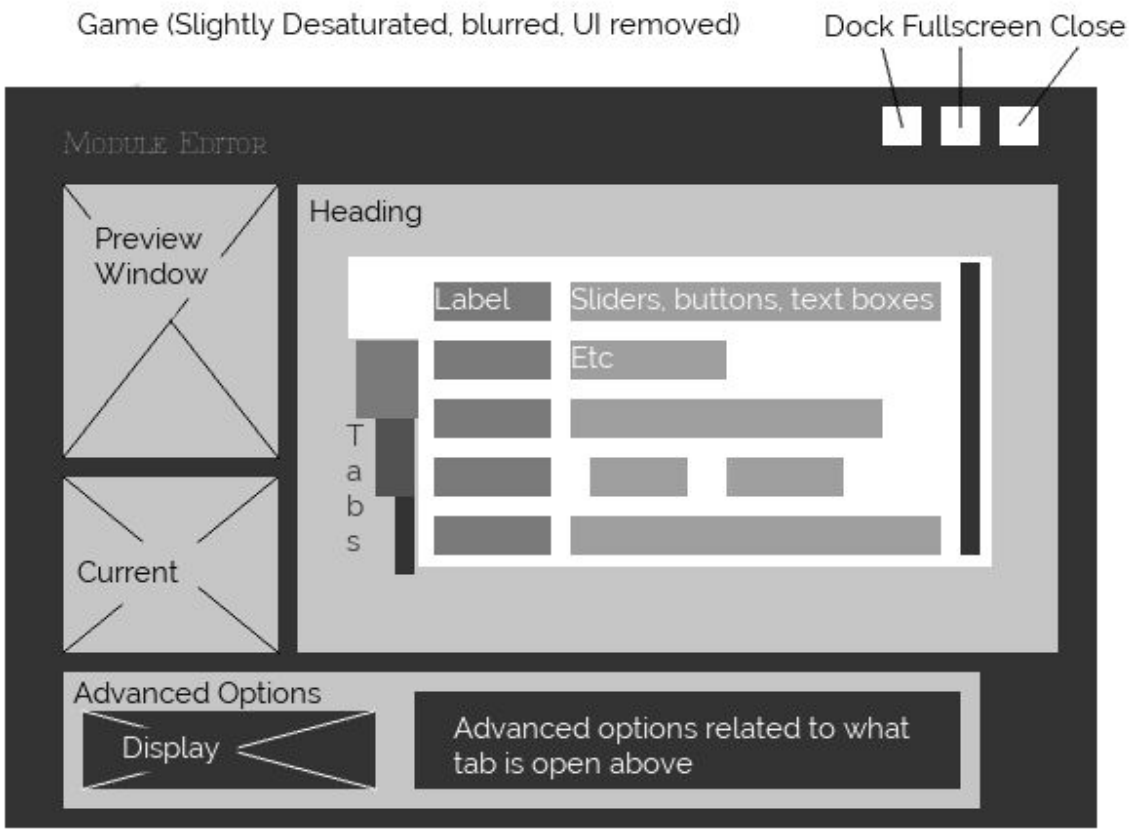
Construction Environment



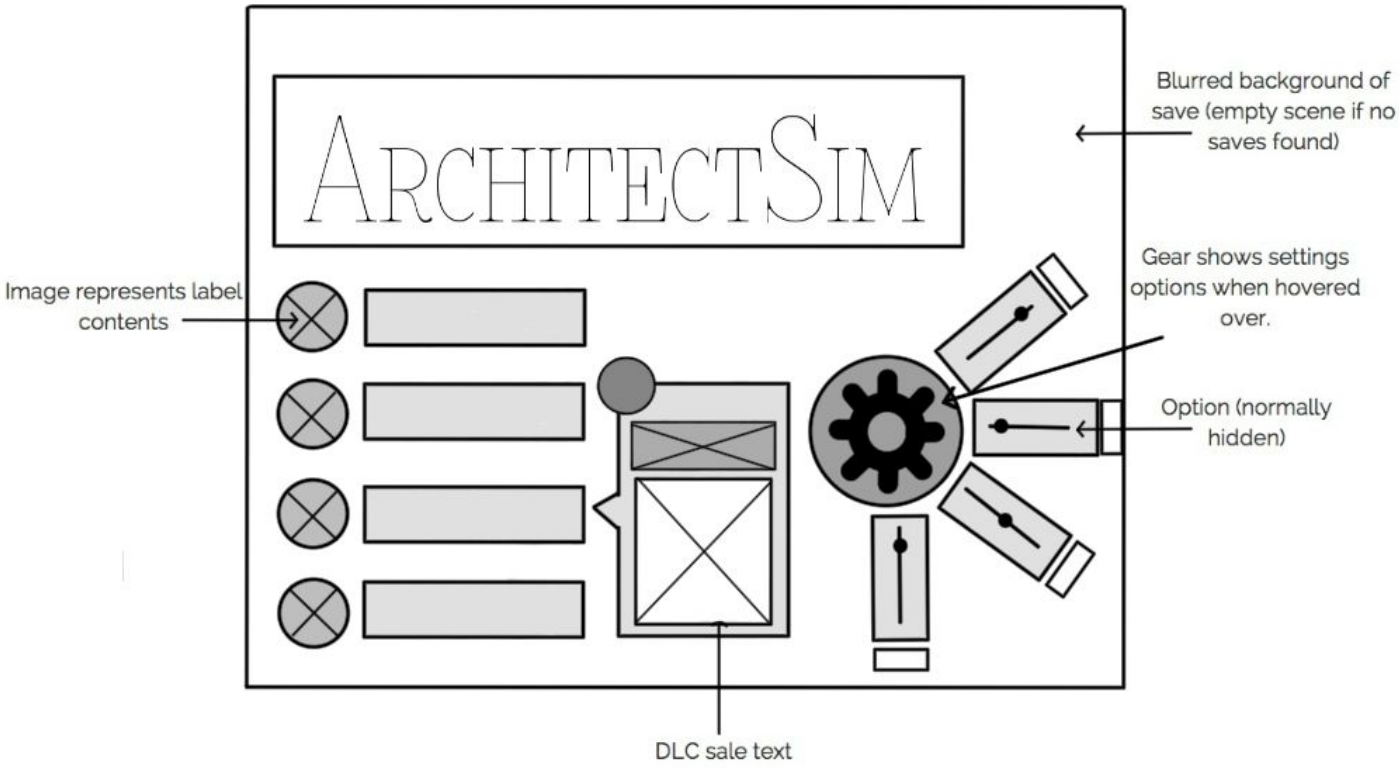
Simulation Environment



Module Editor



Title Screen



X. Usability Test Report

Usability Test

Subject 1

Usability Test Report #1			
Test Subject Name: Katie **Test Subject Description: 20yo Industrial Design Major**			
Usability Test Question	**Subject Response**	**Learned from Response**	**How it Applies to the Game**
When you look at the screens, do you have a clear idea of what you're supposed to do?	Yes, more or less. The menus have big visible labels, and the icons and grid on the other screens tell me that I'm supposed to be building something. I'd probably need a tutorial to get started, though.	Maybe a help menu with tutorials would be a nice addition to the top bar.	It's hard to strike a balance between a clean, uncluttered UI and complete clarity on how to do things, especially with a more technical app.
Are all the icons and visuals self-explanatory, and if not, which ones are not?	I'm not sure what the one with the paintbrush and triangles does.	The polygon paint tool might need a new icon, although it's possible that the functionality of the tool is not something that can be made intuitive.	Having a fluid way to affect the meshes of structures is important to the functionality of the game, but that action might need to be better conveyed via vector art icon than it is currently.
What is your overall impression of the	They all look nice individually, but	More of an effort should be put into	Navigating through the game should be

screens aesthetically?	together the change in color pallette is a little jarring.	unifying the screens into one consistent palette.	smooth and unobtrusive, and it's shocking to the eye to have drastically different screens.
Is there anything that is not on one of the screens that you would expect to be there for this sort of application?	It's a little strange to not have a zoom slider or a click and drag to manipulate the camera.	Zoom and camera should be added.	Navigating the environment easily is very important for user experience.

Subject 2

Usability Test Report #2			
Test Subject Name: Tiffany **Test Subject Description: 20yo Psychology Major**			
Usability Test Question	**Subject Response**	**Learned from Response**	**How it Applies to the Game**
When you look at the screens, do you have a clear idea of what you're supposed to do?	I assume there would be a brief explanation of things when you hover over them with a mouse, so I think after a few minutes I could jump into things without much trouble.	Make sure we have some descriptions for tooltips for the toolbars.	With some users, you can make up for not being able to be very descriptive in the toolbar itself with tooltips.
Are all the icons and visuals self-explanatory, and if not, which ones are not?	I have no idea what the icons around the wheel in the main menu would be for.	Re-examine the clarity of the main menu icons.	If a menu chooses to not use text, the visuals have to be extra clear.

What is your overall impression of the screens aesthetically?	The blue in the simulation screen is a bit hard to look at, and the stylized heading font should be a little wider so it contrasts better with the background.	Need to tweak some of the colors and fonts for readability and such (already knew this).	Legibility and comfort trumps pretty.
Is there anything that is not on one of the screens that you would expect to be there for this sort of application?	The tool that's currently selected should be highlighted in some way to show you're using it.	Highlight the button of the tool currently in use.	A quickly checked visual indicator is easy to implement and will require less of the user's memory.

Subject 3

Usability Test Report #3			
Test Subject Name: Matt **Test Subject Description:** 20 yo male, GED & Modeling/Animation experience			
Usability Test Question	**Subject Response**	**Learned from Response**	**How it Applies to the Game**
When you look at the screens, do you have a clear idea of what you would do first?	Yes, similar to Maya. Tooltips would clarify.	Tooltips should be added to the UI mockups to add clarity.	A few examples of tooltips should be added to the current mockups to show how they would look and how much information they would contain.
Are all the icons and visuals self-explanatory, and if not, which ones are not?	The splash screen's options are unclear, but tooltips would help.	The splash screen's Options icons should be redone.	New icons are needed for the splash screen's Options menu.
What is your overall impression of the screens aesthetically?	Clean and organized format	Format should be kept the same as other elements change.	The current layout and format is understandable and does not need to change.
Is there anything that is not on one of the screens that you would expect to be there for this sort of application?	It should be clearer which tool is currently selected.	Tooltips should be added to all UIs to clarify icons' intended purposes (if icons are not already clarified).	Tooltips should share the same aesthetic and similar levels of information.

Subject 4

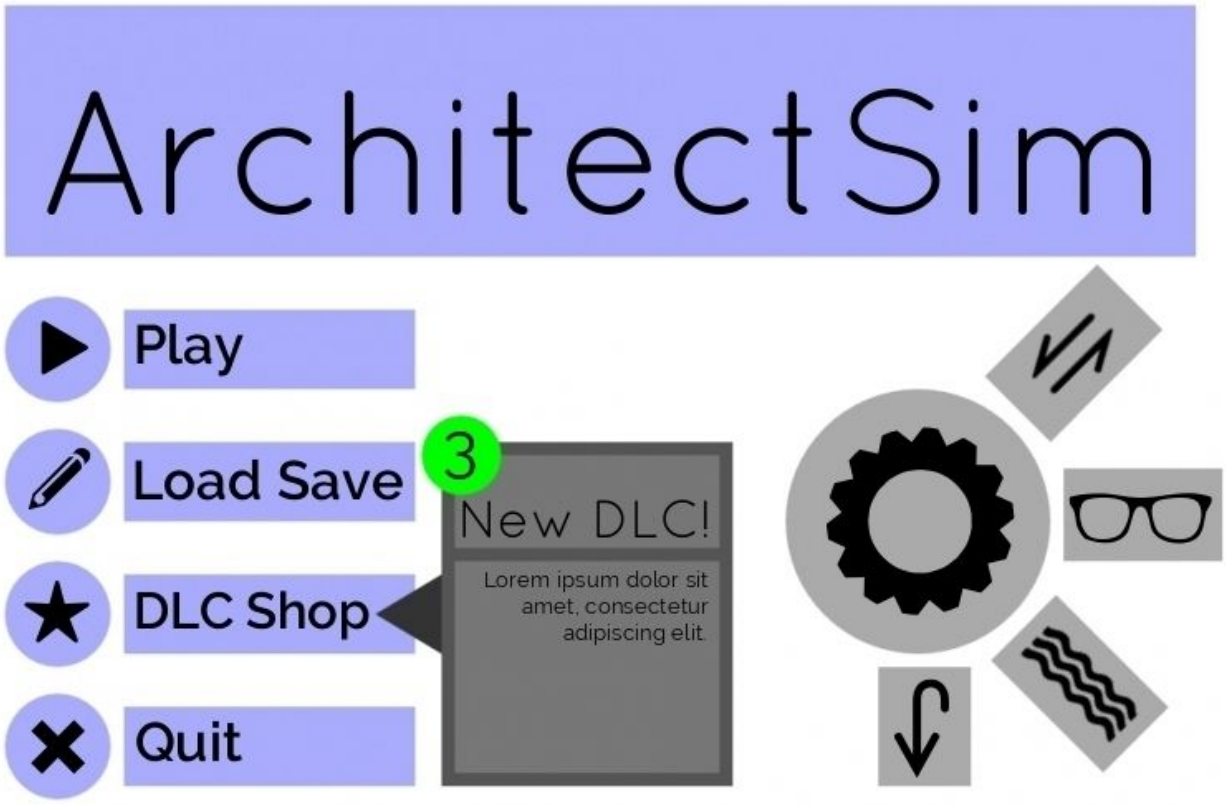
Usability Test Report #4			
Test Subject Name: Ian **Test Subject Description:** 19 yo male, Game Dev major			
Usability Test Question	**Subject Response**	**Learned from Response**	**How it Applies to the Game**
When you look at the screens, do you have a clear idea of what you would do first?	Sometimes. The Title Menu is simple enough that it's obvious, but the Module Editor looks complicated.	UI's complexity varies widely from screen to screen.	Screens need to be adapted to keep generally the same level of complexity.
Are all the icons and visuals self-explanatory, and if not, which ones are not?	Some of the icons are obvious, but many of them look the same. I would have to play the game first to learn what they do.	Icons are not all self-apparent and players need a way of finding out what they do besides testing them.	Tooltips would be very helpful in describing the tools' functions beyond icons.
What is your overall impression of the screens aesthetically?	The screens don't look like they go together. The title menu is really simple, and the others have different color palettes and layouts.	The screens need to keep the same palette and aesthetic to keep confusion minimal.	We need to choose one palette and aesthetic and stick with it, rather than having a "general" color choice and aesthetic.
Is there anything that is not on one of the screens that you would expect to be there for this sort of application?	I'm not sure. I would want to play the game first.	Game functionality needs to be more obviously apparent to the player.	Tooltips, tooltips, tooltips. Icons should be refined and the nondescriptive ones thrown out.

Usability Test Conclusions Report

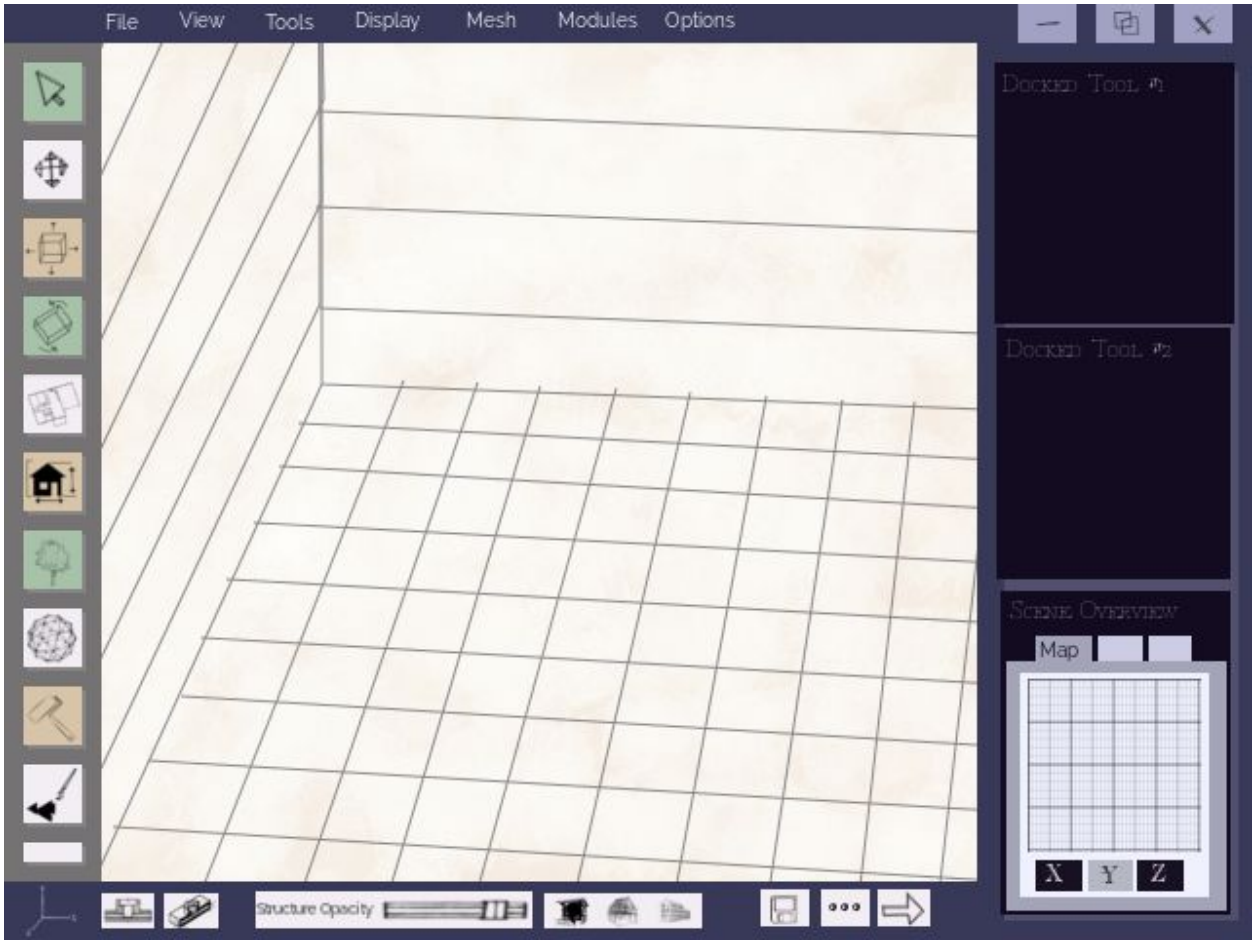
Usability Test Conclusions Report		
Usability Test Question	**Learned from Response**	**How it Applies to Game**
When you look at the screens, do you have a clear idea of what you would do first?	Not every screen is minimalist, but the current level of complexity is good. The icons are not the most clear.	The current layout of the screens has enough
Are all the icons and visuals self-explanatory, and if not, which ones are not?	The Options icons on the splash screen must be changed. Users want tooltips for all of the tools.	We need to add tooltips and change the Options icons.
What is your overall impression of the screens aesthetically?	The screens are not similar enough aesthetically to hold together, but look good individually.	We need to redo the palettes and minor parts of the aesthetics of the screens to create unity.
Is there anything that is not on one of the screens that you would expect to be there for this sort of application?	The responses were specific suggestions: sliders for the cameras and highlighted tools when selected.	These suggestions can easily be implemented into the current UI without changing the layout or format noticeably.
Notes: Overall, the UI needs to focus on these improvements: - choose one palette/aesthetic and conform the screens to this - implement tooltips - implement camera slider - implement highlighted selected tools - redo Options icons		

XI. Rough Mockups

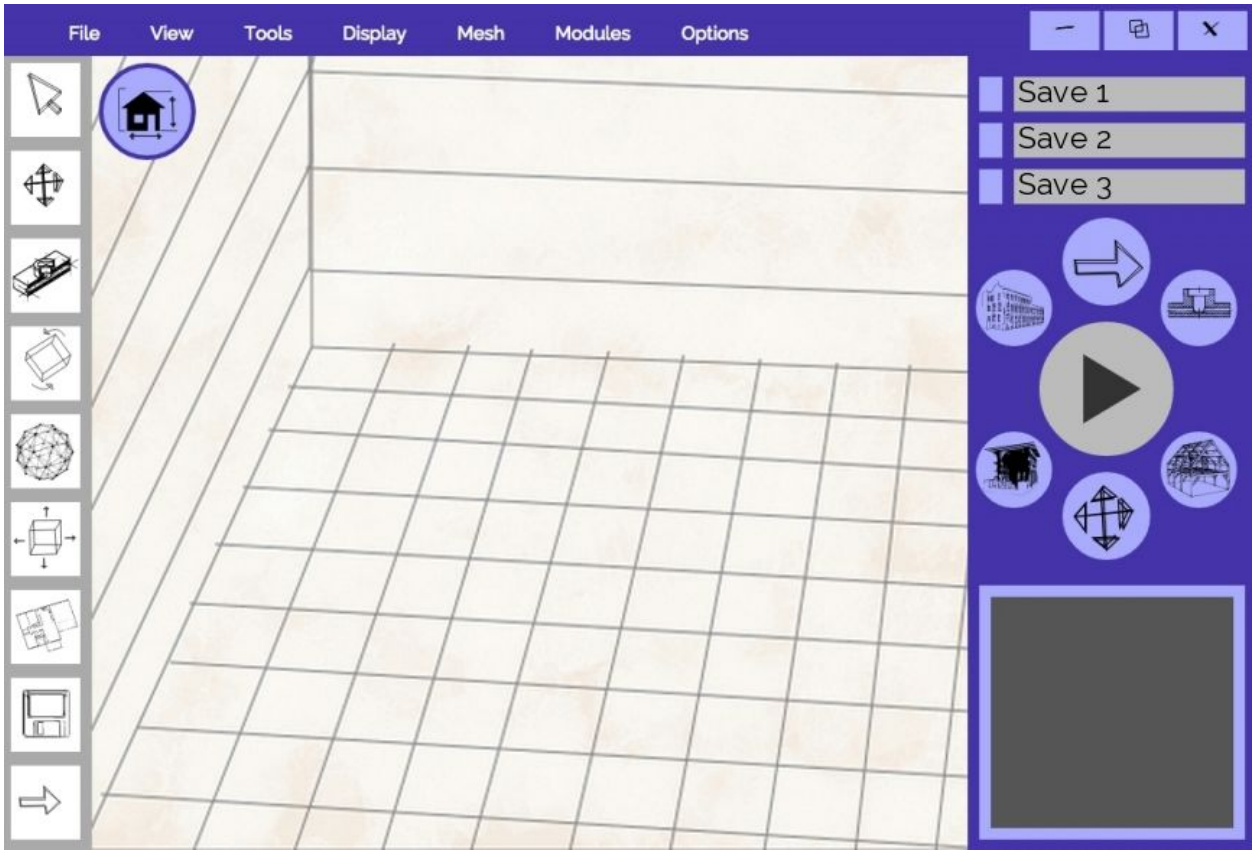
Title Screen



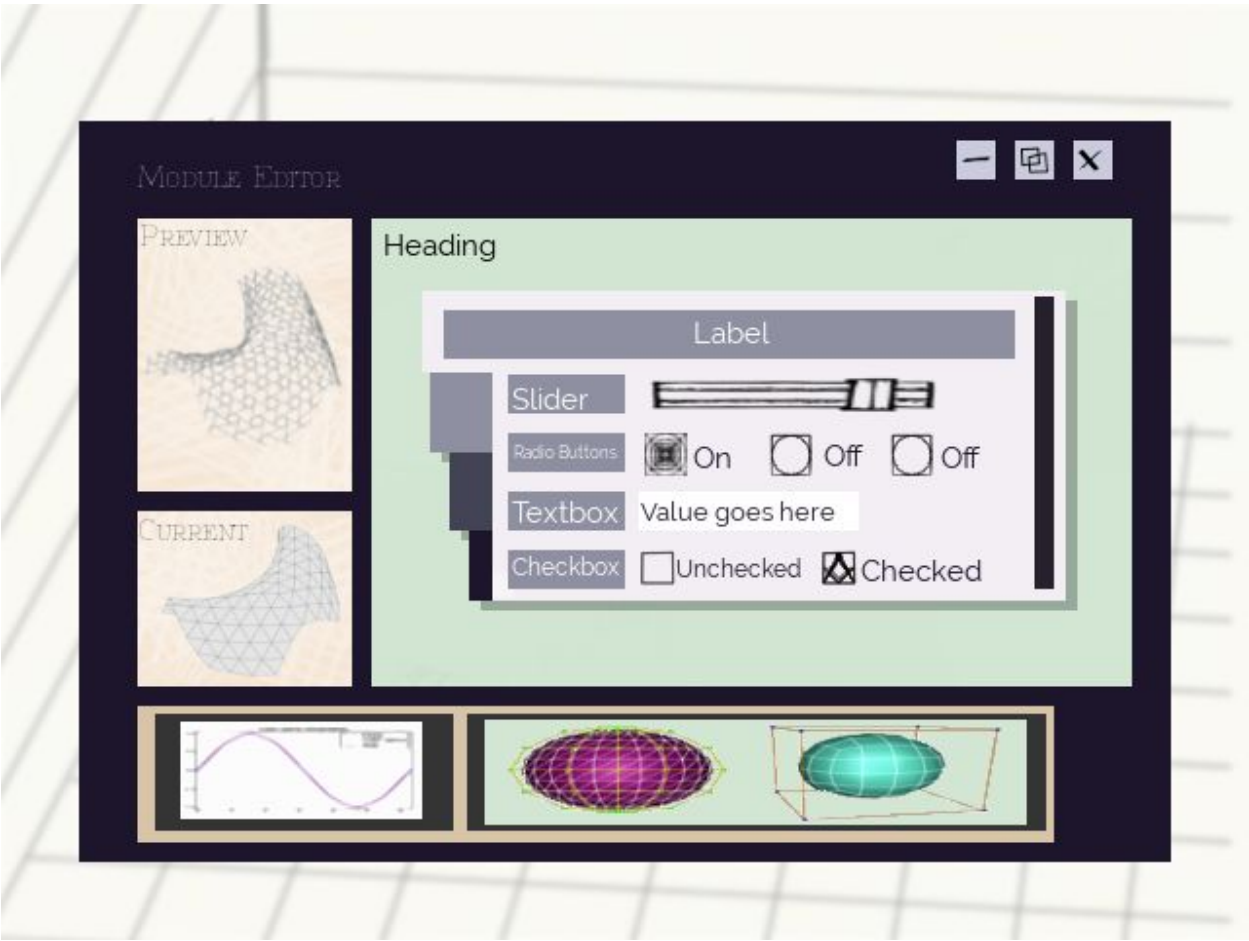
Construction Environment



Simulation Environment



Module Editor



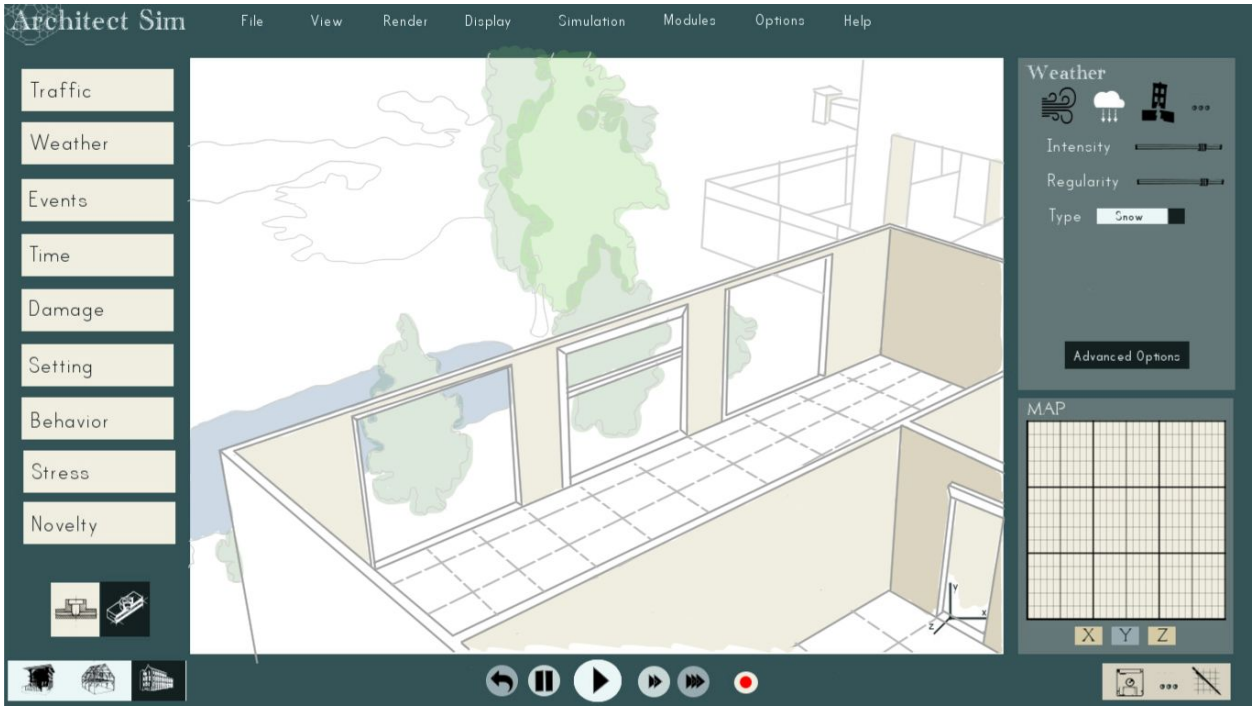
XII. Critique Report

Critique Report		
Category	Critique	Actions Based on the Critique
Structure	"... the title's layout… doesn't match the rest of the UI."	Title screen has been changed to match overall UI layout.
	"The construction screen is missing its button to switch to the simulation screen."	Construction/Simulation screens have been made more cohesive.
	"Lots of buttons! I don't know what all of them do."	Button icons have been reworked to be more obvious.
Ease of Use	"It's a bit hard to read the mesh info."	Module editor's layout now prioritizes significance of contents by size/positioning.
	"The title screen's options don't make sense."	Title screen has been simplified.
	"The different color palettes are confusing."	All screens share a color palette.
Positive feedback	"I like the title's layout…"	Title layout was made more minimal to prevent confusion.
	"There's a lot of functionality."	Functionality has been kept.
	"I like."	All content without negative feedback has been kept as similar as possible.
Other notes, comments, conclusions: Our biggest issue when creating the rough mockups was having two people working separately on different screens, which generated the majority of negative critique (different palette values, marginally different layouts, different texturing and element sizing).		

XII. Final Mockups

Title Screen

Construction Screen



Simulation Environment

Module Editor