#### Team:

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<u>Title:</u> AstroExplorer: Voyage Home

<u>Project Summary:</u> A 2D strategic resource gathering game that follows our protagonist as he mines surrounding asteroids for resources, searches for treasures, and attempt to fix his ship to return home.

# **Project Requirements:**

#### **Business Requirements**

This project does not have any business requirements.

<u>User Requirements</u>							
ID	Requirement	Topic Area	Actor	Priority			
UR-01	As the player, I want to be able to mine resources as I move through asteroids.	Player Controls	Playe r	Critical			
UR-02	As the player, I want to be able to move through space with my jetpack.	Player Controls	Playe r	Critical			
UR-03	As the player, I want to be able to monitor my health, oxygen and fuel levels	UI Controls	Playe r	Critical			
UR-04	As the player, I want to be able to choose between starting a new game or loading a save	UI Controls	Playe r	High			
UR-05	As the player, I want to be able to refuel and restore health and oxygen at the space ship	UI Controls	Playe r	High			
UR-06	As the player, I want to be able to upgrade and create new equipment from the workstation.	Player Controls	Playe r	Medium			

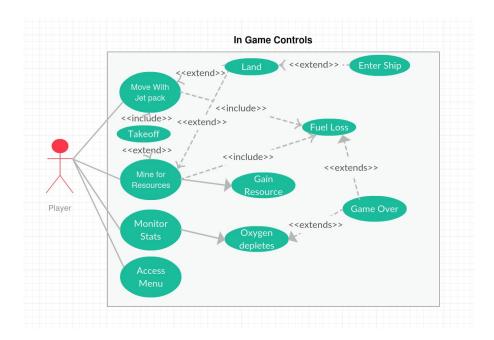
UR-07	As the player, I want to be able to save the state of the game.	Player Controls	Playe r	High
UR-08	As the player, I want to be able to exit the game and go to the main menu.	Player Control	Playe r	High
UR-09	As the player, I want to be able to fix my ship and win the game.	Player Control	Playe r	Medium

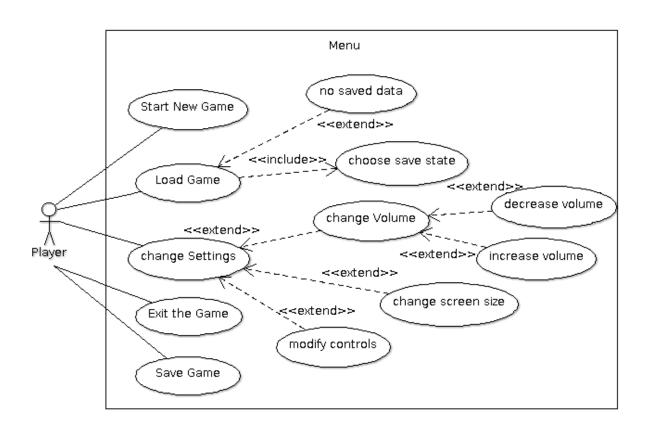
Non-Functional Requirements							
ID	Requirement	Topic Area	Priority				
NFR-01	If the player's health, or oxygen reaches zero, the sprite is terminated.	Performance	High				
NFR-02	The game can run at a consistently high frame rate	Performance	Medium				
NFR-03	The game should perform identically, without errors, across different platforms	Consistency	Medium				

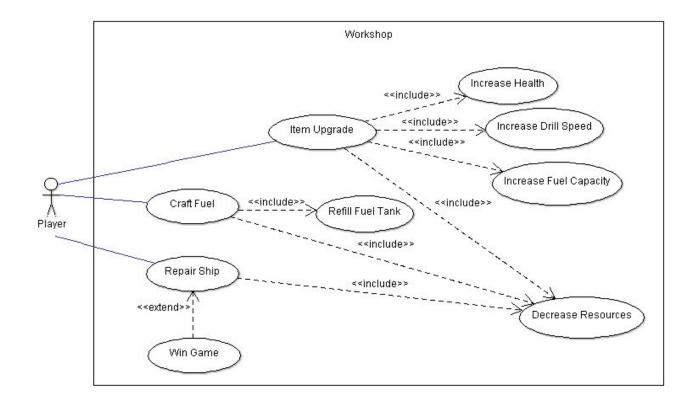
#### **Use Cases:**

# **Overview & Diagrams:**

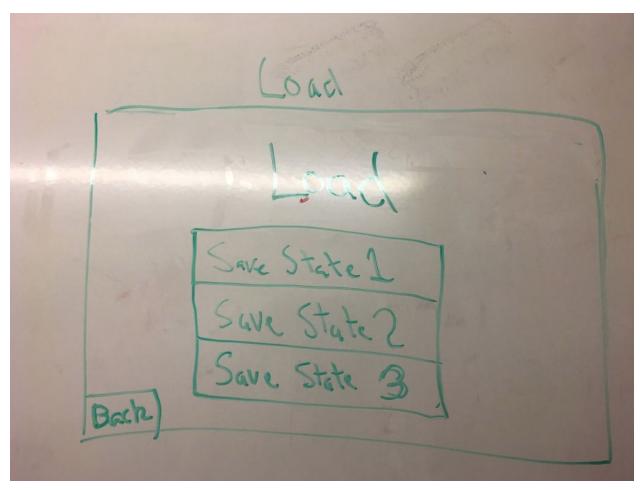
- UC-01 Mine for resources
- UC-02 Move with Jetpack
- UC-03 Monitor Statistics
- UC-04 Access Menu
- UC-05 Start New Game
- UC-06 Load Game
- UC-07 Change Settings
- UC-08 Exit Game
- UC-09 Item Upgrade
- UC-10 Craft Fuel
- UC-11 Repair Ship
- UC-12 Save Game



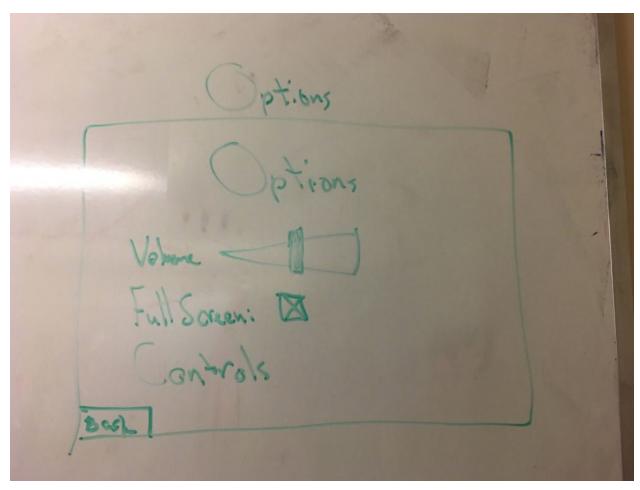




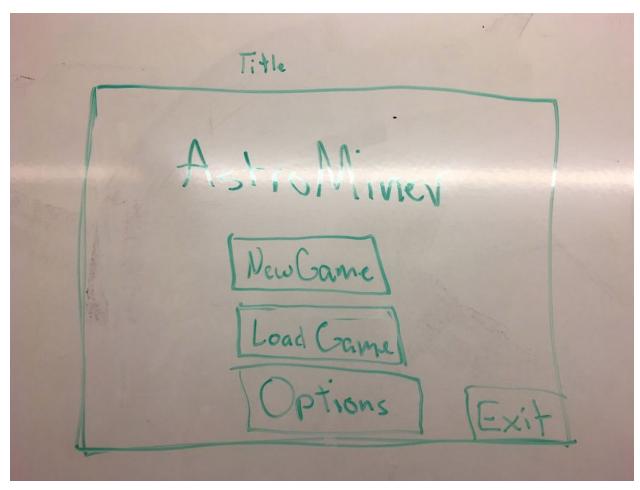
## **UI Mockups:**



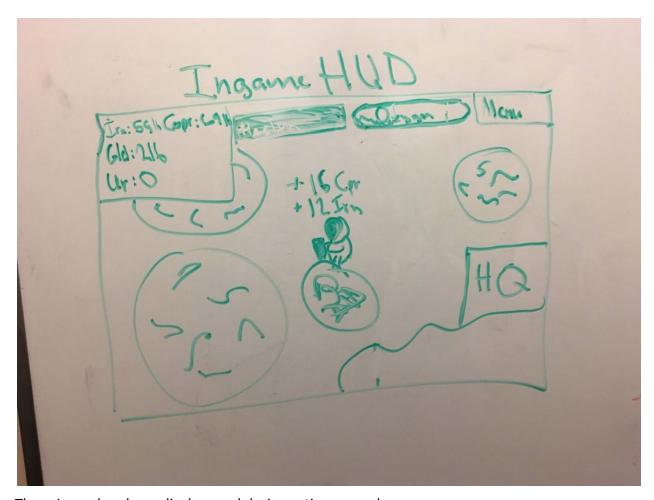
The save state loading screen sub-menu.



The settings option screen.



The primary home screen/menu of the application.



The primary heads-up display used during active gameplay.

## **Data Storage:**

Engine Type: SQLite 3

Objects:

- Game state
  - Map state
  - Player statistics
  - Progress state
- Game settings

Class Diagram:

