

Team:

- David Kleckner
- Evan Su
- Michael Xiao
- David Munson

Title: AstroExplorer: Voyage Home

Project Summary: 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.

User Requirements

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	Player	Critical
UR-02	As the player, I want to be able to move through space with my jetpack.	Player Controls	Player	Critical
UR-03	As the player, I want to be able to monitor my health, oxygen and fuel levels	UI Controls	Player	Critical
UR-04	As the player, I want to be able to choose between starting a new game or loading a save	UI Controls	Player	High
UR-05	As the player, I want to be able to refuel and restore health and oxygen at the space ship	UI Controls	Player	High
UR-06	As the player, I want to be able to upgrade and create new equipment from the workstation.	Player Controls	Player	Medium

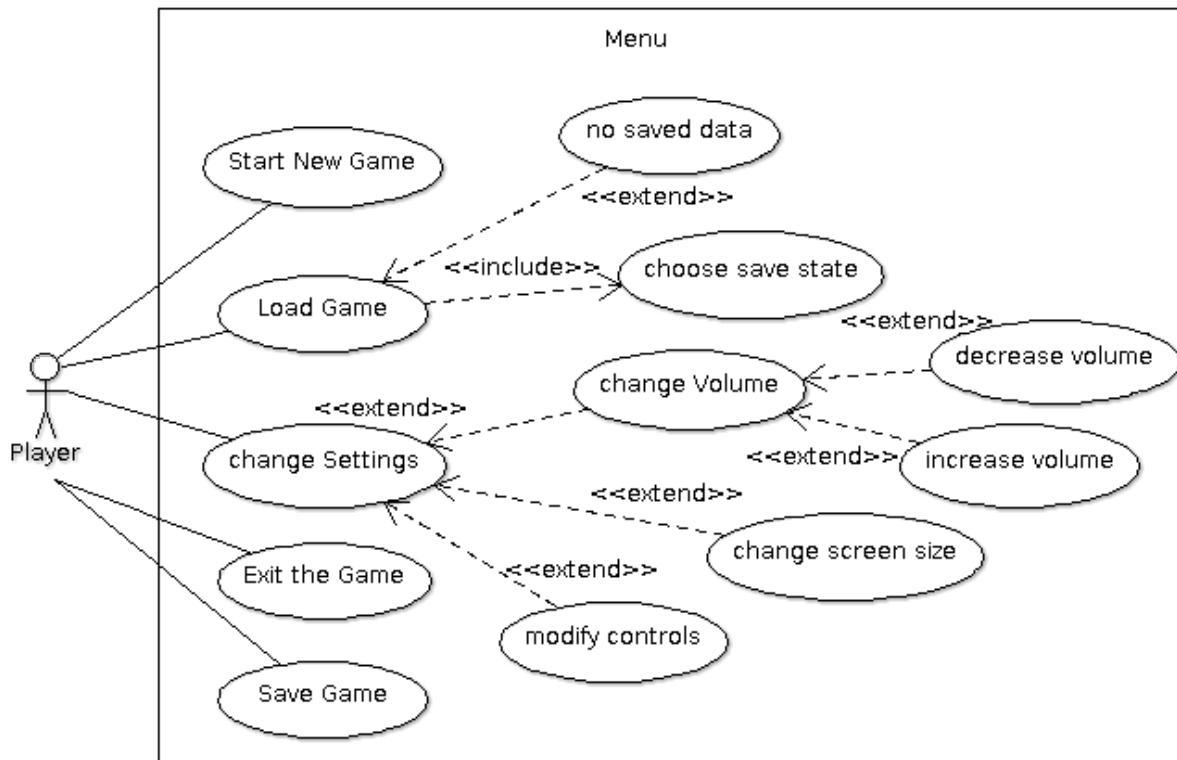
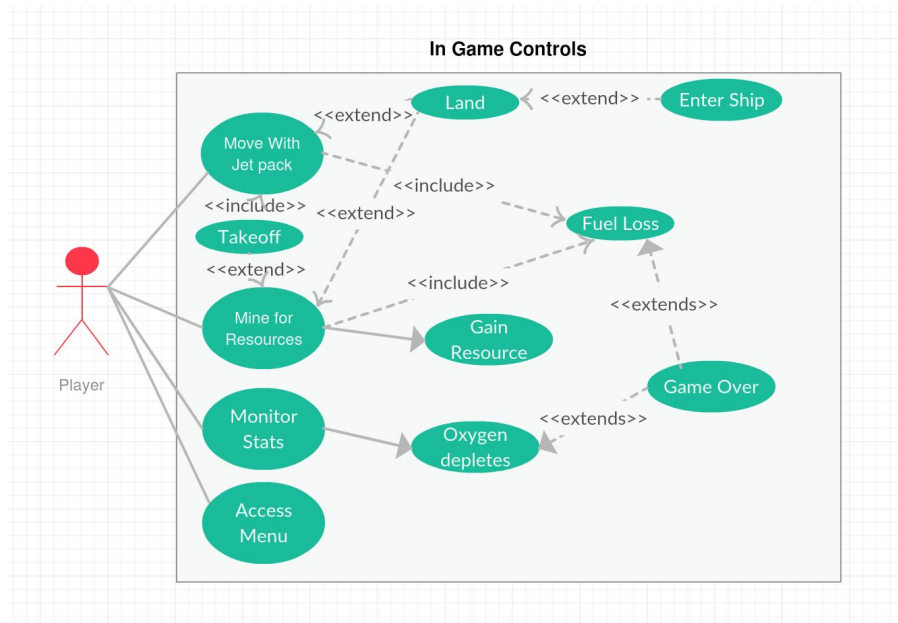
UR-07	As the player, I want to be able to save the state of the game.	Player Controls	Player	High
UR-08	As the player, I want to be able to exit the game and go to the main menu.	Player Control	Player	High
UR-09	As the player, I want to be able to fix my ship and win the game.	Player Control	Player	Medium

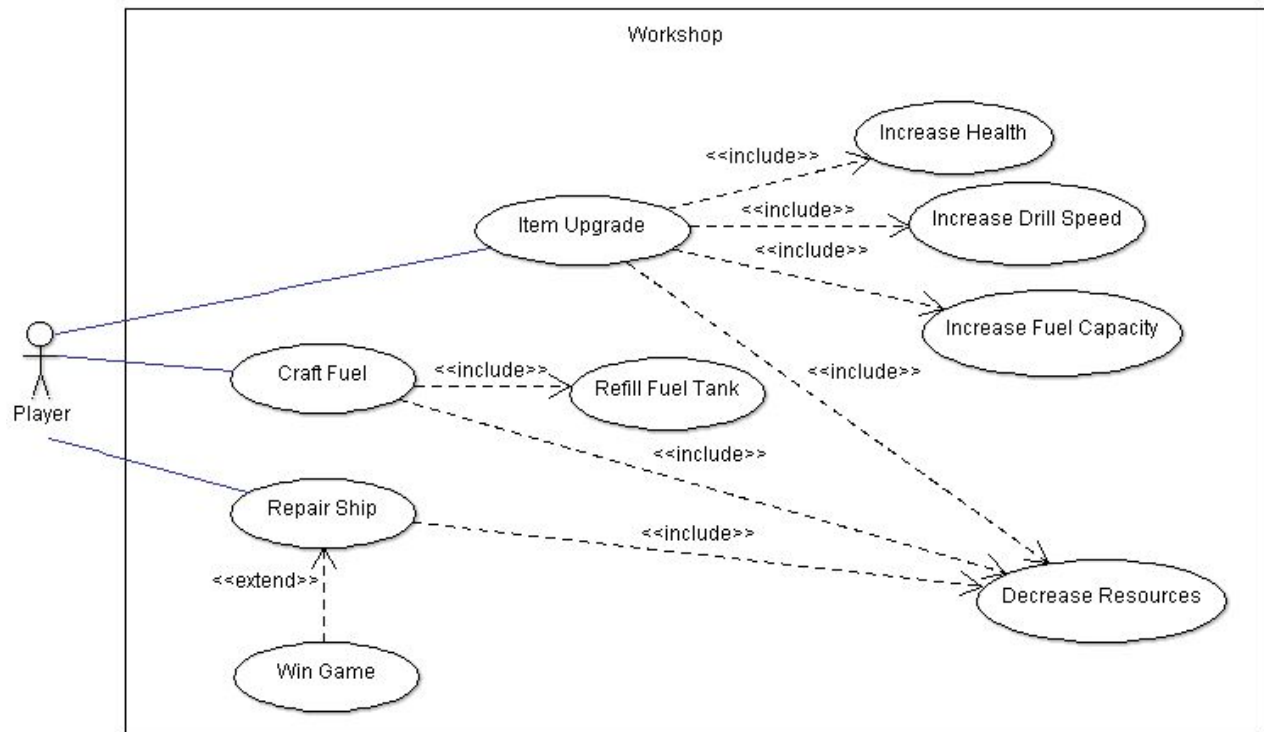
<u>Non-Functional Requirements</u>			
ID	Requirement	Topic Area	Priority
NFR-01	If the player's health, or oxygen reaches zero, the sprite is terminated.	Performance	High
NFR-02	The game can run at a consistently high frame rate	Performance	Medium
NFR-03	The game should perform identically, without errors,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

Use Cases:

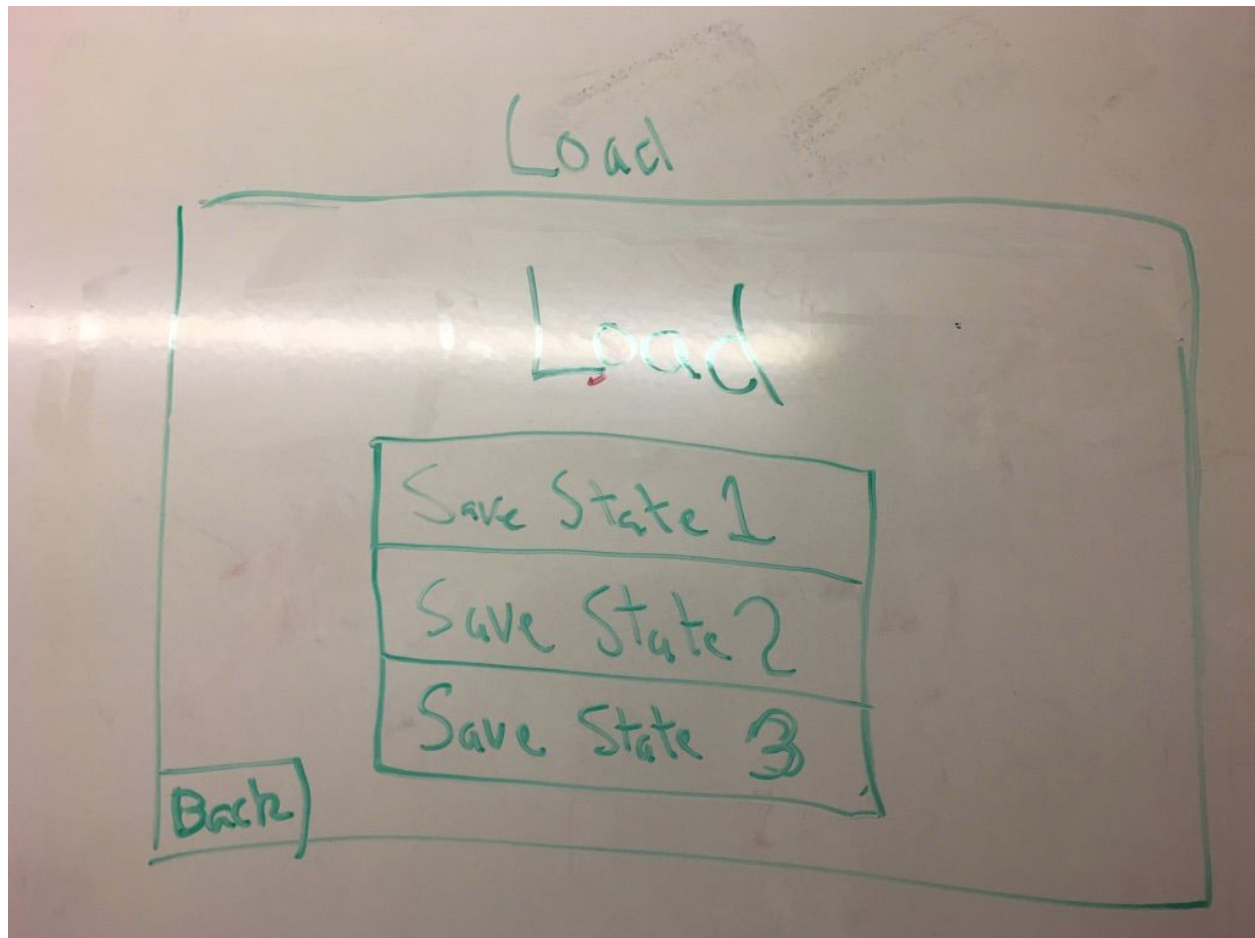
Overview & Diagrams:

- 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

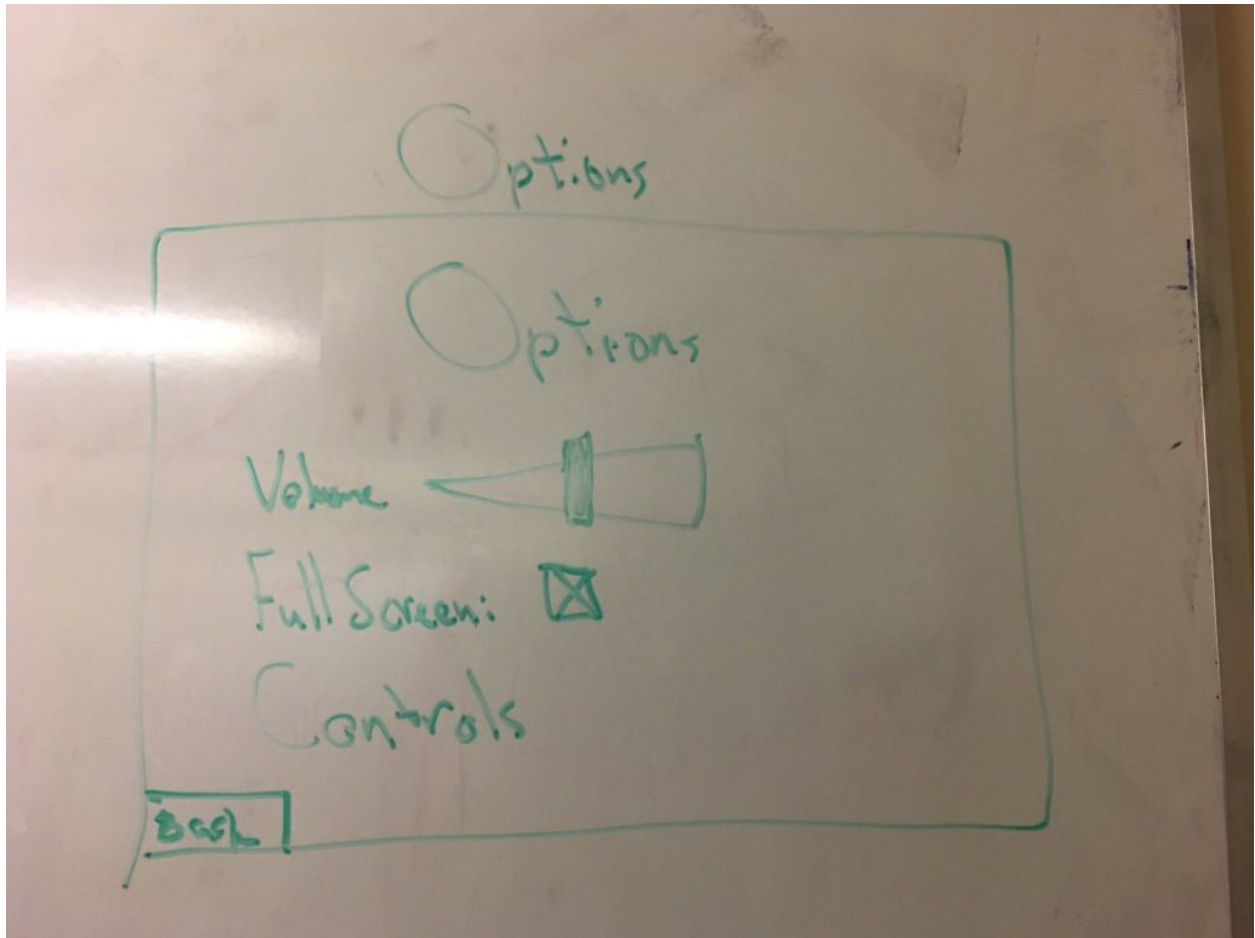




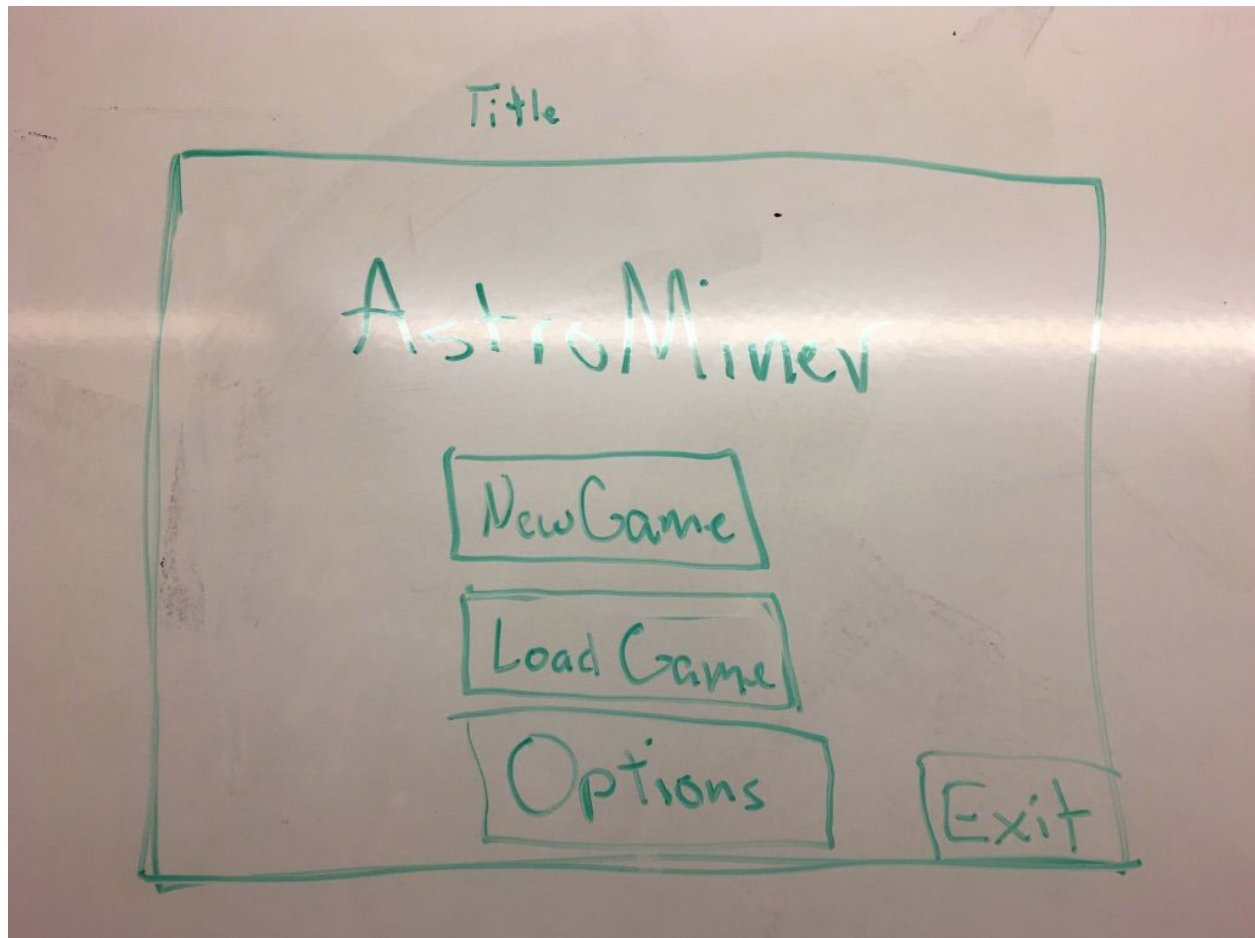
UI Mockups:



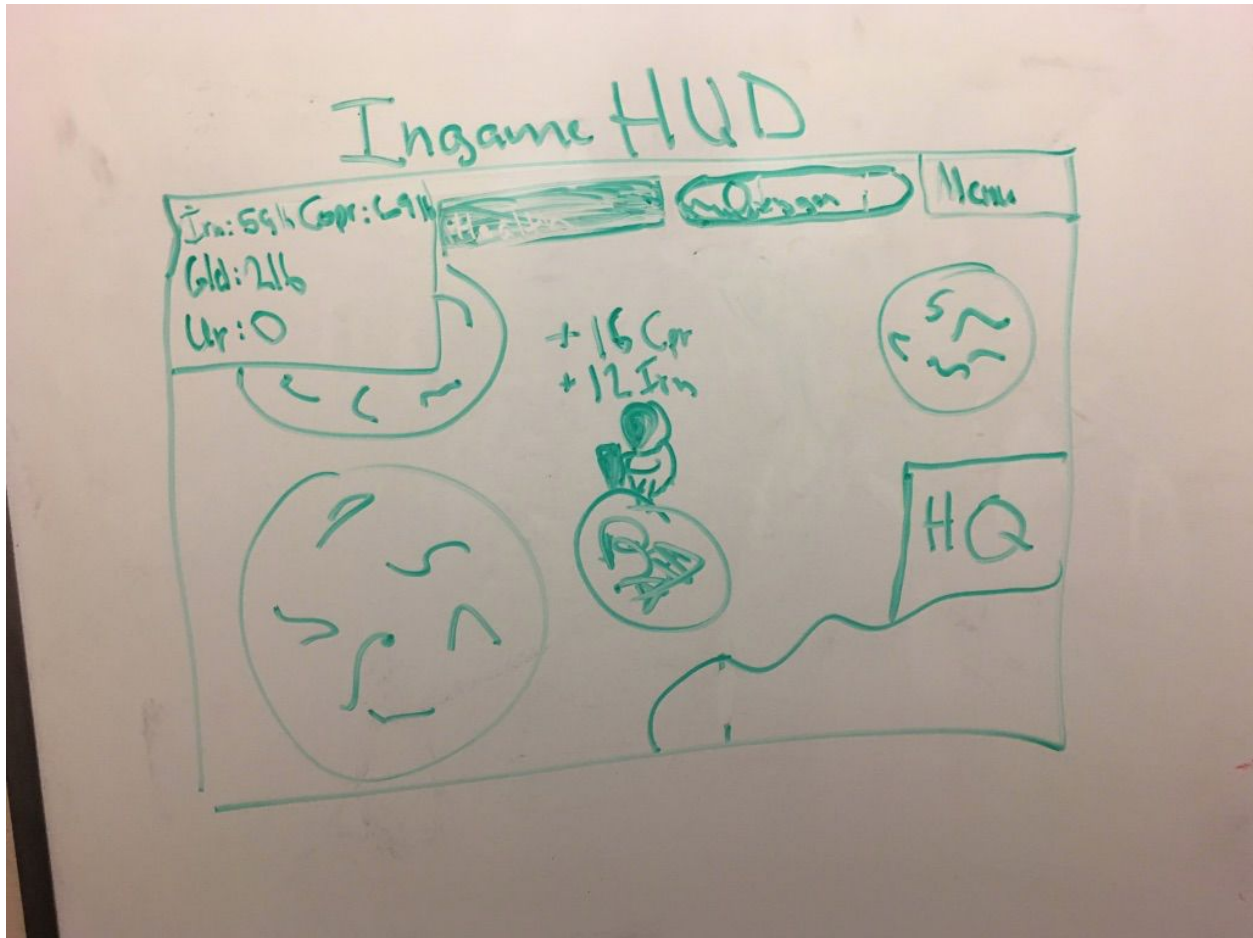
The save state loading screen sub-menu.



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:

