Design Specification

Game Summary

* Objective(s).

Player controlled tank vs enemy tanks which move through a maze towards the player’s base, located in the centre. The Player must shoot the enemy tanks and defend their base; otherwise, its game over!

* Rules.

Player wins if they destroy all the tanks.

Player loses if they die or if their base is destroyed.

* Game play.

The player has control of a tank, which he uses to defend the base of the enemies (AI controlled). The player and the base have health stats, if either of them reach zero, the player loses. The enemies spawn in incremental waves; the first wave spawns five enemies, and increments by one if the player successfully destroys all of them. The priority of the enemy is the player’s base, so they will primarily move towards the base and if the player is within certain range they will shoot.

Research

The research for references only comprehended three games: Battle City, 1985 for NES, Tank Trouble Online in 2007 and Tanks for Nintendo Wii in 2006. This three games provided sufficient material to start brainstorming for ideas.

The game Battle City provided the most material for brainstorming. It was a simple one or two player game, where the aim was to defend your base of the enemy AI. The enemy AI itself was way too easy, so we decided to upgrade it using A\* for the AI with priority on shooting the player’s base over the player. Tank Trouble and Tanks Wii gave us idea for extra implementations we could do to flesh out the game.

We used quick brain storming on paper (Fig.1), to get ideas to implement as core game objectives and expansions to add to it.

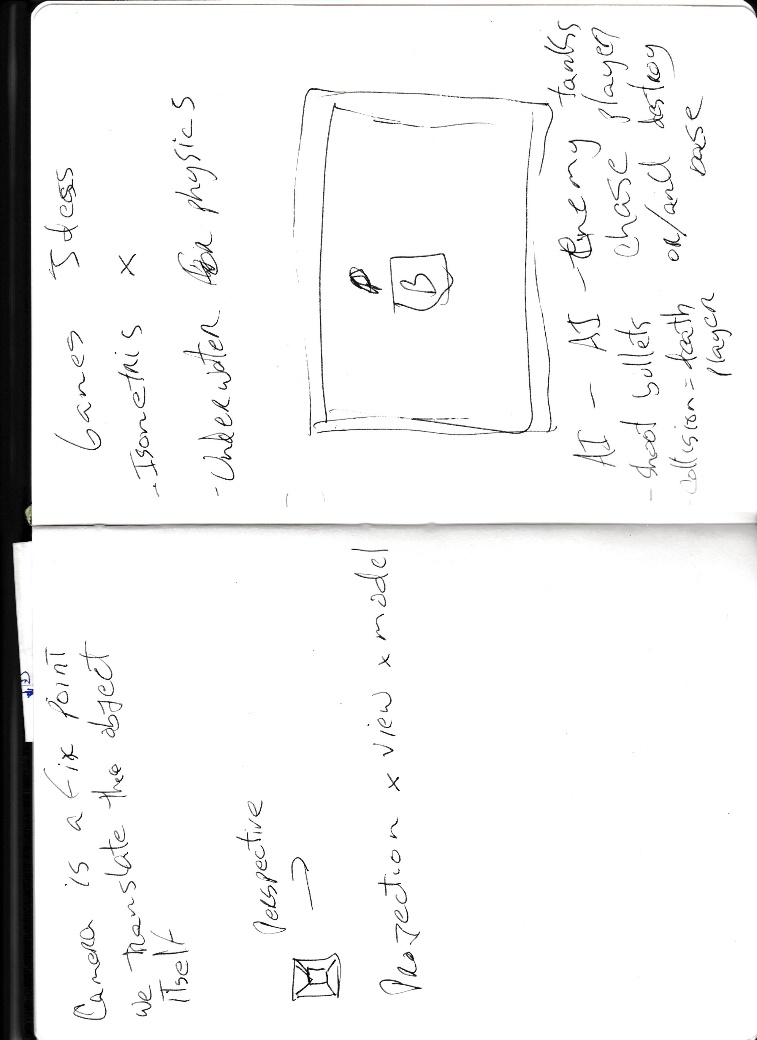
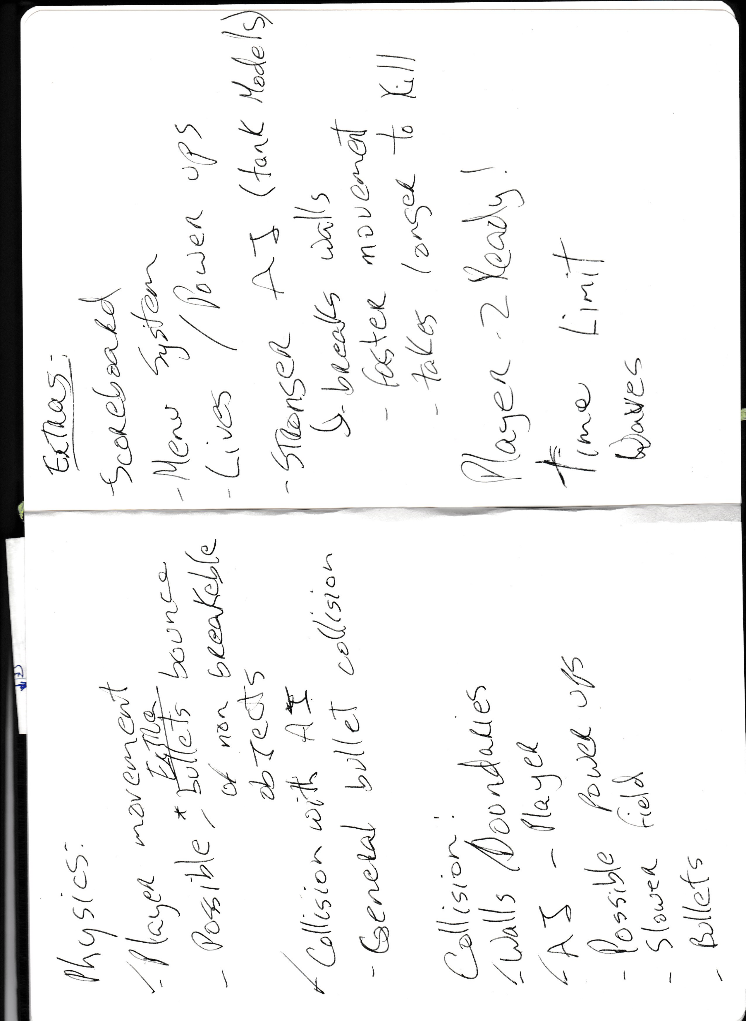


Fig.1: Brainstorming

Screen/Level Map

Map Size: 32 x 32 tiles.

1. Helicopter: Is a barrier which the enemy or the player can’t go through but can shoot through.
2. Humvee: Is a barrier which the enemy or the player can’t go through but can shoot through.
3. Base: Player’s base. It has a health pool of 100, but takes less damage than the player. If it reaches zero, the player loses.
4. S1, S2, S3, S4, S5: Spawn points for the enemies. They are selected randomly each time a new wave of enemies spawn.
5. B1, B2, B3: Just like the helicopter and Humvee, this are barriers which the enemy and the player can’t go through but shoot.

Implementation Specification

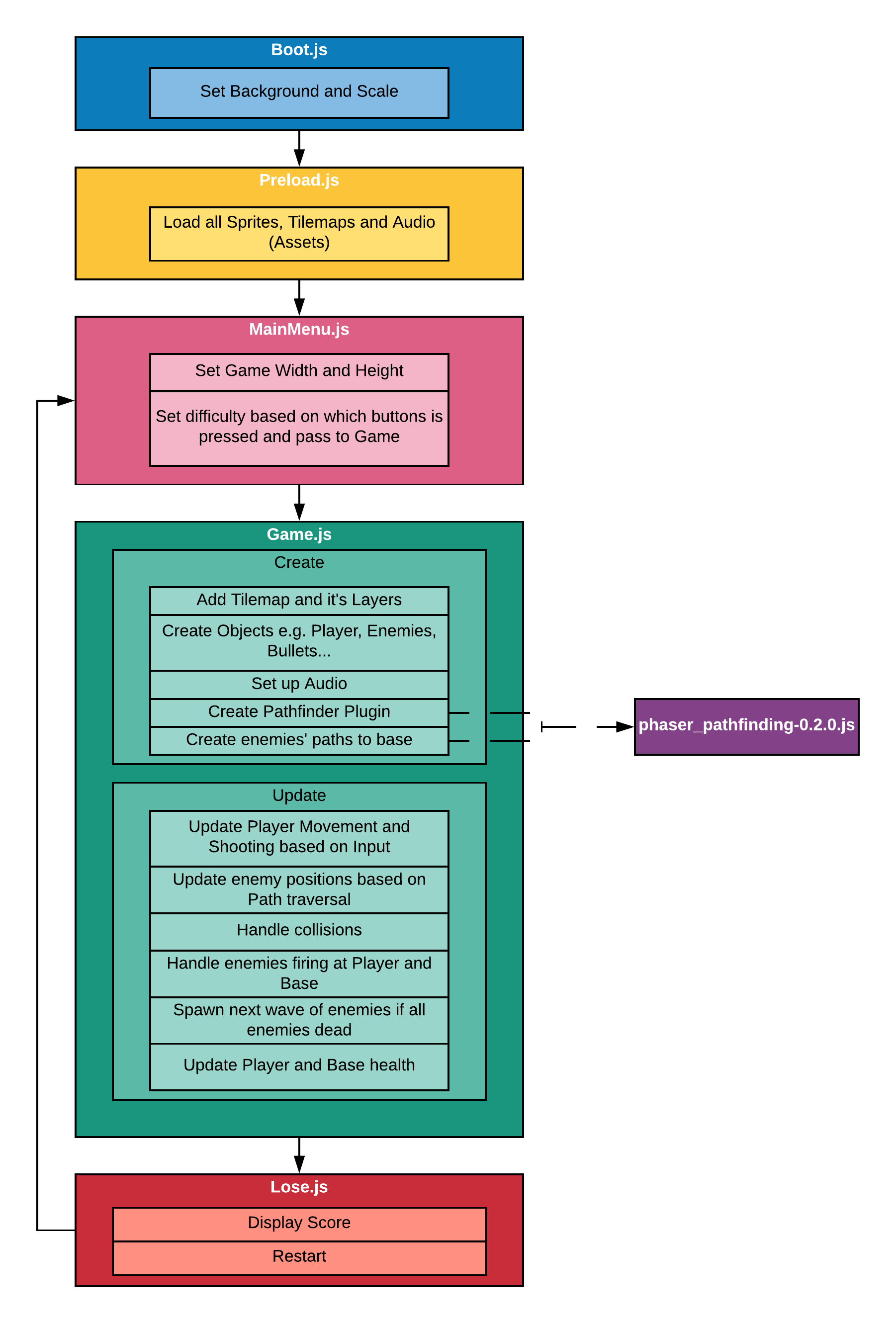
Where appropriate, provide clear explanations of the data structures and code used within game. These should include:

* Functions/Objects

Describe any functions or objects that have been used to implement the game (eg a player object).

* Code Structure

Document the overall flow of the code and where it is located within the source file(s).



* Assets**:**

Describe significant assets that are used within the game, particularly any assets that you created yourself.

Obtained: Vehicles, Projectiles, Environment, Animations, health bar

Produced: Logo, main screen, lose screen, menu buttons, base health bar, audio (modified), Level, loose

* Implementation Evaluation

Provide a summary of the strengths and weaknesses of the technologies (platforms/frameworks etc) that you used to implement your game.

Chrome sound fix

* **References: You must clearly identify the source of any code/assets that you did not create**
* Appendix 1

Game Concept Presentation.

* Appendix 2

Any further design sketches, background information, research that you wish to submit.