

## **Micro Machines - Project plan**

### **Project functionality and features**

In this project we will create an racing game similar to games such as micro machines and death rally. We have agreed on an initial scope for the features to be implemented.

#### **Basic features:**

- Basic gameplay with simple driving physics and multiple players
- Multiple tracks loaded from files
- Game objects which affect gameplay
- Fun gameplay =) (we can't guarantee this)

#### **Additional features:**

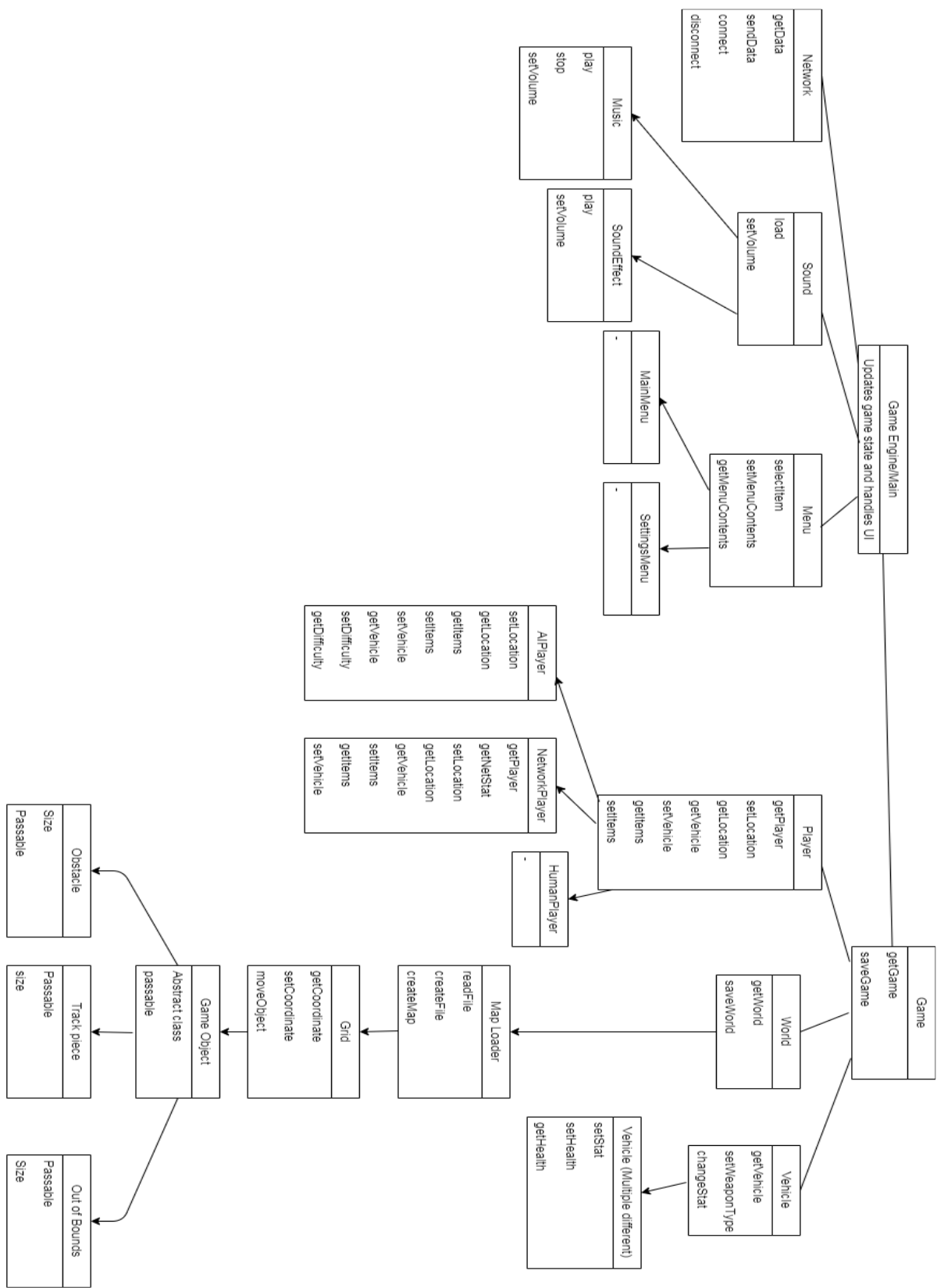
- Different car handling
- Different kind of vehicles
- Weapons
- Sound effects
- Random generated levels
- Network multiplayer

In addition to these features we will also try to implement as many other features as possible from the list given in the project topic description. (If we have extra time)

Structure:

This is an image link of the structures UML diagram:

<https://imgur.com/a/o35Echo>



To our current understanding these are the main modules and classes for the project. We have separated the menu, network and other miscellaneous classes to the game engine/main side. All of the actual game features are under the game module. It holds all of the different classes for game objects, such as the players, vehicles and the actual game world/map.

### **Libraries:**

- SFML
- Box2D

These libraries we are going to use for creating the game physics and graphics. SFML will help us with the UI and Box2D with the game physics.

In addition to these libraries, we will attempt to find other useful libraries

Most likely new libraries will be added, but currently we haven't found any other useful libraries.

### **Responsibilities:**

Each member of the team is responsible for one main category and additionally is required to help every team member. Additionally, each team member is required to review and fix other team member's pull requests. This way we can have an extra layer for quality control.

The responsible areas for each member:

<b>Antti</b>	-	Networking and Input Handling/General assistance
<b>Juho</b>	-	Graphical and UI implementations
<b>Anton</b>	-	Vehicles and their accessories
<b>Oskari</b>	-	Map and General World Engine

Generally every person is responsible for each of these implementations, but due to the progress path of our project, we most likely help each other during the implementations. For example, Oskari has done his map and game engine implementations, therefore he could help Anton and Juho with their category. Additionally, new features might be implemented, if we have the time and motivation. If this is done, we'll allocate a person to do this feature.

## **Planned schedule:**

### **Week 29**

For this week we will be focusing on making our plan and brainstorming ideas on different structures and features we want to implement. We will be discussing about the schedule for the project and how we will divide the work.

### **Week 30**

This will be the first week of actually starting to work on the project and its basic features. Mainly focusing on the map and basic vehicle implementation. The final goal is to get some kind of graphical output of a vehicle moving in a map, within the game window. We also would like to have preliminary map loading in the game so we could actually have some output for us to see.

### **Week 31**

This week we will be focusing on the different vehicles and the implementation of their handling. Basically we will get some of the additional general features implemented and try to get the previous weeks preliminary map to work as planned. Some basic input for the vehicles for driving and maybe shooting at this point.

### **Week 32**

On this week we will be mostly focusing on the UI and different menus for the game. Adding settings pages and different functionalities in the menus. In addition to the UI, we will be focusing on fine tuning the car features and inputs for them.

**Week 33**

Creating the network features and random created levels, mainly focusing on the more advanced features as we expect to be done with the basic features at this point. However if we are not finished with the basic features of the game, we will focus on those as they have a bigger priority in the project.

**Week 34**

Reserve time for checking everything and focusing on polishing features, also giving ourselves some reserve time if something is not working correctly. This will give use time to fix these bugs and larger issues if any are present. However if everything is working correctly, this week will focus on additional features and polishing the game to look more presentable.

**Week 35**

This is the final week for the project as the deadline is on 28.8.2020. We will be focusing on final tests and making sure that everything is implemented properly and the features we want, have been added.