

# "Shootout" - Advanced project

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2024-02-02

## Objective and Requirements.

The point of our project is to program a game where you as a player have a goal to battle against an enemy in a shootout by trying to shoot them down while also trying to avoid their oncoming attacks by moving around vertically on the screen. The main *must* requirements for the game are the following:

- The user must be able to control the game with the buttons on the ChipKIT board
- The game must support multi-player mode, a scoreboard, and health bars
- Single player mode against a bot with different difficulty levels

Optional features that may be included, if time allows:

- Power up abilities
- Player model customization

## Solution.

Our game will be designed to run on the ChipKIT Uno32 platform with input and output handled by the ChipKIT Basic I/O Shield. The OLED screen of the Basic I/O Shield will be used for displaying the graphics.

## Verification.

We plan to verify our game mechanics by adjusting certain values in for example player speed & hitboxes, the bullet's size, speed, and damage, and the player's capabilities regarding power ups. By doing this we can experiment with what pace and feel our game's experience should have. We intend to create a list of test cases with the most vital parts of the game such as the player being able to move, shoot, and to register that a collision between a player and bullet has been made.

## Contributions.

We plan to divide the work in equal parts among the group members. Neo will mostly focus on the graphics and UI whilst Johan will focus on the physics and game feel. However, we will both work in coordination with each other throughout the whole project, making sure we understand each other's code.

## Reflections.

In the final version of our abstract, we will reflect about and discuss how things took place in our project.