

# 8-Bit Boys

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Project Coin Collector

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**Introduction:**

Our project is an 8-bit video game where the user's goal is to collect as many coins as possible before time expires while avoiding an enemy. Power-ups will also randomly spawn in that the user can collect to help them. The user will only need to utilize the arrow keys to move anywhere they want. The game will consist of a start screen, game screen, and leaderboard screen where highscores will be displayed.

**Purpose:**

This project is going to solely be for fun. It is a simple video game that the user can enjoy playing and trying to get a high score.

**Platform:**

The program will run on a student laptop. All the user will need to run it is NetBeans.

**Audience:**

The target audience for this program is mostly kids, teenagers, and young adults. Older people that do not know how to play video games or those who are handicapped might not be able to use the program.

**Team Dynamic:**

We are using GroupMe in order to coordinate our group and schedule meetings at times when we are all available. Tom will be in charge of the schedule, and we are planning to meet twice per week. Jeremy will be in charge of the code. We will configure the project by splitting up the work of each element in the game. The code for the player, the enemy, and the coins and power-ups will be split amongst the three of us with one person working on each part. The start screen, the game screen, and the graphics will all be a shared effort between us.

**Detailed Description:**

- a. The project will be built using a Graphical User Interface.
- b. The program will process each frame, including the user's movement, spawning each coin, spawning each power-up, and the enemy and its movement.
- c. The user's score from each game will be stored in a separate file in the form of an integer. The top 5 high scores will be displayed on the bottom of the start screen.

**Classes:**

**StartScreen:** Displays a title screen welcoming the player and starting the game. Displays high scores given by FileInteracter.

**StartGame:** Displays the game screen at the start, including the background, coins, and the player and enemy's starting position. Will also occasionally display power-ups.

**GraphicsDisplay:** Implements a while loop to display the player character, enemy, and coins for each frame.

**Player:** Describes the behavior of the player character, including movement and controls.

**Enemy:** Describes the behavior of an enemy, including its movement.

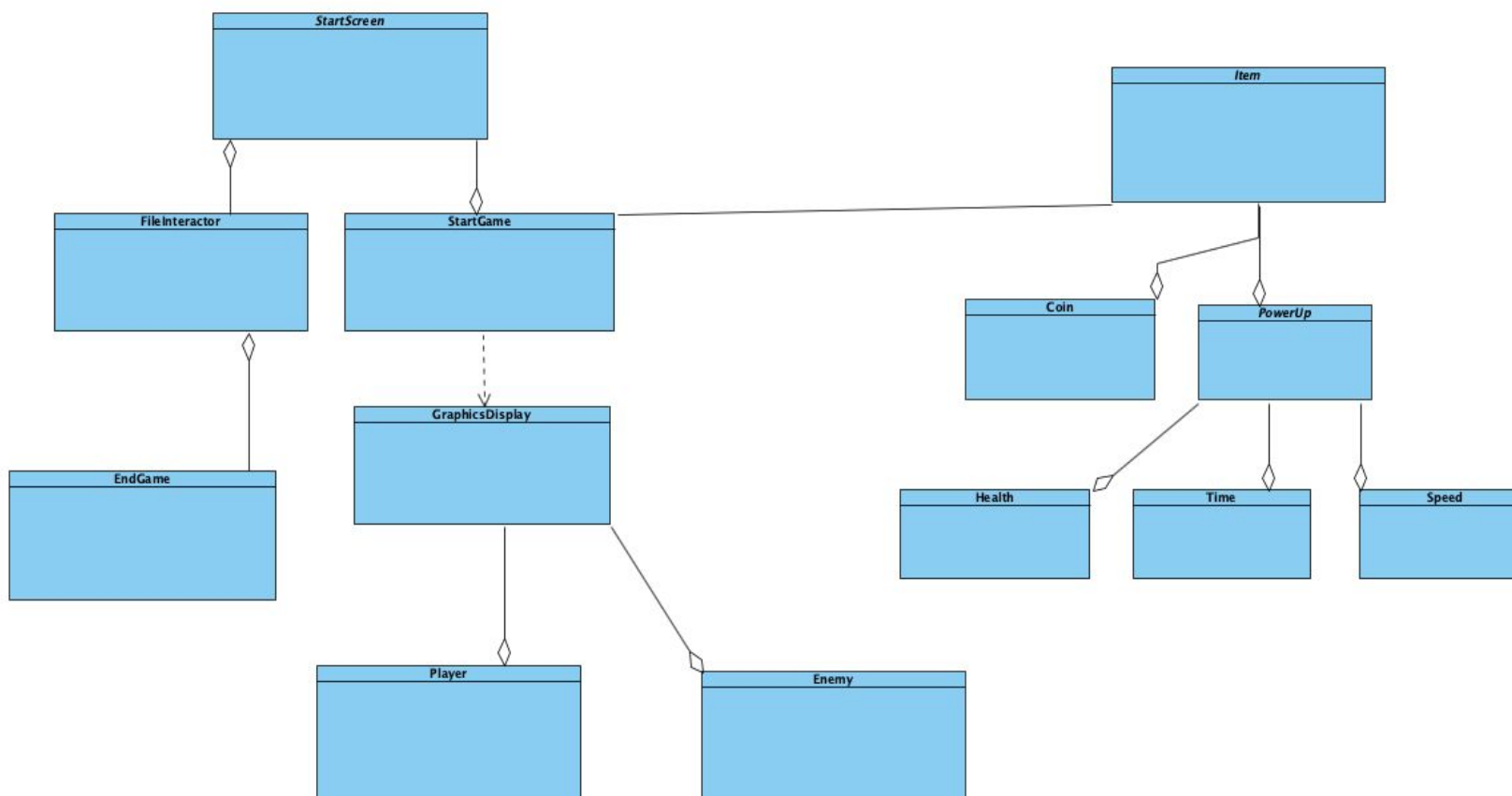
**Coin:** Describes the behavior of a coin. StartGame will instantiate many coins.

**PowerUp:** Describes the general behavior for power-ups. Different kinds of power-ups will inherit off this class. Power-ups alter player behavior when touched.

**FileInteracter:** Saves user scores to an external file, and reads scores to give to StartScreen. Implements the Adapter design pattern.

**Item (Abstract):** Coin and PowerUp both extend from this class. It implements the behavior they share, like the ability to get picked up by the player.

**EndGame:** Displays the text at the end of the game and sends the score to FileInteractor to be written to a file.



### 3. Purpose

This project