**Software Implementation and Testing Document**

**For**

**Group 8**

Version 2.0

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# Programming Languages (5 points)

We decided to use GDScript for all aspects of this project simply because it is the best way to interact with the Godot gaming engine.

# Platforms, APIs, Databases, and other technologies used (5 points)

We use the Godot gaming engine for every aspect of this project.

**3. Execution-based Functional Testing (10 points)**  
This kind of testing was the most common method throughout the project testing phase. This was used in various scenarios, such as testing the coin implementation logic to update every time the player collects a coin. It was also used to check whether enemies damaged the player and if the player was able to damage the enemies. Also, transitioning between levels required this type of testing to see whether the player met all the necessary requirements. Simple actions such as player movement and collecting items required this type of testing.

**4. Execution-based Non-Functional Testing (10 points**)  
While this type of testing was less common, it was still necessary to ensure the game functions properly. For example, transitioning between levels should be quick and not take longer than a few seconds, so we used this type of testing to verify scene transition speeds. Also, menus should appear almost instantly, requiring this form of testing as well. Testing performance and the speed and accuracy of actions also count under this type of testing, since we had to make sure the proper actions were being carried out when the player is attempting to do multiple things at once.

**5. Non-Execution-based Testing (10 points)**  
This form of testing did not require us to run the game but rather examine elements such as requirements, code, and design inside of Godot to ensure that we are working towards our intended goal. Although we were not able to implement all the requirements we had listed out at the beginning; we were able to implement the most important ones through this method of testing. We also reviewed level layouts to confirm logical flow and balance, as well as analyzed character designs for visual consistency.