# **PART 1: Product Requirement Document (PRD)**

1. **Roles and Responsibilities**

As the only one working on this project, I will assume the following roles:

a. Product Owner

b. Project Manager

c. Developer

d. Designer

1. **Team Goals and Business Objectives**

a. Develop a fun rhythm game web application with leaderboard functionality.

b. If time permits, implement multiplayer functionality.

1. **Background and Strategic Fit**

This project aims to create a rhythm game web application that will be accessible and enjoyable for players of varying skill levels. The game will provide an engaging and challenging experience for players while fostering a sense of community through leaderboards and, if possible, multiplayer functionality.

1. **Assumptions**

a. A player base with varying skill levels in rhythm games.

b. The game should be fun and playable for all skill ranges.

1. **User Stories**

a. As a player, I want to easily navigate the game menu, so I can quickly access different game features or settings.

b. As a player, I want the game controls to be easy and intuitive to learn.

c. As a player, I want to see my score and progress, so I can track my improvement.

d. As a player, I want to compete with others on a leaderboard, so I can compare my skills against other players.

e. As a player, I want to have a variety of songs to choose from, so I can enjoy diverse gameplay experiences.

1. **Acceptance Criteria**

a. The game menu is easy to navigate and understand.

b. The game supports keyboard and mouse input for gameplay.

c. The game displays the player's score and progress.

d. The game includes a leaderboard that updates with player scores.

e. The game offers a selection of songs for gameplay.

1. **User Interaction and Design**

The game will primarily use keyboard and mouse input for user interaction. The design should be user-friendly and visually appealing, with intuitive controls and interface.

1. **Questions**

a. What specific game mechanics will be used to create a fun and engaging rhythm game experience?

b. What programming languages, frameworks, or tools will be used to develop the web application?

c. How will the leaderboard functionality be implemented and maintained?

1. **Not Doing**

a. A large selection of songs in the game's database.

b. An editor mode for user-created "beat maps."

c. Online multiplayer chat and play to compete against friends or strangers online.

# **PART 2: Software Design Document (SDD)**

1. **Title, Authors, and Reviewers**

Title: Melody Riders - Rhythm Game Web Application

SDD Author: Oscar Bernal

Reviewers: [TBD]

1. **Functional Description**

This web game aims to provide an engaging and fun experience for players of varying skill levels. The game includes the following features:

a. Easy navigation through the game menu

b. Keyboard and mouse input for gameplay

c. Player score and progress tracking

d. Leaderboard functionality

e. A selection of songs for gameplay

1. **User Interface**

The user interface for the rhythm game will be visually appealing, user-friendly, and intuitive. It will consist of:

a. Main menu with buttons to access different features

b. Game screen displaying gameplay elements, such as notes and tracks

c. Score and progress indicators

d. Leaderboard screen with player rankings

e. Song selection screen

1. **Goals and Milestones**

a. Design a user-friendly interface for the rhythm game

b. Implement core game mechanics and input handling

c. Develop the leaderboard functionality

d. Create a selection of songs for gameplay

e. If time permits, explore the possibility of multiplayer implementation

1. **Prioritization**

a. Core game mechanics and input handling (High priority)

b. User interface design (High priority)

c. Leaderboard functionality (Medium priority)

d. Song selection (Medium priority)

e. Multiplayer implementation (Low priority, if time permits)

1. **Current and Proposed Solutions**

a. Current solution: None, as this is a new project.

b. Proposed solution: Develop a web-based rhythm game using Unity, .NET 6, and MySQL Workbench that supports keyboard and mouse input, provides engaging gameplay, and includes leaderboard functionality.

1. **Timeline**

See excel sheet\*

Example: