## Software Requirements Specification (SRS) for Tic-Tac-Toe Game

### 1. Introduction

#### 1.1 Purpose

The purpose of this project is to develop a simple web-based Tic-Tac-Toe game. The game allows two players to compete by taking turns marking spaces on a 3x3 grid. The project includes interactive gameplay features, a dark mode toggle for better user experience, and a reset game button.

#### 1.2 Scope

The Tic-Tac-Toe game is designed for casual two-player gameplay directly in a web browser. It provides a simple and clean UI with interactive elements, such as player turns, tie/win conditions, and a dark mode feature. This game can serve as an educational project for learning web development with HTML, CSS, and JavaScript.

#### 1.3 Definitions, Acronyms, and Abbreviations

* **Tic-Tac-Toe:** A simple two-player game where players take turns marking X or O on a 3x3 grid.
* **Dark Mode:** A UI setting where the background is dark, and text and other elements contrast for readability.
* **UI:** User Interface.

#### 1.4 References

No external references.

### 2. Overall Description

#### 2.1 Product Perspective

This project is a standalone web-based game developed using standard web technologies such as HTML, CSS, and JavaScript. It does not require any server-side components.

#### 2.2 Product Features

* Two-player gameplay.
* Display of player turns and winner messages.
* Detection of tie conditions.
* Dark mode toggle for user comfort.
* Reset game functionality to restart the game.

#### 2.3 User Classes and Characteristics

The game is suitable for all users familiar with basic web browsing and gameplay.

#### 2.4 Operating Environment

* Any modern web browser.
* Desktop and mobile devices.

#### 2.5 Design and Implementation Constraints

* No back-end integration.
* Simple UI design with limited animations.

### 3. Functional Requirements

* **FR1:** The game board must display a 3x3 grid.
* **FR2:** Players must take turns marking X and O.
* **FR3:** The game must detect and display a winner or tie.
* **FR4:** The game must provide a reset button to restart the game.
* **FR5:** The dark mode toggle must switch between light and dark themes.

### 4. Non-Functional Requirements

* **NFR1:** The game must be responsive and work on all screen sizes.
* **NFR2:** The UI must be intuitive and user-friendly.
* **NFR3:** The game must load and run without delays.
* **NFR4:** The dark mode must persist until toggled back.

### 5. System Requirements

* Compatible with modern browsers (Chrome, Firefox, Edge, Safari).
* No special hardware requirements.

### 6. User Interface Requirements

* **Game Board:** Display a 3x3 grid with interactive cells.
* **Dark Mode Toggle:** Button to switch between dark and light themes.
* **Reset Button:** Button to restart the game.
* **Player Messages:** Display the current player and game result messages.

### 7. Assumptions and Dependencies

* Players will have JavaScript enabled on their browsers.
* The game will not store data persistently between sessions.

Some images are attached below as a preview of the project.

