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.

Tic-Tac-Toe

Player X wins!

X	O	X
O	X	
X	O	

Reset Game | Toggle Dark Mode

Tic-Tac-Toe

It's a tie!

X	O	X
X	X	O
O	X	O

Reset Game | Toggle Dark Mode

Tic-Tac-Toe

Player O wins!

X	X	O
X	O	
O		

Reset Game | Toggle Dark Mode