

Project Name: Tic-tac-toe cmd project

Date: June 23, 2024

1. Introduction

1.1 Purpose

The purpose of this project is to create a simple command line based tic-tac-toe game.

1.2 Intended Audience

This project is intended to company recruiters and peers as introduction to Sanders' abilities to start and manage a project.

1.3 Intended Use

This game is going to have to game mode:

- PvP (Multiplayer): Allows two users to play against each other
- PvE (Singleplayer): Allows a user to play against the computer

1.4 Product Scope

The goal of this project is to improve and test Sanders' abilities in python and project management.

1.5 Definitions and Acronyms

1.5.1 PvP: Player versus Player

1.5.2 PvE: Player versus Environment

2. Overall Description

2.1 User Needs

2.1.1 PvP mode

2.1.1.1 Players can enter their names or keep the default names (Player 1 and Player 2)

2.1.1.2 Player can reset the round at any time

2.1.2 PvE

(Player) 2.1.2.1 The player can enter his/her name or keep the default name

2.1.2.2 Player can select the level of difficulty of the computer

2.1.2.3 Player can reset the round at any time

3. System Features and Requirements

3.1 Functional Requirements

- **Grid Display:** A clear 3x3 grid where players can see their moves.
- **Turn Management:** Ensure alternating turns between players.
- **Win Detection:** Detect when a player has won by completing a row, column, or diagonal.
- **Draw Detection:** Detect when the game is a draw (all cells filled with no winner).
- **Reset Option:** Ability to reset the game to start a new round.
- **Name Input:** Allow players to input their names.
- **Game Rules:** Provide clear instructions on how to play the game.

4. Non-functional requirements

- **Compatibility:** The program will be runnable on any operating system that has python and its pygame module installed.