**Project Documentation**

Project title: “Tic-Tac-Toe”

Date: 28.12.2021

Project Team Members: Jasmin Duishebaeva, Arafat Amrullaev, Bahtiyar Jenishbekov, Adil Ibraliev.

1. **Meetings.**

*The project was given on 22.11.2021.*

*Deadline 28.12.2021.*

1st meeting 25.11.2021: Discussion of the project idea.

2nd meeting 30.11.2021: Project implementation planning.

3rd meeting 07.12.2021: Start coding.

4th meeting 17.12.2021: Testing the program and finding bugs.

5th meeting 20.12.2021: Final touches (presentation, documentation).

6th meeting 23.12.2021: Preparing for the presentation.

1. **Project implementation plan.**
2. Learning kivy\*.

*\*Kivy – Open source Python library for rapid development of applications that make use of innovative oser interfaces, such as multi-touch apps.*

1. Pin material.
2. Start trying to use Kivy.
3. Start writing the code.
4. Testing.
5. Bug fixing.
6. Documentation.
7. Presentation.

*Program language: Python.*

**3. Program structure.**

1. Learning important widgets.

1. Buttons.

2. Text input.

3. Label.

2. Complete examples  
 3. Write a little code with sing widgets to understand how it works  
 4.

**Interface.**Main view, where show 2 buttons:

1st button is *'2 Players'*: when it pressed calls *get\_name\_view,* which asks player's name and starts game.

2nd button is *'Play with PC'*: when it pressed starts game with Ai.  
 **Logic operations.** 1.1. There are 9 buttons. If they are pressed, it calls functions to check *'Winner'*, and if this function returns True it calls *'End game'* view.  
 1.2. About *'End game'* view: There are 2 buttons that called *'New game'* and *'Play again'*. When *'New game'* pressed it calls Main Menu where we can start game with new player or PC. When *'Play again'* pressed it starts new game with same opponents.

5. Testing started 08.12.2021 by Bahtiyar Jenishbekov.  
1. Test horizontal winning. He should put X and O in 1st, 4th, 7th, positions to check if there is winner.  
2. Test vertical winning. He should put X and O in 1st, 2nd, 3rd, positions to check if there is winner.  
3. 1st diagonal winning when X or O put it in 3rd, 5th, 7th, positions to check if there is winner.  
4. 2nd diagonal winning when X or O put it in 1st, 5th, 9th, positions to check if there is winner.  
5. Reporting all bugs (errors 0).

1. **The rest of the report.**

Presentation was finished on 22.12.2021.

Documentation was finished on 22.12.2021.

The whole project has finished on 23.12.2021.