Cleveland State University

CIS 434

Spring 2019

Group 2 – Project Proposal

1. **Project Title**

Tic-Tac-Toe Game

1. **Team Members**

Rostislav Donika, Hayden Ferencz, Nikhil Gorti

1. **Requirements**

* Create a functional GUI that gives a user the option to play Tic-Tac-Toe against a human opponent or a computer
* Allow users to play a specified best-of series (i.e. best of 3, 5, 7, etc.)
* GUI must be user friendly, effective, and visually appealing

1. **Goals and Objectives**

* Develop a “smart” AI that will attempt to block a human user from completing a row, column or diagonal and attempt to win when presented with the chance
* Keep track of each player’s current number of wins to determine a winner
* End a series prematurely if any player’s current number of wins is greater than half of the number of games specified for the series
* If a player wins, have a visual overlay on the board highlighting the winning row/column/diagonal
* Give the user the ability to play again (as opposed to having to close out of the application) once the game ends

1. **Project Plan**

Software will be developed using a plan-driven, incremental development model. The project will be coded in Java through the Eclipse IDE, utilizing native AWT and Swing libraries. The GUI will be constructed through the Model-View-Controller architectural design pattern, which allows for levels of abstraction and cleaner framework of the code. The group will attempt to develop a quick prototype of the project which provides basic key systems such as a title screen, drawing the game board on the screen, letting the user place an X or O within the spaces of the board and checking whether the user has 3 in a row. Requirements for the remaining features – including the working AI – will be planned out iteratively and added to the base prototype. Working versions will be packaged and saved if the group needs to correct errors and/or return to a more stable state.

1. **Roles and Responsibilities**

Hayden Ferencz: Head developer, architectural framework designer; will be tasked with creating the groundwork for the MVC design and providing functionality for the various Java AWT Graphics components. Will assist in the iterative development process and end-use bug testing.

Rostislav Donika: Secretary, developer; will be tasked with writing up project reports, assisting in the iterative development process, end-use bug testing and overseeing progress made on the overall project.

Nikhil Gorti: Design planner, end-client tester; will be tasked with working with the current version of the program as it is developed, determining from an end-user perspective what works and what adjustments will be made. Will devise a written and visual representation of the project requirements, including how the UI will look, rough plans for the AI, etc.