

**Zack Starrett**  
**Advanced Computer Programming**  
**Project 4**  
**User's Manual**

**Setup and Compilation**

1. Download and unzip the submission folder from Canvas or Github
2. The submission will include a folder, "starrettz-project4" which includes:
  - a. Client.java
  - b. ClientWindow.java
  - c. GameBoard.java
  - d. Server.java
  - e. Service.java
  - f. Util.java
  - g. run.bat
  - h. UsersManualProject4.pdf (this file)
3. Environment: This program was developed in Eclipse for Windows.
4. Compiling: This program is designed to be run from the command line, using the included run.bat file. (JavaFX is required for this program)

**Running the program:** This submission contains a batch file used to run the program. Navigate to the source folder "starrettz-project4" through the command line and enter the command "run". This script will compile the program and open three command prompts (one server and two clients) and two client GUIs.

Please note that this project does not include JavaFX, which is required to run the application. This will need to be installed separately.

**User input:** No additional user interaction is required to run this iteration of the program. A game of tic-tac-toe will be played automatically between two clients and a server.

**Output:** Output goes to the console and to two additional JavaFX windows representing the perspective of each client.

Sample console output for the server:

```
Waiting for clients...
Client connected
Client connected
```

Sample console output for a client:

```
Welcome! Enter 'Hello' to start
```

```
Sending: Hello
Receiving: Hello you are player 1.
Command format: move <playernum> <row> <col>
Sending move: move 1 2 0
```

```
0 0 0
0 0 0
1 0 0
```

```
Receiving: Player 1 has chosen 2 0
```

```
0 2 0
0 0 0
1 0 0
```

```
Receiving: Opponent moved at 0 1
```

As the game is played, two client GUI windows will be populated with red and blue squares representing the moves made by players 1 and 2.

Sample completed game:

