



L I G H T C Y C L E S

*With*

**SUBMITTED BY:**

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A Java 2D Game Programming project

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**USER STORIES**

**INDEPENDENT**

As a gamer, I want to play a game that is fun and easy to play and not necessarily a mobile gaming application so that it would seem interesting and different.

Acceptance criteria:

* The user needs to have a Client GUI to run the game.

**Importance:** Important

**Estimate:** 3 days

**NEGOTIABLE**

As a gamer, I want the game to be multi-user so I can invite my friends to play with me anytime.

**Acceptance criteria:**

* The user will then need to have a server and connect a server from a local IP if he/she wants to play with other players.
* The user’s Server” program that handles requests from many “client” programs.
* Each user should have its own identity in the game (own lightcycle color).

**Importance: Very Important**

**Estimate**: 3 days

Note: Must start coding the actual game itself first followed by the client-server.

**VALUABLE**

As a gamer, I want the game to have cool features such as creating my own light cycle and responsive keys to either accelerate / decelerate and rotate up to 900 with my light cycle.

Acceptance criteria:

* Create a selection wherein user can input his/her username and his/her preferred light cycle color.
* Create user keys attributes that will change the velocity, speed and rotation direction of the light cycle.

**Importance: Very Important**

**ESTIMABLE**

As a developer, I recommend to do reverse engineering by starting to code out the game first, then client-server.

Acceptance criteria:

* Start-up sequence would be the server program followed by the client.
* Apply good coding practices throughout the entire development.

**Importance:**  Important

**Estimate:** 3 days

**TESTABLE**

As a gamer, I want do not want the game to load so long so I need to make sure I am able to code out the loading time.

Acceptance criteria:

* Ensures the game will not load more than 10 seconds upon start-up.

**Importance:** Important

**Estimate:** 2 days

**Definition of Done:**

1. Applied good coding practice.
2. Releasable.
3. Integration tested.
4. Ready for acceptance test.
5. No increased technical debt.

**USER “SPIKE” STORIES**

**As a gamer, I want to play the game with other players on the network.**

Spike Objective:

* In order to have a multiple-user game, the developer needs to develop a server/client text-based protocol.

|  |  |
| --- | --- |
|  |  |
| SERVER SIDE | **CLIENT SIDE** |
| * Create server socket and wait for the client to connect. | * Create socket and connect to the server. |
| * Wait for the client to send username and select light cycle color and check it. | * Send the name and the light cycle color of the selected user and check if there are no duplications. |
| * When estimated number of clients are connected, start the game by sending the player’s information to all clients. | * Wait for a game to start and receive player’s information. |
| * Update the light cycle game state 20 times within a second and send updated game state information to all clients. | * Wait for the server to send the light cycle game state information and update the Tron board. |
| * Receive the game state information change messages from client and update the light cycle game state. | * When user presses light cycle controlling keys, send game state information change message to the server. |
| * Exclude players who has hit the jetwall. | * Display leaderboard if the game is finished. |
| * If one player remains, finish the game and send the player’s score to the leaderboard. |

Text-based protocol elements are as follows:

|  |  |
| --- | --- |
| Client | Server |
| ADD USER name CYCLE COLOUR value | OKAY | FAILED reason |
| GAME STATE | IDLE | WAITING | PLAYING |  GAME OVER winner |
| GET LEADERBOARD | OKAY name:score name:score … name:score |  FAILED reason |
| USER name TURN clockwise | anticlockwise | OKAY | FAILED reason |
| USER name GO faster | slower | OKAY | FAILED reason |
| USER name JETWALL on | off | OKAY | FAILED reason |
|  | MSG name,xpos,ypos,track |

**UML and CLASS DIAGRAM**

