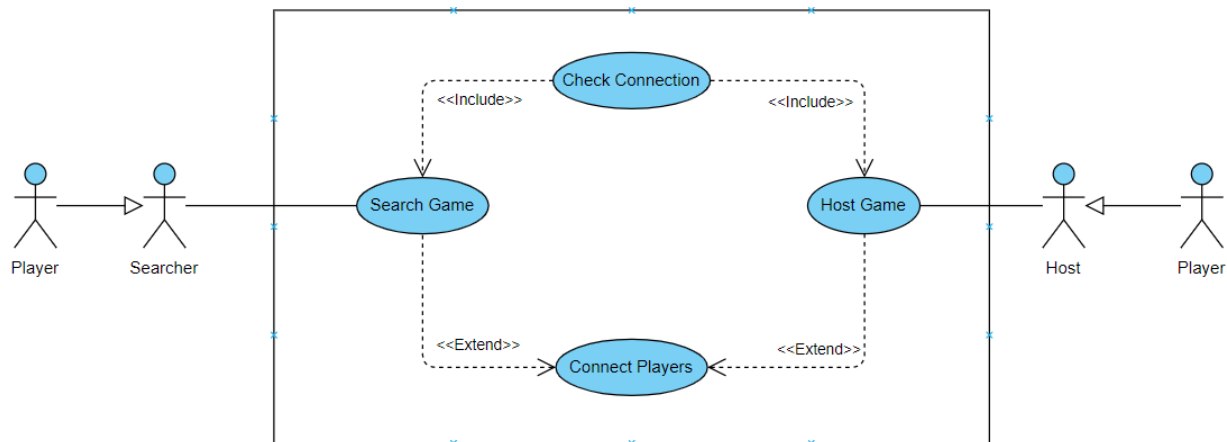


1. Brief introduction _/3

I will be implementing the multiplayer features for our game. Our group, Long Shot Studios, is making a 3D game called trajectory where a player can man several weapons and fire them upon another player or AI to destroy all their weapons. My feature will have me create an interface whereby two people who have the game installed can connect with each other, through LAN, and face off.

2. Use case diagram with scenario _/14

Use Case Diagram



Scenarios

Name: Connect Players

Summary: The player chooses to connect to another players game

Actors: Player

Preconditions: Another player has an active multiplayer session

Basic sequence:

Step 1: Player selects "find multiplayer session"

Step 2: Game searches for active multiplayer sessions

Step 3: Player is loaded into an active session

Exceptions:

Step 3: No active session is found, so player may choose to host or search again

Post conditions: Multiplayer game may begin

Priority: 2*

ID: C01

*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

Name: Search Game

Summary: The game is looking for an active hosted game to join

Actors: Searcher, Host

Preconditions: Host is running a multiplayer session

Basic sequence:

Step 1: Game looks for multiplayer sessions to join

Step 2: Multiplayer session found

Step 3: Player may now join host's session

Exceptions:

Step 3: If no sessions are found player may host their own session or search again

Post conditions: Session is ready to be joined

Priority: 2*

ID: C02

*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

Name: Host Game

Summary: The game will check if user is connected to a network

Actors: Host, Searcher

Preconditions: Game is open, and multiplayer is selected

Basic sequence:

Step 1: Host chooses to host a multiplayer session

Step 2: Multiplayer session is prepared

Step 3: Host loads into multiplayer session and awaits another player's connection

Exceptions:

Step 2: If host is not connected to internet, they will be prompted to connect to a network

Post conditions: A joinable multiplayer session is prepped and ready

Priority: 2*

ID: C03

*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

Name: Check Connection

Summary: The game will check if user is connected to a network

Actors: Player

Preconditions: Game is open, and multiplayer is selected

Basic sequence:

Step 1: Player attempts to join a multiplayer session

Step 2: Game check network connection status

Step 3: With positive connection status game will attempt to join players

Exceptions:

Step 2: If connection status is negative game will warn player

Post conditions: Connection between players is possible

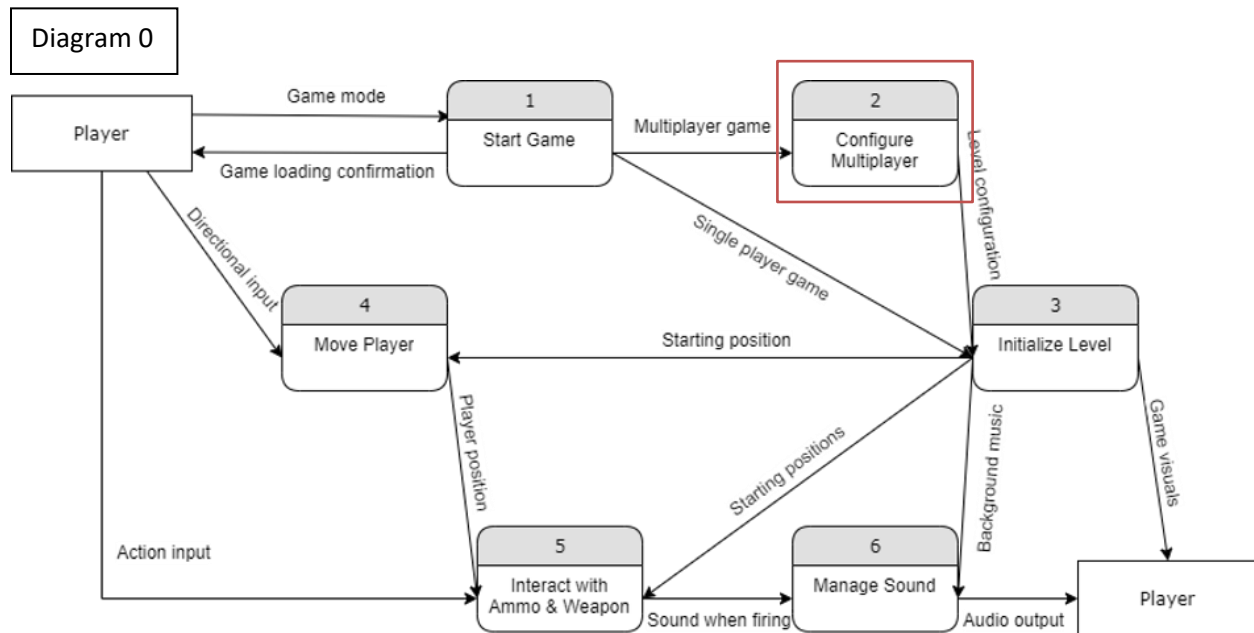
Priority: 2*

ID: C04

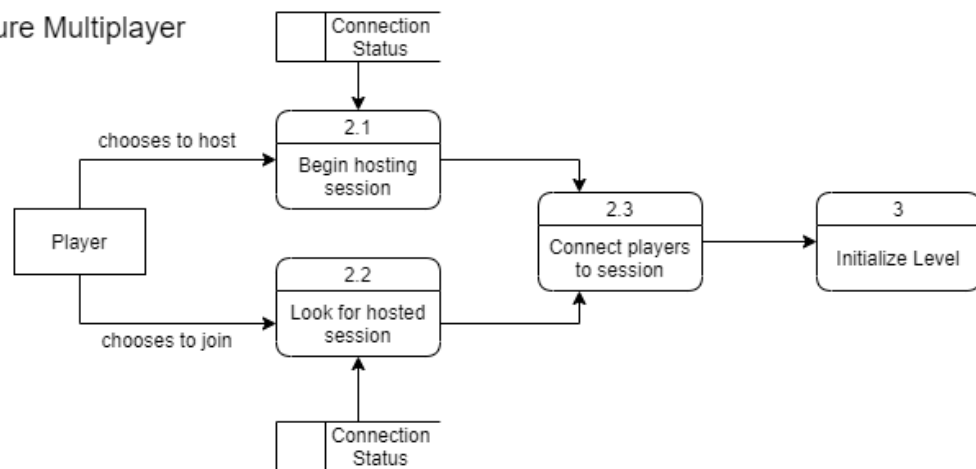
*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

3. Data Flow diagram(s) from Level 0 to process description for your feature __/14

Data Flow Diagrams



Configure Multiplayer



Process Descriptions

Begin Hosting Session:

```
IF connection status is negative
    Request connection
ELSE
    WHILE only host is in session
        Wait for second player to join session
    END WHILE
END IF
```

Look For Hosted Session:

```
IF connection status is negative
    Request connection
ELSE
    FOR x amount of time
        Look for a hosted session to join
    END FOR
END IF
```

Connect Players To Session:

```
IF searching player finds host
    Connect player to hosts game
ELSE
    Some error occurred between host and connecting player
END IF
```

4. Acceptance Tests __/9

This test will be for testing connection between a host and player session

This test will be done with user testing and testing the effects of attempting to connect at different times after selecting host or join

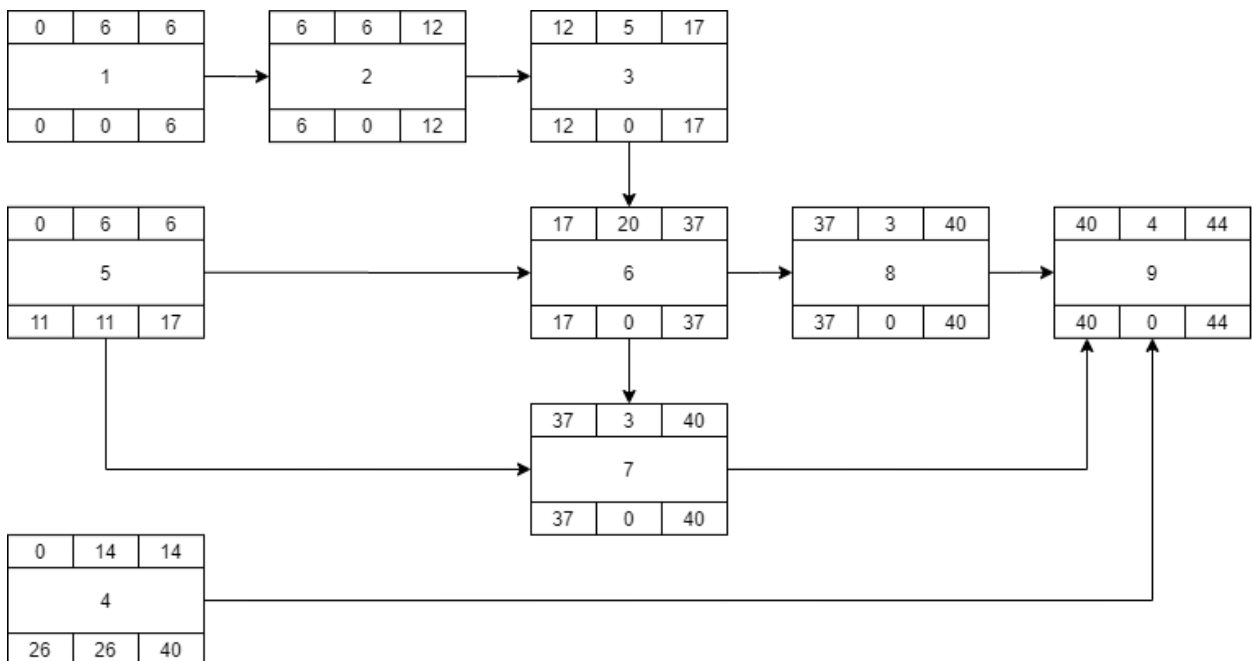
- Attempting to host a game when nobody tries to connect(3-5 minutes)
- Attempting to join a game that isn't being hosted
- Attempting to join a game and then another device hosts immediately
- Attempting to host a game and then another device attempt joining immediately
- Attempting to host and then joining normally

5. Timeline __/10

Work items

Task	Duration (PWks)	Predecessor Task(s)
1. Research	6	-
2. Find/Make Network Interface	6	1
3. Implement Interface	5	2
4. Team Meetings	16	-
5. Planning/Diagrams	6	-
6. Programming	20	3,5
7. Intermittent Integration	3	6, 5
8. Testing	3	6
9. Final Product Implementation	4	8,4,7

Pert diagram



Gantt timeline

