Name Owen kyong-McClain Mark _____/50

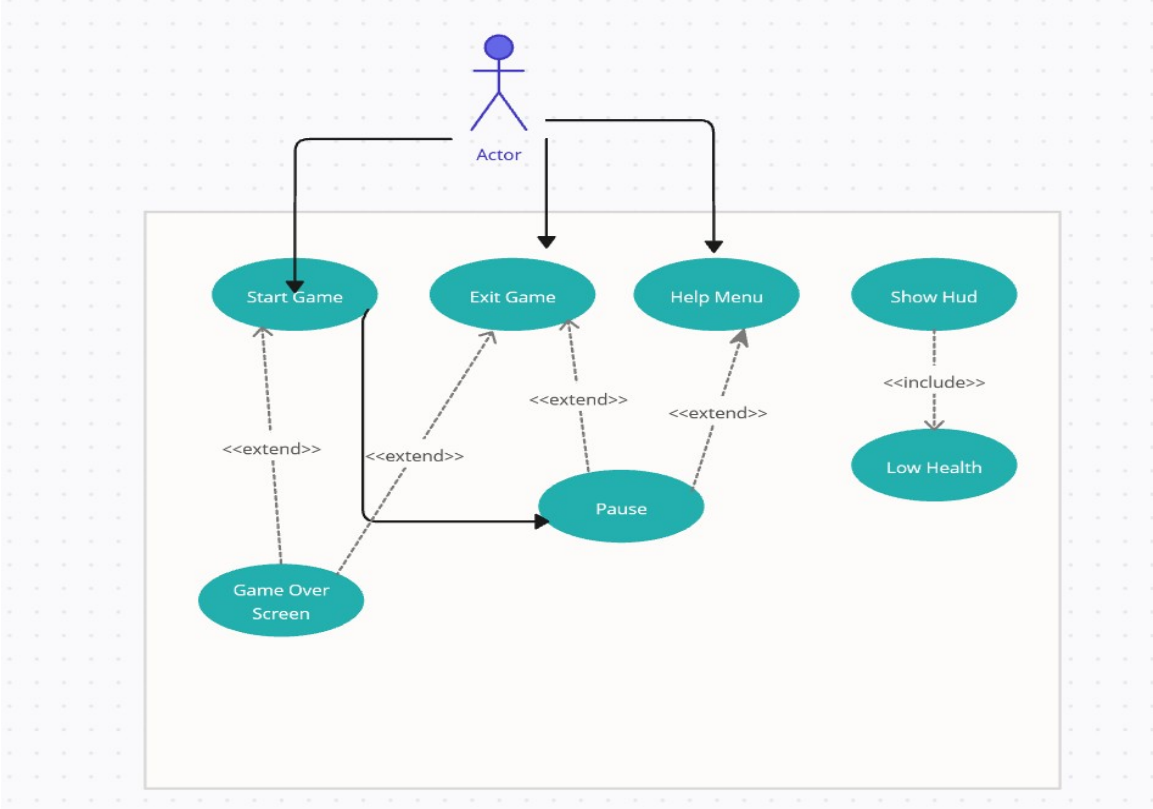
[**Instructions**: Remove everything that is not a heading below and fill in with your own diagrams, etc.]

1. Brief introduction __/3

The HUD and menu system will allow players to check important information for their play through such as power ups they have gotten or any other collectibles. The HUD will be able to display the users health and any active power ups. Using the menu system the player will be able to navigate through the game without having to exit the entire application.

2. Use case diagram with scenario __14

Use Case Diagrams



Scenarios

Name: Start Game

Summary: From Main menu launches in to first scene of the game

Actors: Player

Preconditions: Game is open and on the main menu

Basic Sequence:

Step 1: Player selects [Start Game] from the main menu.
Step 2: Game engine loads the first level or scene.
Step 3: Game begins and HUD is displayed.

Exceptions: Player selects [Start Game] but game assets fail to load: Display error message

Post Conditions: Game is running, and the HUD is active.

Priority: 1

ID: 1

Name: Exit Game

Summary: The player exits the game application.

Actors: Player

Preconditions: Game is paused or main menu is displayed.

Basic Sequence:

Step 1: Player selects [Exit Game] from the main menu or pause menu.
Step 2: Game prompts for confirmation (Yes/No).
Step 3: Player confirms exit.
Step 4: Game saves progress, I hope

exceptions: Player doesn't exit, return to previous menu or game state.

Post Conditions: Game application is closed.

Priority: 1

ID: 2

Name: Help Menu

Summary: the player sees a new scene that explains rules and controls.

Actors: Player

Preconditions Main menu or pause menu is displayed.

Basic Sequence:

Step 1: Player selects help from the menu.
Step 2: Help menu content is displayed.
Step 3: Instructions are shown on screen
Step 4: Player exits the help menu.

Exceptions:

Post Conditions: Player returns to main menu or previous screen.

Priority: 2

ID: 3

Name: Show HUD

Summary: The game displays the HUD with player stats and relevant information.

Actors: Runs during game start for player
Preconditions: Game is playing
Basic Sequence:

Step 1: Game automatically displays HUD when gameplay starts.
Step 2: HUD updates in real-time with player stats

exceptions: HUD fails to load or shows wrong information
Post Conditions: Player has a visual interface showing game stats.
Priority: 1
ID: 4

Name: Pause Game
Summary: The player pauses the game and accesses the pause menu.
Actors: Player
Preconditions: Game is running.
Basic Sequence:

Step 1: Player presses the pause button.
Step 2: Game freezes all gameplay.
Step 3: Pause menu is displayed.
Step 4: Player selects resume to continue gameplay or exit to quit.

Exceptions: Pause command fails
Post Conditions: Game is either resumed or exited.
Priority: 1
ID: 5

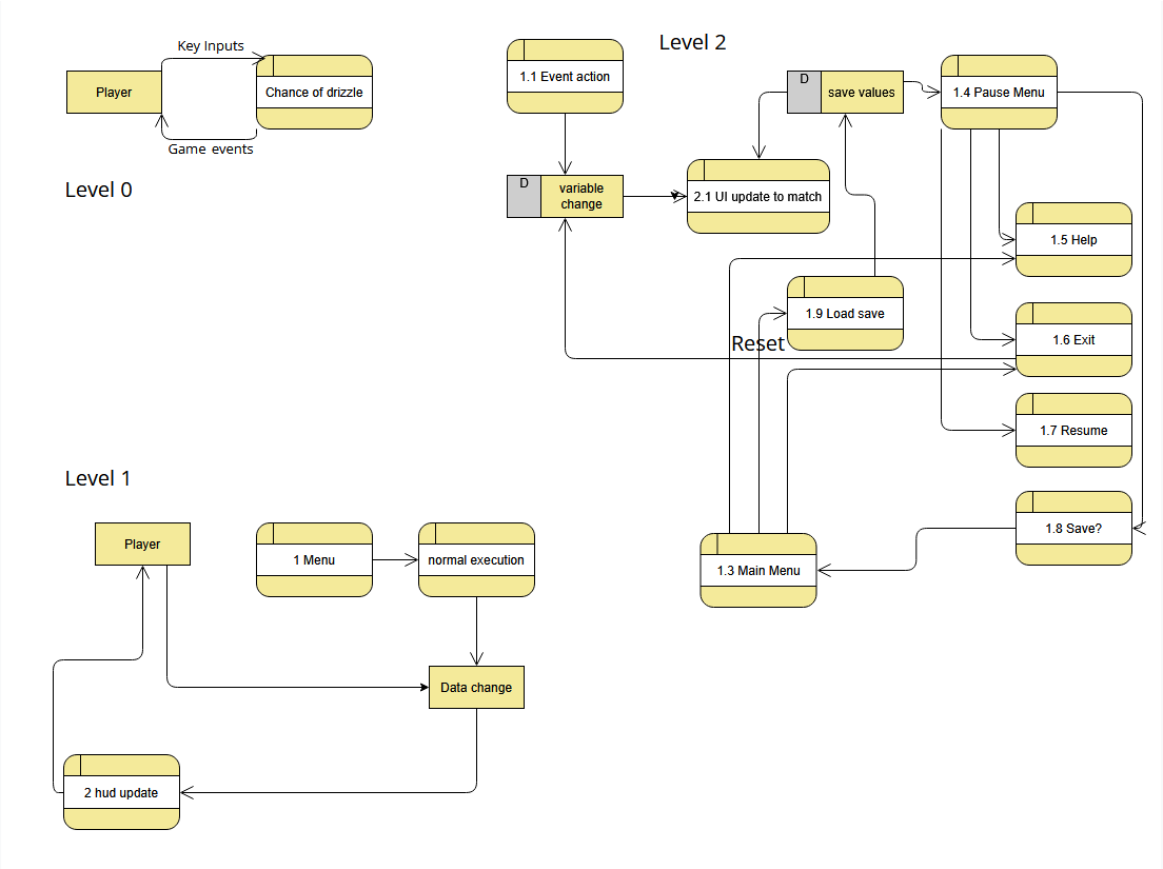
Name: Game Over Screen
Summary: The game displays the game over screen when the player loses or completes the game.
Actors: player controlled by game
Preconditions: Game is running and player loses all health or wins the game
Basic Sequence:

Step 1: Game detects game over condition.
Step 2: Gameplay stops, and game over screen is displayed.
Step 3: Player can choose restart or exit.

Exceptions: Game over screen fails to load show prompt to restart or exit
Post Conditions: Player either restarts the game or exits
Priority: 1
ID: 6

3. Data Flow diagram(s) from Level 0 to process description for your feature _____14

Data Flow Diagrams



Process Descriptions

1. Menu screen design
   Draw basic layouts for each menu (main, pause, settings, game over).
   Include buttons, labels, and navigation paths.
   Adjust based on feedback.
2. HUD Screen Design

   design graphics for elements

   create positioning and layout

3. Menu programming

   Create each menu in the game.

   Add buttons and navigation logic.

   Test navigation and fix any problems.

4. HUD Programming

Link HUD elements to game data (health, ammo, score).

Update elements in real-time

Adjust layout if readability is poor

5. Saving

Save current game state

Load saved game or new level

Check for errors and retry if needed

6. Testing

Test menus, HUD, and saving

Note any problems and fix them.

Repeat tests until everything works.

4. Acceptance Tests _____9

Input/Output events

Test	Event/input	Output	Notes
1	Press Start	Game Begins	
2	Press Help	Help Menu displays	Same scene as when help is displayed in the pause menu
3	Press Exit game	Game exits	Quit application from main menu
4	Pause/esc	Display pause menu	HUD display to show collectibles and current power ups
5	Press quit	Returns to main menu	Pause quit returns just to main menu
6	Low health	Health hud flashes	Pop up over normal game hud to warn player
7	Game over	Game over screen/menu	
8	Spamming buttons	No duplicate menus	No bugs with calling a scene too many times

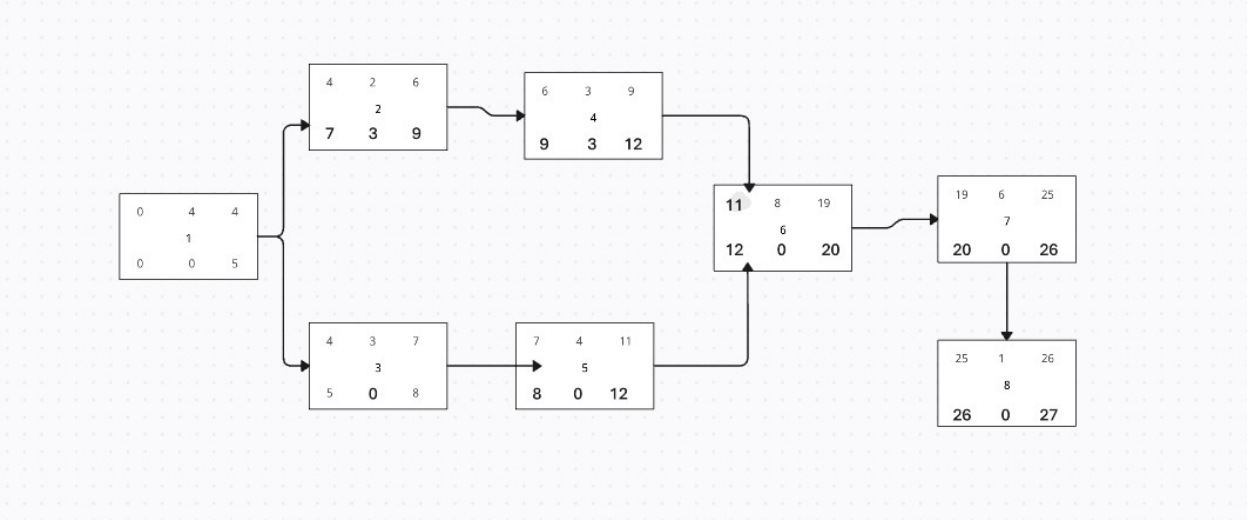
9	saving	Some type of saving	Save code? Or save state? Who knows.

5. Timeline _____/10

Work items

Task	Duration (PWks)	Predecessor Task(s)
1. Requirements Collection	4	-
2. Menu Screen Design	2	1
3. HUD Layout Design	3	1
4. Menu Programming	3	2
5. HUD Programming	4	3
6. Saving/level code	8	4, 5
7. Testing	6	6
8. Installation	1	7

Pert diagram



Gantt timeline