Name_Bidhan Ratna_________________ Mark ______________________/50

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

1. Brief introduction __/3

I am responsible for designing and implementing the save and respawn system in our breaking red game. My focus is on ensuring that players can safely return to the game with all progress intact, even in complex scenarios. I also handle saving game choices so that player decisions impact later events, such as NPC attitude changes and story progression.

2. Use case diagram with scenario __14

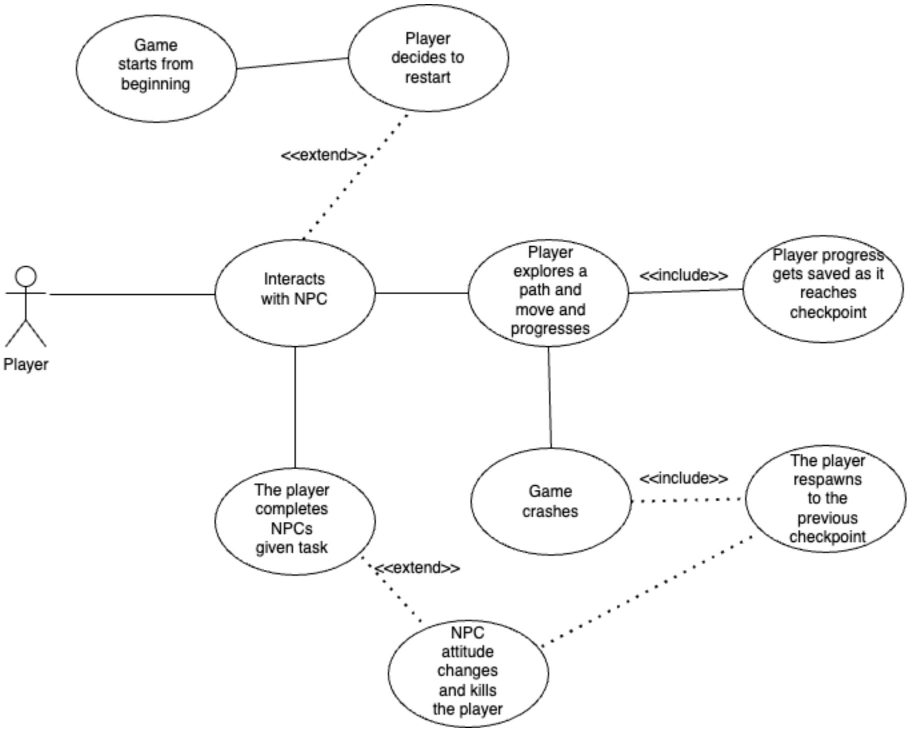
[Use the lecture notes in class.

Ensure you have at least one exception case, and that the <<extend>> matches up with the Exceptions in your scenario, and the Exception step matches your Basic Sequence step.

Also include an <<include>> that is a suitable candidate for dynamic binding]

Example:

Use Case Diagrams


Game starts from beginning
Player decides to restart
<<extend>>
Player
Interacts with NPC
Player explores a path and move and progresses
<<include>>
Player progress gets saved as it reaches checkpoint
The player completes NPCs given task
Game crashes
<<include>>
The player respawns to the previous checkpoint
<<extend>>
NPC attitude changes and kills the player

Scenarios

[You will need a scenario for each use case]

Name: Interacts with NPC and Completes Given Tasks

Summary: The player interacts with an NPC, who assigns them a task..

Actors: Player

Preconditions: The player is within interaction range of the NPC. The NPC is ready to interact and assign tasks.

Basic sequence:

Step 1: Player initiates interaction with the NPC.

Step 2: NPC provides the player with a specific task.

Step 3: Player completes the task assigned by the NPC.

Step 4: Successful task completion triggers changes in the game state, such as unlocking new areas or modifying NPC attitudes.

Exceptions:

Step 1.1: Player decides to end the interaction early. No task is received or completed.

Step 1.2: Player dies during the interaction or task completion process. The task remains incomplete, and no changes to the game state occur.

Step 3.1: f the player fails to complete the task as specified, the expected changes in the game environment do not take place.

Post conditions: Changes resulting from the task completion are reflected in the game environment. The player may have new paths or items unlocked, or NPC attitudes toward the player may change based on the completion of the task.

Priority: 2*

ID: C01

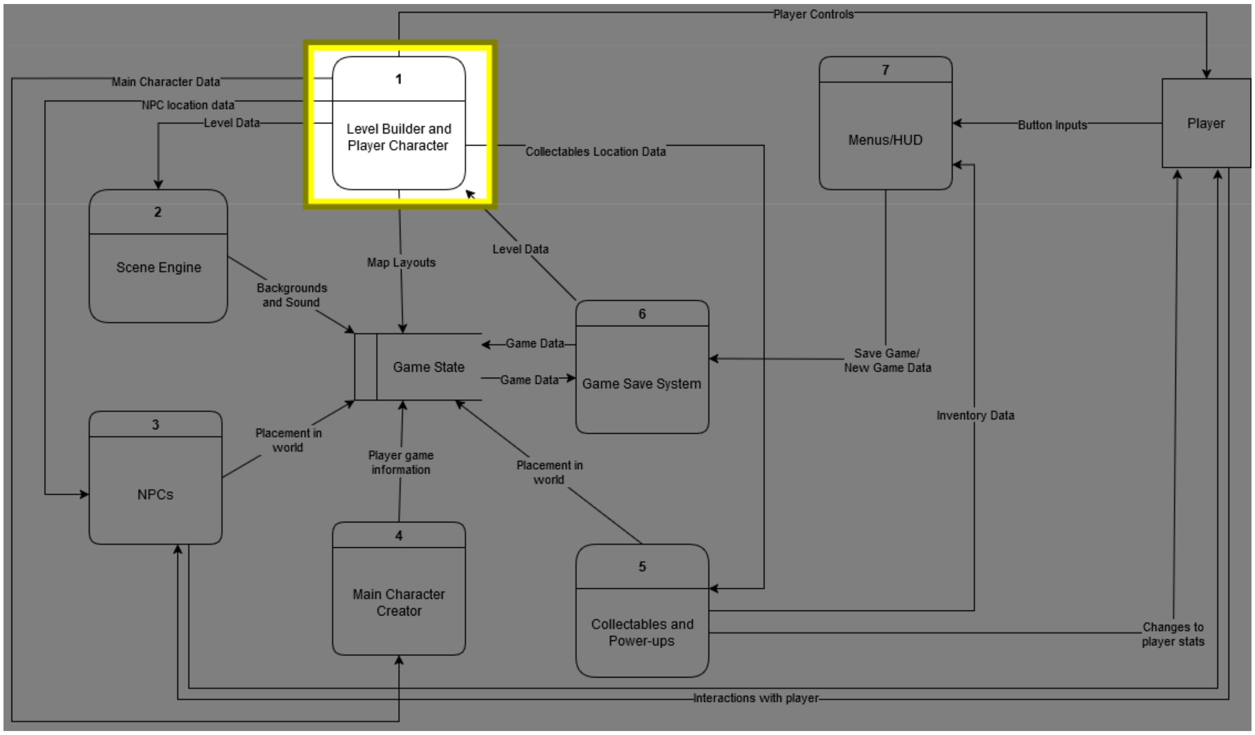
*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

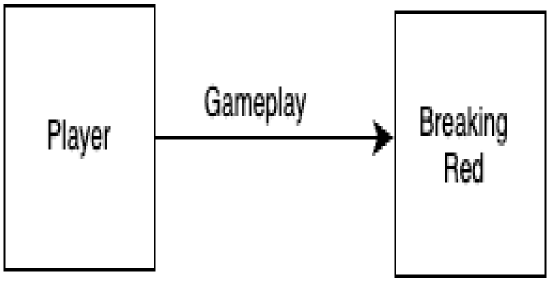
3. Data Flow diagram(s) from Level 0 to process description for your feature ______14

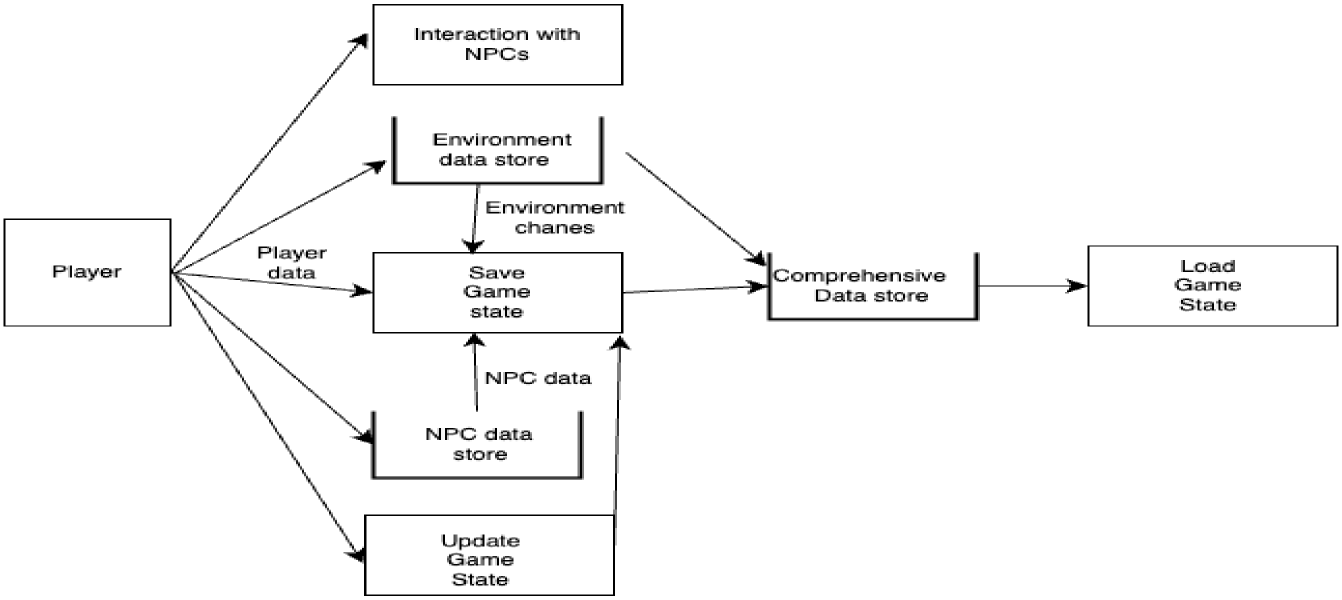
[Get the Level 0 from your team. Highlight the path to your feature]

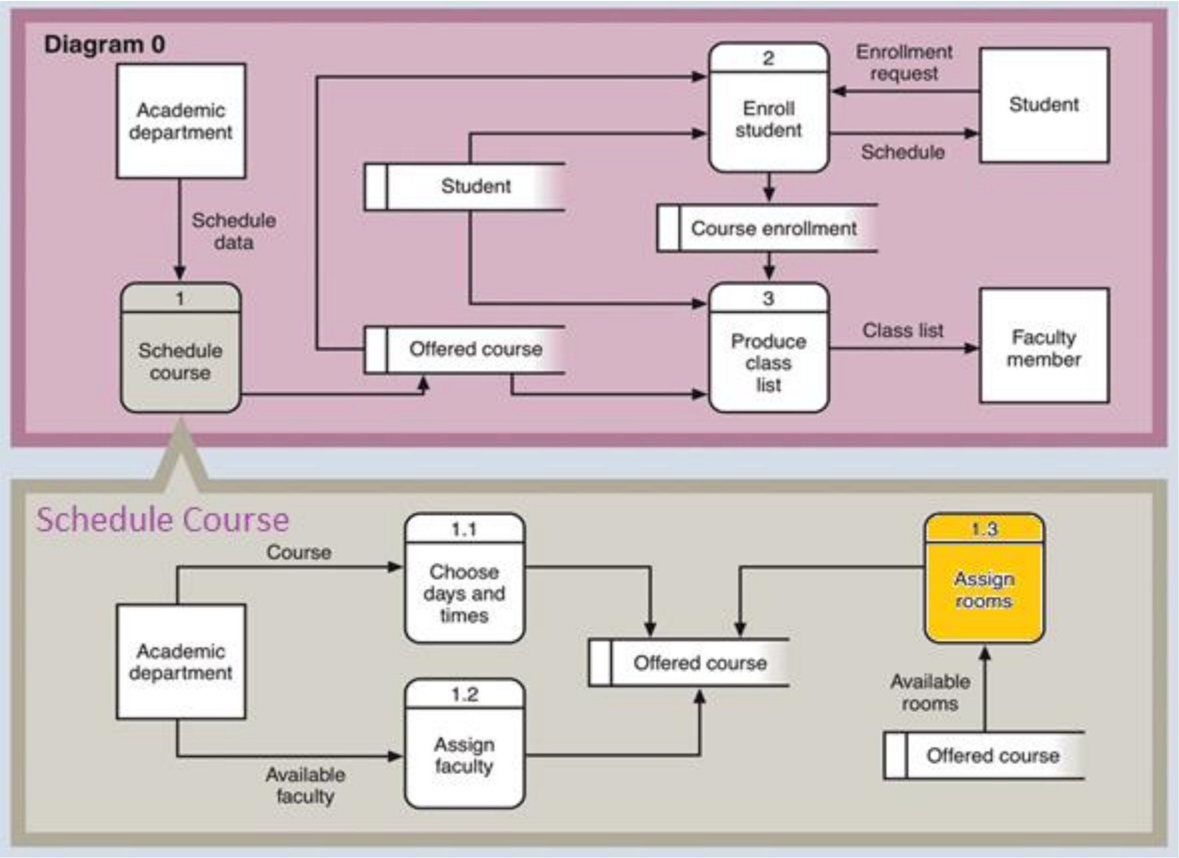
Example:

Data Flow Diagrams


Player Controls
Main Character Data
NPC location data
Level Data
1
Level Builder and Player Character
Collectables Location Data
7
Menus/HUD
Button Inputs
Player
2
Scene Engine
Map Layouts
Level Data
Backgrounds and Sound
6
Game State
Game Data
Game Data
Game Save System
Save Game/ New Game Data
Inventory Data
3
NPCs
Placement in world
Player game information
Placement in world
4
Main Character Creator
5
Collectables and Power-ups
Changes to player stats
Interactions with player


Player
Gameplay
Breaking Red





Process Descriptions

```
savePlayerState():

IF game is saved manually OR auto-save trigger == true

    Store player data in Comprehensive Data Store
    Store NPC states in NPC Data Store
    Store environment changes in Environment Data Store
ELSE IF player exits without saving
    Prompt player to save before exiting
END IF
```

4. Acceptance Tests ______9

Save System Testing:

1. Player makes significant progress in the game,
2. Player activates the save game function manually or reaches an auto-save checkpoint.
3. Game data is saved to the Comprehensive Data Store, including player state, NPC states, and environment data.
4. Player exits the game and then reloads the saved game.
5. Upon reloading, all player progress, NPCs positions, and environmental changes are accurately restored as per the saved state.

5. Timeline _______/10

[Figure out the tasks required to complete your feature]

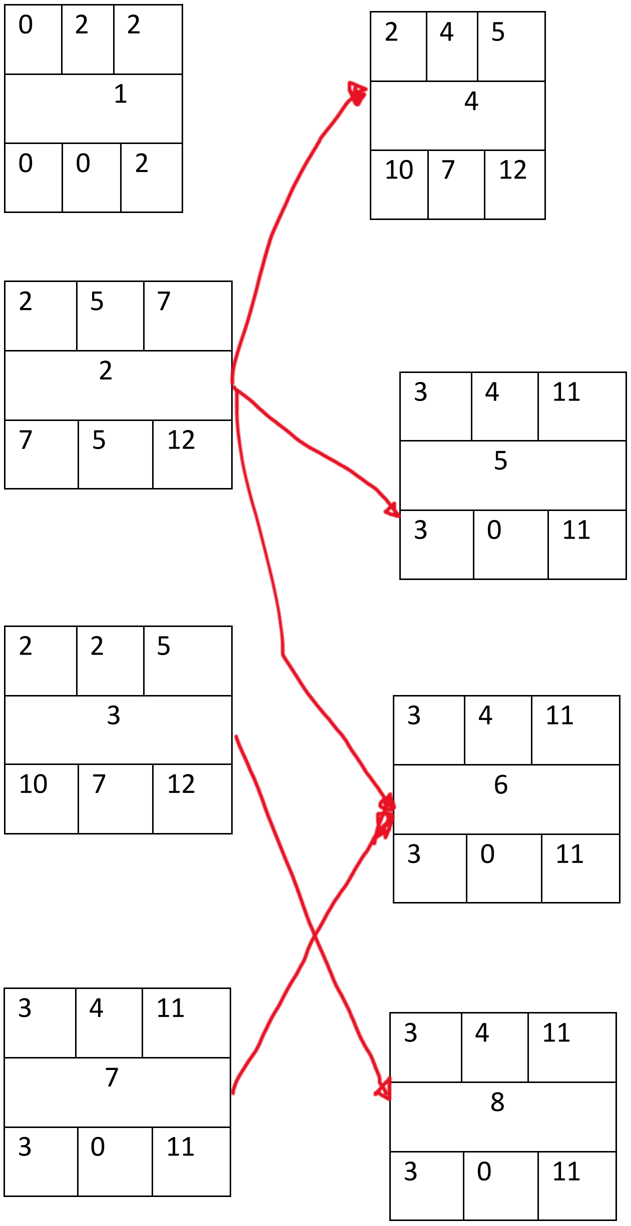
Example:

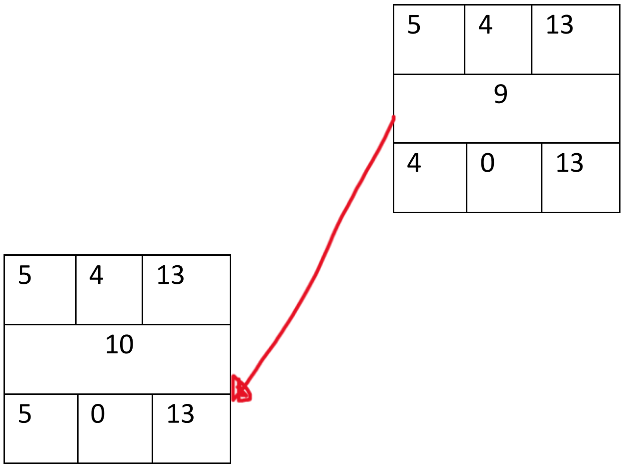
Work items

Task	Duration (PWks)	Predecessor Task(s)
1. Define Save System Requirements	2	-
2. Design Data Flow Diagrams	3	1
3. Implement Save Logic	4	2
4. Implement Load Logic	4	3
5. Create Data Storage Schema	3	2
6. Testing Save Functionality	3	3,5
7. Testing Load Functionality	2	4,6
8. Integration and System Testing	2	6,7

9. Deployment	1	8
10. User Documentation and Training	2	9

Pert diagram





Gantt timeline

	1	2	3	4	5	6	7	8	9	10
1	1									
2	1									
3		1								
4			1							
5		1								
6			1		1					
7				1		1				
8						1	1			
9								1		
10									1	