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Mark _____/50

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

1. Brief introduction __/3

As the TL2, I will develop the Minimum Viable Product. This will include the maps, moving character (probably not animated yet), basic combat mechanics, and some abilities, etc.

2. Use case diagram with scenario __14

Use case 1: Build map

Use case 2: Play game – player moves across the map

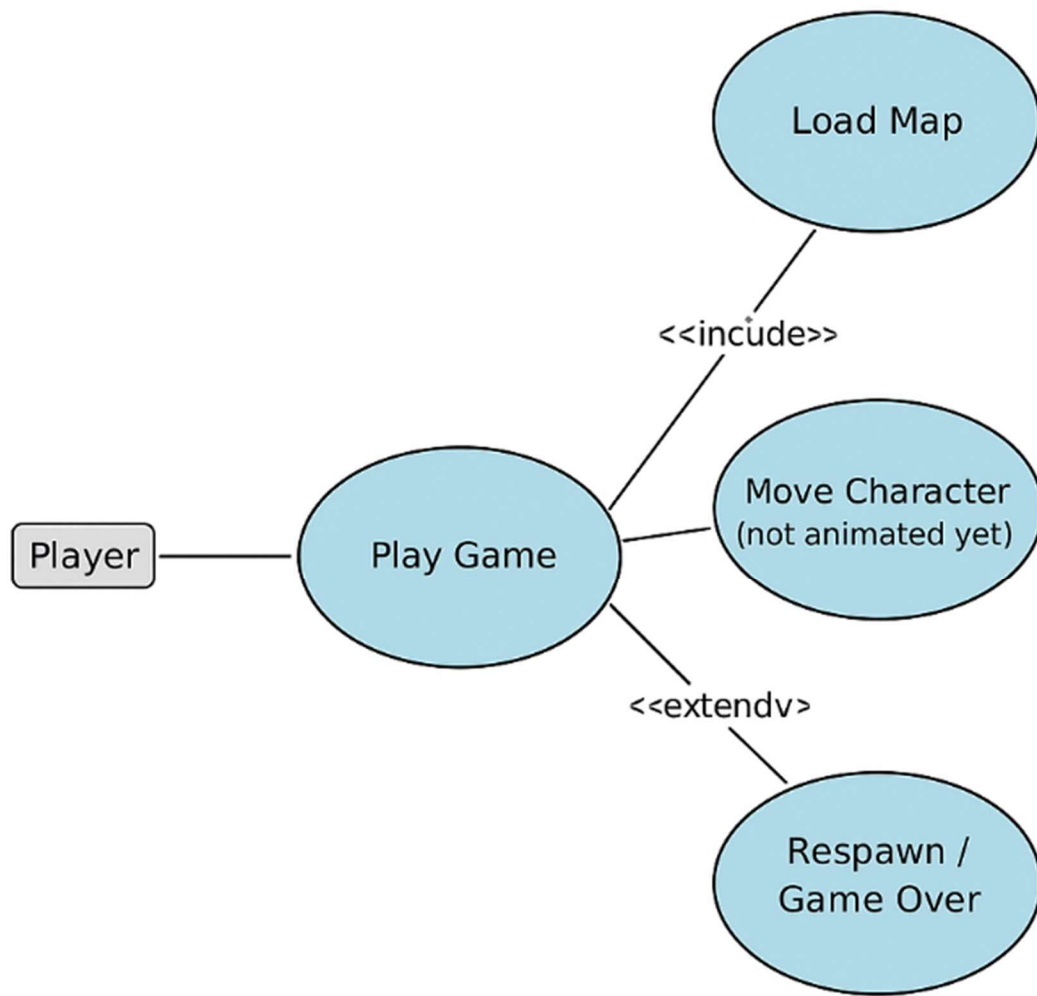
Use case 3: player initiates combat

Use case 4: play activates special skill

Use case 5: Character dies/ runs out of mana and the game handles respawn (<<extend>>)

Use case 6: Map loads when game starts (<<include>> play game).

Use Case Diagrams:



Scenarios:

Name: Load Map

Summary: The system loads the initial game map when the player starts the game.

Actors: System

Preconditions: The game has been launched and initialized.

Basic sequence:

Step 1: Player selects "Play Game".

Step 2: The system retrieves map data from resources.

Step 3: The system loads and renders the map on screen.

Step 4: Player spawns at the starting point.

Exceptions:

Step 2: If map data is missing or corrupt → system loads a default backup map.

Post conditions: The map is visible and interactive. The player can begin moving.

Priority: 1

ID: MPV01

Name: Move Character

Summary: The player uses keyboard inputs to move the character around the map.

Actors: Player

Preconditions: Game is running; character is alive.

Basic sequence:

Step 1: Player presses a movement key

Step 2: System updates character's position.

Step 3: Screen updates with new location

Exceptions:

Step 1: Player walks off the map → <<extend>> Respawn.

Post conditions: Character is in a new position on the map.

Priority: 1

ID: MPV02

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

Name: Respawn / Game Over

Summary: The system handles player death by either respawning the character at a designated spawn point or ending the game. This is triggered when the player's HP reaches zero during gameplay.

Actors: System

Preconditions: The player's health has reached zero.

Basic sequence:

Step 1: System detects that the player's HP is less than or equal to zero.

Step 2: A "You Died" screen is displayed.

Step 3: A countdown timer begins (e.g., 3–5 seconds).

Step 4: System checks for available spawn point(s).

Step 5: If a spawn point exists, respawn the player with default HP/mana at that location.

Step 6: Gameplay resumes.

Exceptions:

Step 4: No valid spawn point is found → System ends the game and returns to the main menu.

Step 5: Player quits manually → Skip respawn and return to menu.

Post conditions: Player either resumes gameplay at the respawn location or Game ends and returns to the main menu.

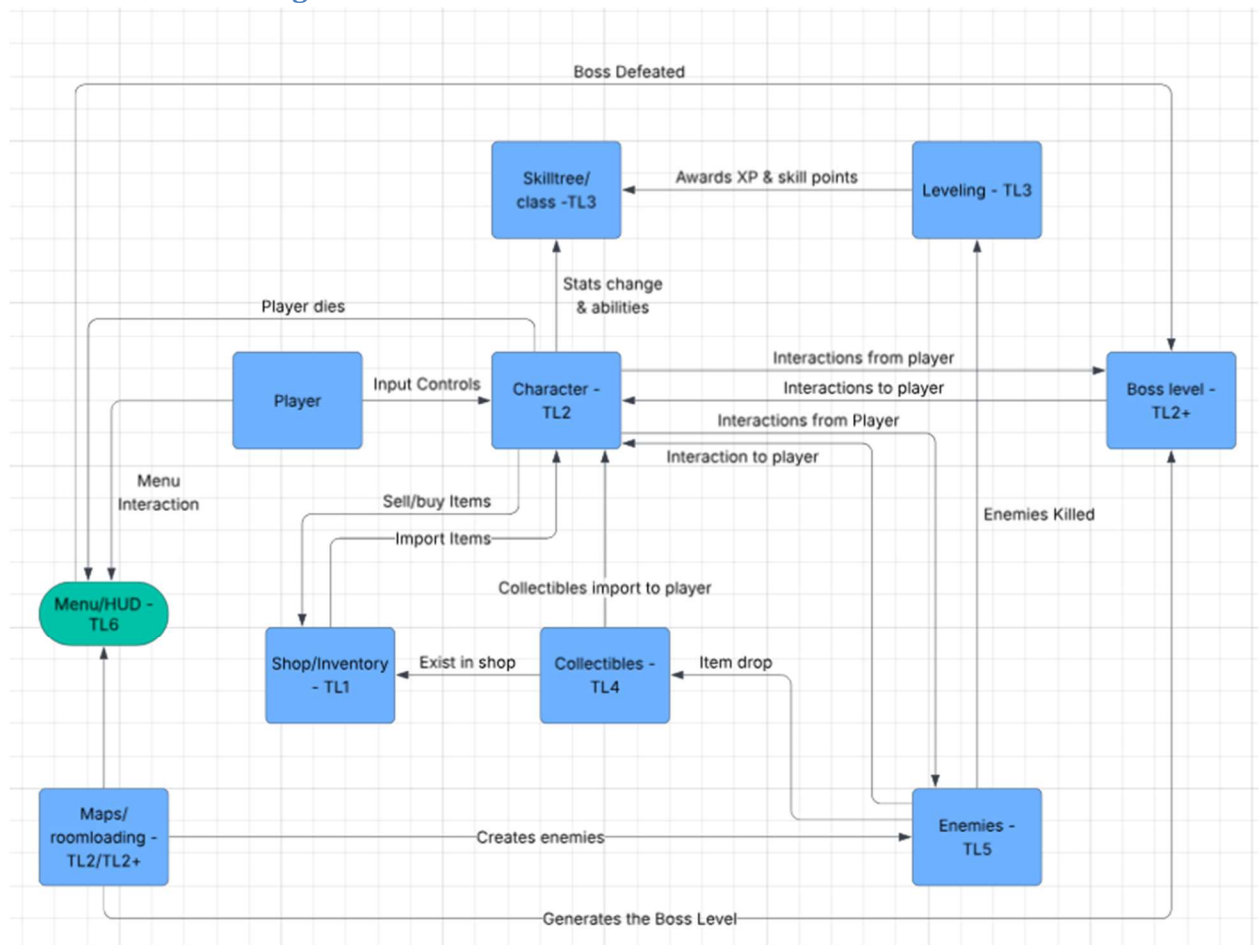
Priority: 2

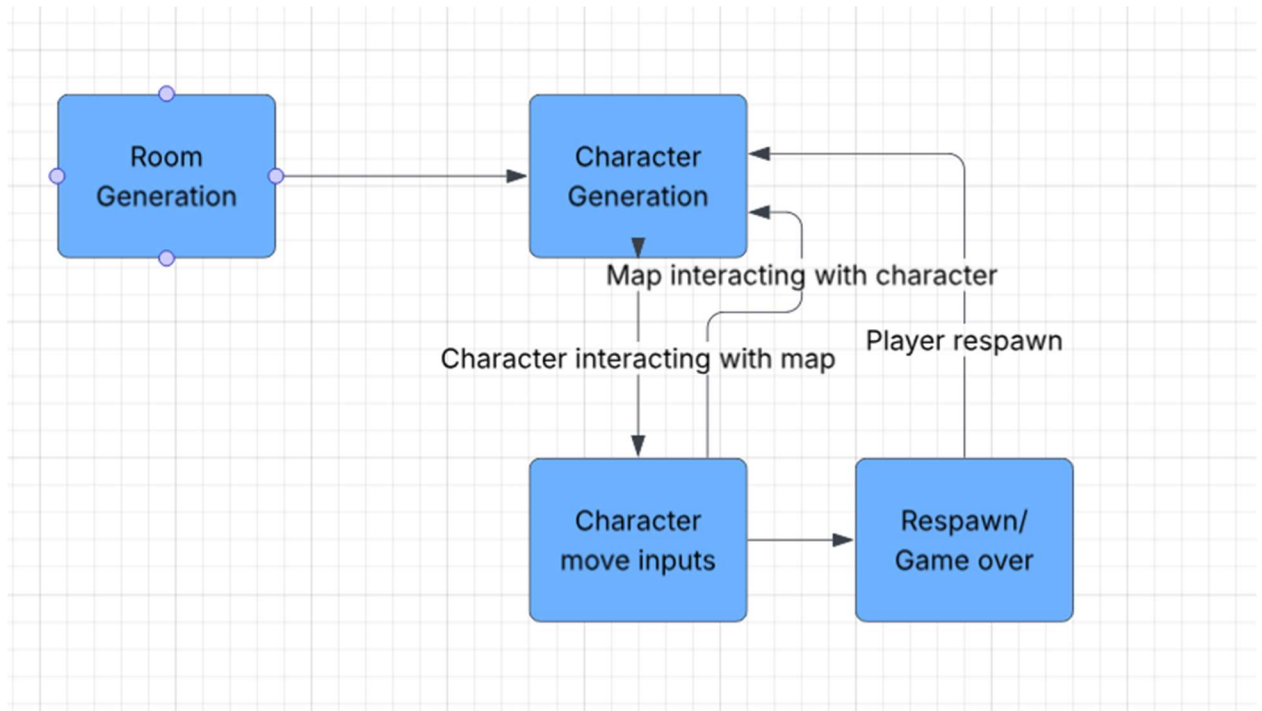
ID: MPV03

3. Data Flow diagram(s) from Level 0 to process description for your feature ____14

Example: Level 0 ____

Data Flow Diagrams





4. Acceptance Tests _____9

MVP01 – Load Map

Test Goal:

Ensure that the correct map loads when the game starts.

Test ID	Input	Expected Output	Notes
T1.1	Game start triggered	Map loads from file	Normal startup
T1.2	Corrupted map file	Default map loads	Handles error gracefully
T1.3	No map file found	Game displays “Missing Map” error or loads backup	Boundary case

Acceptance Criteria:

- Map terrain, objects, and spawn point are present
- No crash occurs if map file is missing or invalid

- Player starts in valid location on map

Divide Feature

Result	Map File Name	File Status	Notes
Map Loaded	Default_map.png	Valid	Standard Startup path; main map loads successfully
Default Map Loaded	Corrupted_map.png	Corrupted	System falls back to default map when data is malformed
Default map loaded	Null	Missing	No file found; load default backup map
Error message	Invalid map	Wrong format	System displays error: "invalid map format"
Map loaded	Test_map_01.png	Valid	Testing with alternate map
Game crashed	Map_too_big.png	Invalid	Known bug; causes crash

MVP02 – Move Character/character inputs

Test Goal: Ensure that the character moves correctly in response to input

Test ID	Input	Expected Output	Notes
T2.1	Press "W"	Character moves up	Normal movement
T2.2	Press "S" at bottom edge	No movement	Boundary case (map edge)
T2.3	Press left into wall	No movement	Obstacle collision
T2.4	Hold key	Smooth continuous movement	Repeats input correctly
T2.5	Move off map	Triggers Respawn/Game Over	Triggers exception path

Result	Input Key	Player Location	Notes
Moved up	W	At the top of the map	Standard movement input
No movement	A	At far left wall	Wall collision
Moved down	S	Above a platform	Successful downward movement
No movement	D	Facing the far right wall	Collision detected
Respawn triggered	W	Edge of Cliff	If the player can fall off map
No movement	None	Idle	In input should result in no movement

Acceptance Criteria (Pass Conditions)

- Movement keys (W, A, S, D) update character position if terrain is valid.
- Movement is blocked by walls or solid objects.
- Attempting to move off the map triggers MVP03 (Respawn/Game Over).
- No movement = no crash. Holding a key should move character smoothly.
- Any teleportation, glitching through walls, or freezing = FAIL.

MVP 3 – Respawn/Game over

Test Goal: Ensure proper handling of player death and respawn logic.

Test ID	Input	Expected Output	Notes
T3.1	Player HP = 0	Show "You Died" screen	Core functionality
T3.2	Player dies at edge of map	Respawn at spawn point	Unexpected location

Test ID	Input	Expected Output	Notes
T3.3	No valid spawn point	Return to main menu	Critical edge case
T3.4	Quit game during countdown	Exit to menu	Optional flow

Result	HP Before Event	Trigger Event	Notes
Respawned	0	Fell Off map	Standard death condition
Respawned	0	Enemy melee attack	Combat death triggers respawn
Game over screen	0	No valid spawn point	System fails to find spawn
Respawned	0	Trapped in death loop	Multiple deaths handled correctly
Exit to Menu	0	Player quits on death	Death screen shows "Exit to Menu"
Crashed	0	Respawn logic fails	N/A
No trigger	0	Took damage	Player doesn't die

Acceptance Criteria (Pass Conditions)

- If $HP \leq 0$, system displays "You Died" or equivalent message.
- Respawn happens at correct spawn point with full HP/mana (if spawn exists).
- If no spawn point exists, player is routed to Game Over screen or menu.
- User quitting during death sequence should exit game cleanly.
- Game must **not crash** or softlock during edge cases or repeated deaths.

5. Timeline ____/10

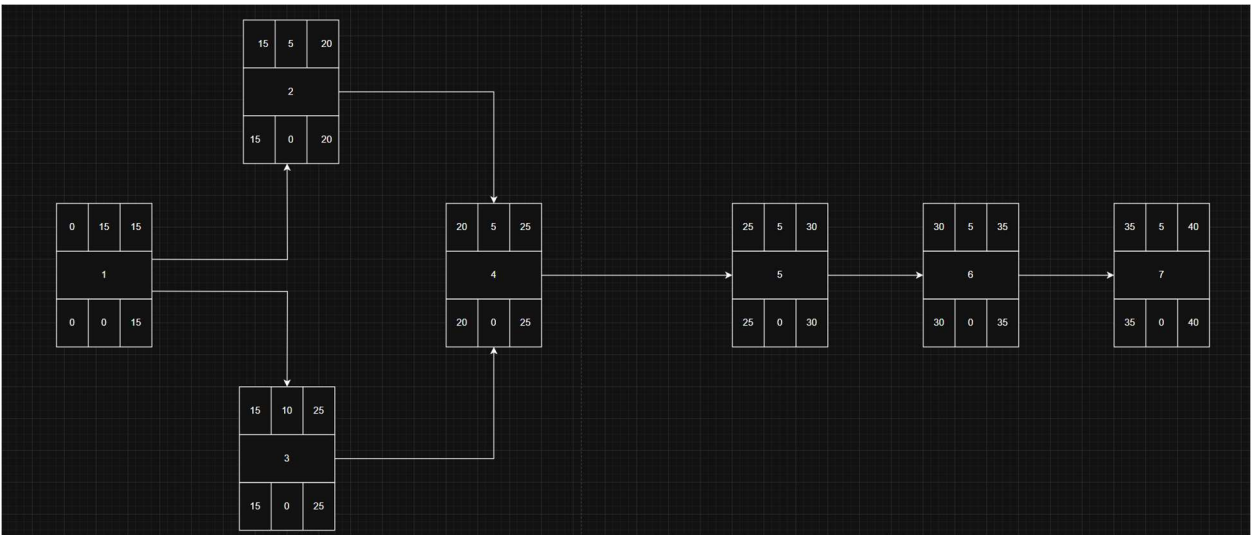
[Figure out the tasks required to complete your feature]

Example:

Work items

Task	Duration (Hrs)	Predecessor Task(s)
1. Screen/Map Design	15	-
2. Implement Load Map (MVP01)	5	1
3. Implement Move Character (MPV02)	25	1
4. Implement Respawn/Game over	5	3
5. Integration and Testing	5	2, 3, 4
6. Documentation	5	5
7. Final Delivery	5	5, 6

Pert diagram



Gantt timeline

