SEMESTER MAY 2025

OBJECT ORIENTED PROGRAMMING (OOP)

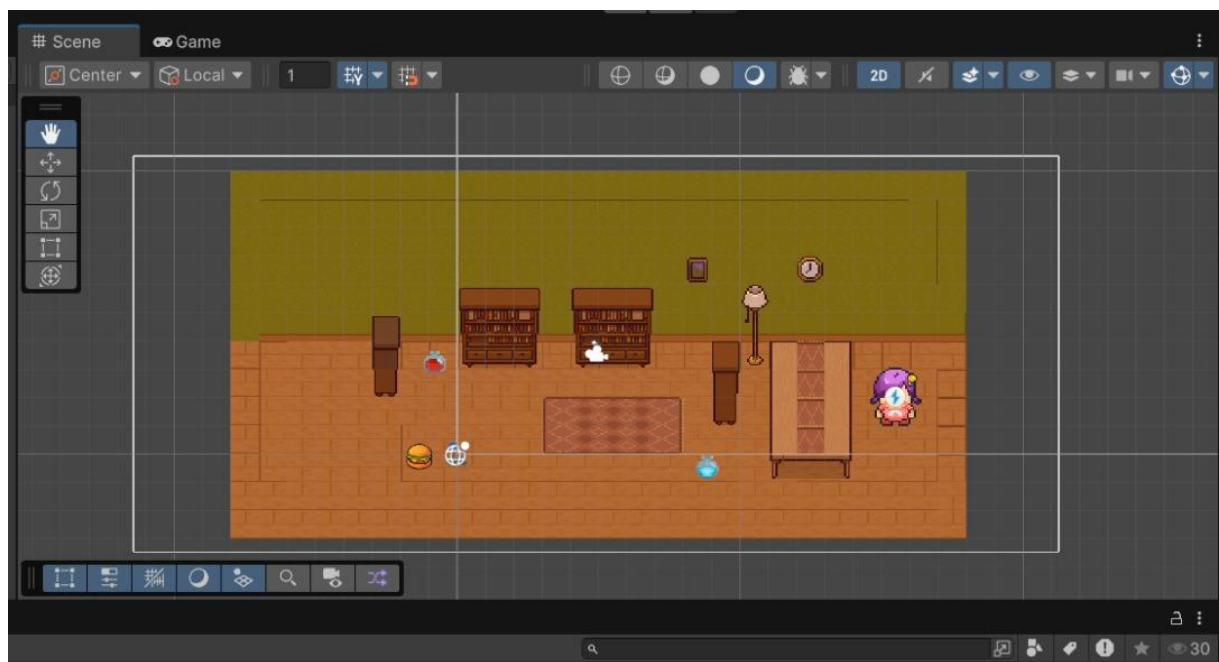| Student ID	Name	Programme
24007396	Schyenn Samantha Samrah	Computer Science
24007530	Erissa Binti Saiful Affendy	Computer Science
24008052	Jivaloshini Kamarajan	Computer Science
24008654	Risantini A/P B Saravanan	Computer Science
24008792	Amira Nadia Binti Amir Hamzah	Computer Science

Title	Midnight Snack
Game concept	This game is called Midnight Snack. A girl name Ruby is hungry and craving for some midnight snack, however, to acquire those snacks, she needs to overcome obstacles (furniture and ghosts) at five different spaces in her new moved house. She must collect snacks while avoiding patrolling ghosts. As the level progress, the challenge increases with more ghosts, harder snack location and more furniture. The house was once abandoned so many furniture were out of place. The player must make its way to the last level to complete the game. Player gets to receive points everytime it picks up food. At the end, as they completed the game, they could see their score achieved.

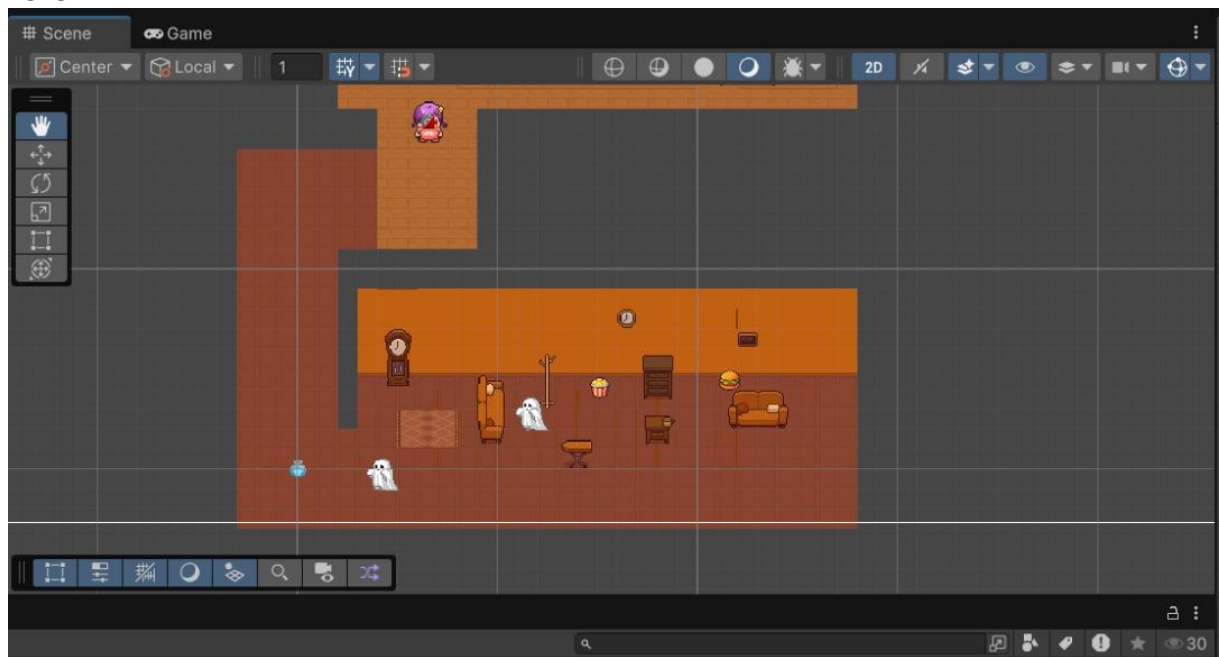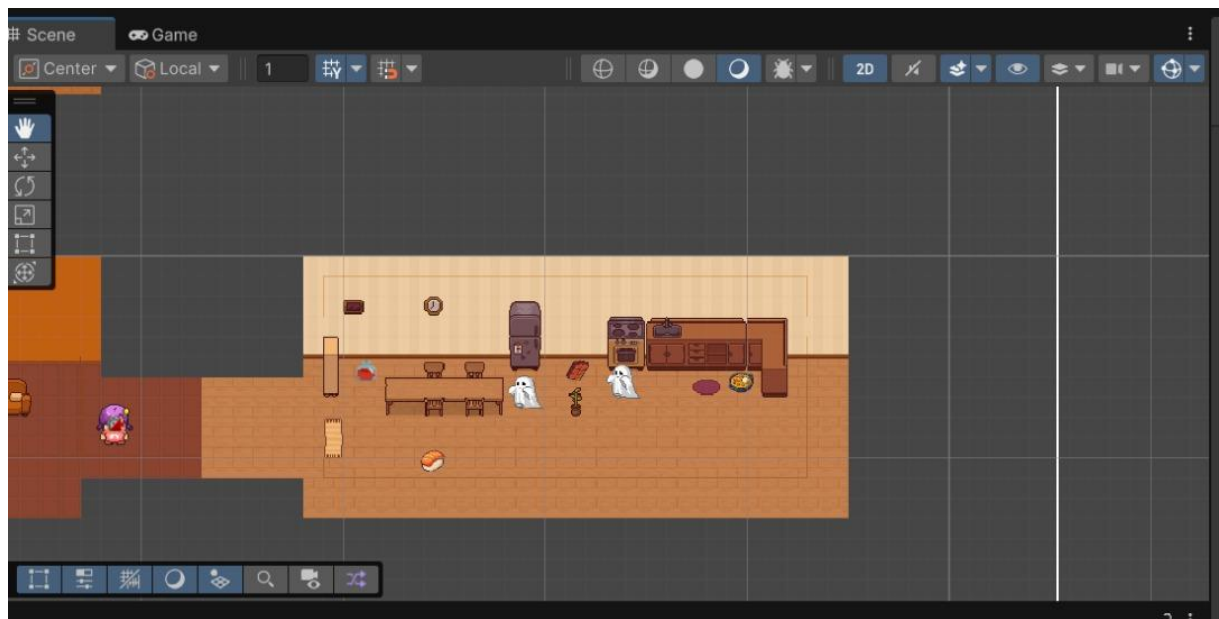| List of tasks	1. Level 1 : Amira Nadia Binti Amir Hamzah
	- Addition tasks : Menu screen, game over screen, snack pickup system (coding)
	2. Level 2 : Schyenn Samantha Samrah
	- Addition tasks : Design elements, ghost NPC (coding)
	3. Level 3 : Jivaloshini Kamarajan
	- Addition tasks : Score system (coding)
	4. Level 4 : Erissa Binti Saiful Affendy
	- Addition tasks : Character (coding)
	5. Level 5 : Risantini
	- Addition tasks : Obstacle logic (coding)
Core features	2D art with cute but eerie aesthetic - Top-down movement and snack collection - Auto-patrolling ghost - Increasing difficulties for each level - Simple UI : menu and game over screen

UML Diagram

Food
+ scoreValue : int

- OnTriggerEnter2D (other: Collider2D): void

ScoreManager
+ currentScore : int
+ scoreText: TextMeshProUGUI
+ instance: ScoreManager (static)

- Awake() : void
+ OnSceneLoaded(Scene scene, LoadSceneMode mode): void
+ AddScore(value : int): void
+ UpdateScoreText() : void

PlayerMovement
- moveSpeed : float
+ normalSpeed: float
- rb: Rigidbody2D
- moveInput : Vector2
- animator: Animator

+ Start() : void
+ Update() : void
+ Move(context: InputAction.CallbackContex) : void
+ ApplySpeedChange(newSpeed : float, duration: float) : void
- ResetSpeedAfterTime()

return

PotionPickup
+ EffectType: enum
+ effectDuration: float
+ speedMultiplier : float

- OnTriggerEnter2D() : void

<Enum> EffectType
SpeedUp, SlowDown

PlayerHealth
+ maxHealth: int
+ health: int
+ gameOverUI: GameOverUI

+ Start(): void
+ TakeDamage(damage: int):void

DontDestroyUI
- Awake () : void

GhostDamage
+ damage: int
+ playerHealth: PlayerHealth

- OnCollisonEnter2D(collision: Collision2D)
+ Update(): void

MainMenu
+ LoadScene(sceneName: string) : void

EnemyPatrol2D
+ waypoints: Transform[ ]
+ speed: float
+ waitTime: float
- currentWaypointIndex: int
- isWaiting: bool
- spriteRenderer: SpriteRenderer

SceneLoader
+ sceneToLoad : string

- OnTriggerEnter2D(other : Collider2D) : void

GameOverMenu
+ RetryGame() : void

LevelCompleteTrigger
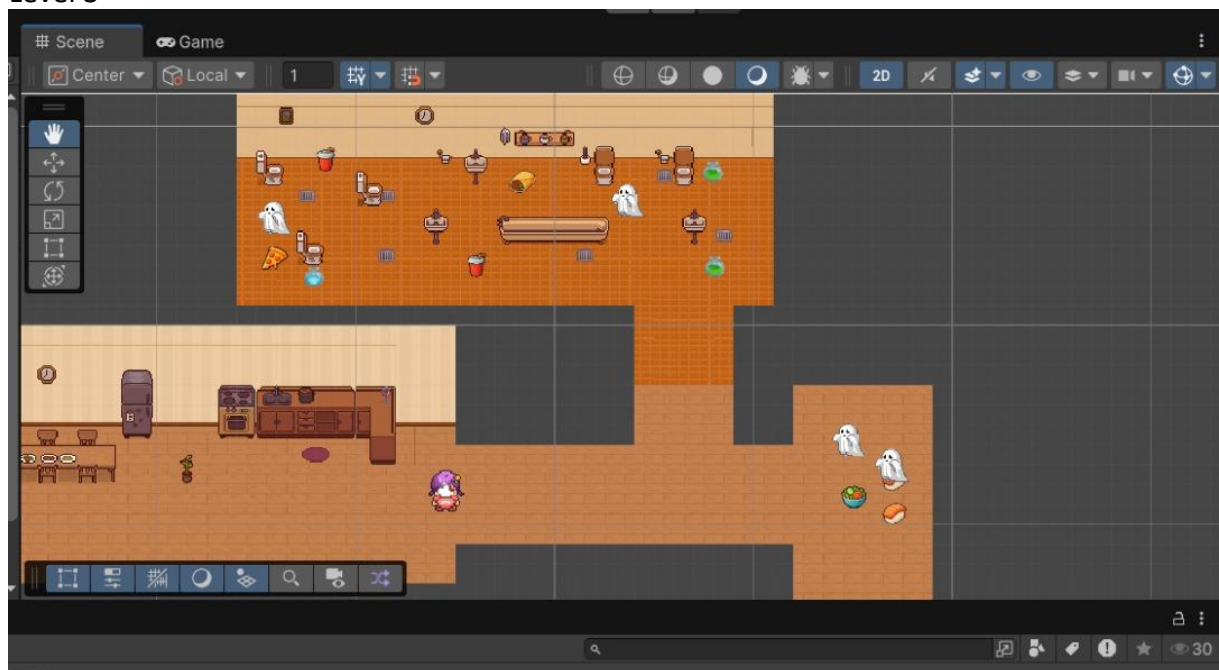+ OntriggerEnter2D(others:Collider2D): void

Screenshots of the Game

Level 1
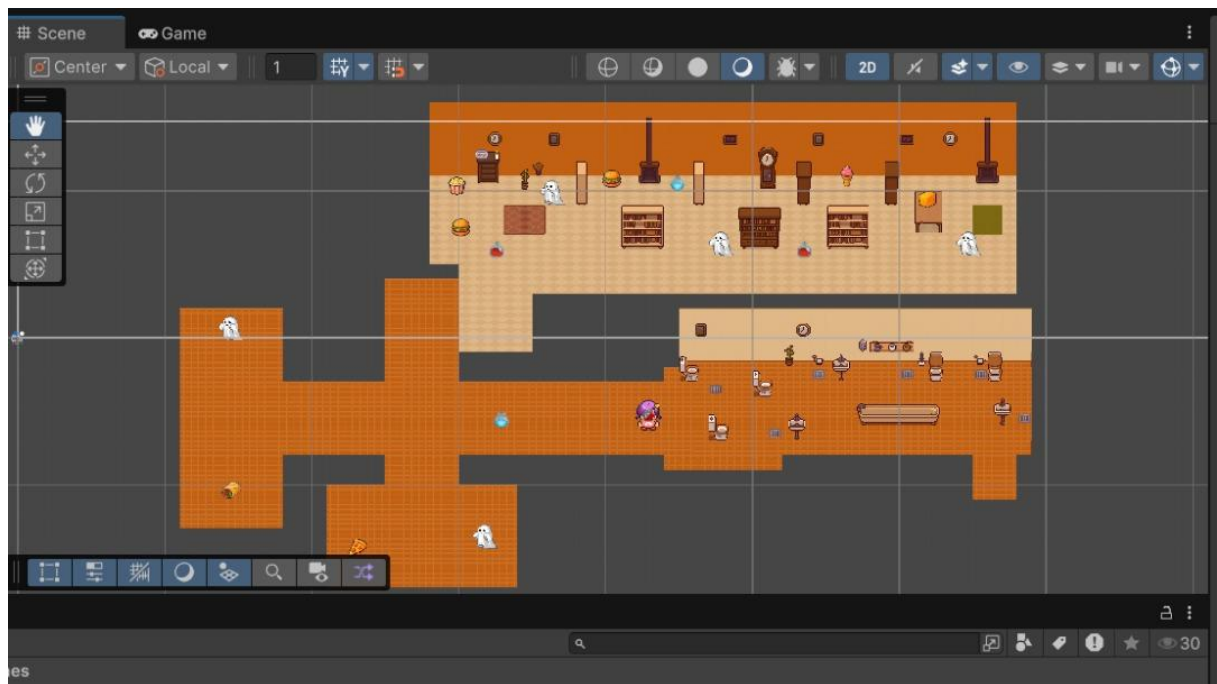

Level 2

Level 3

Level 4

Level 5

Video Link
https://youtu.be/Nwn7xIlpOxA?si=z9GRvUejJF8tEo6s