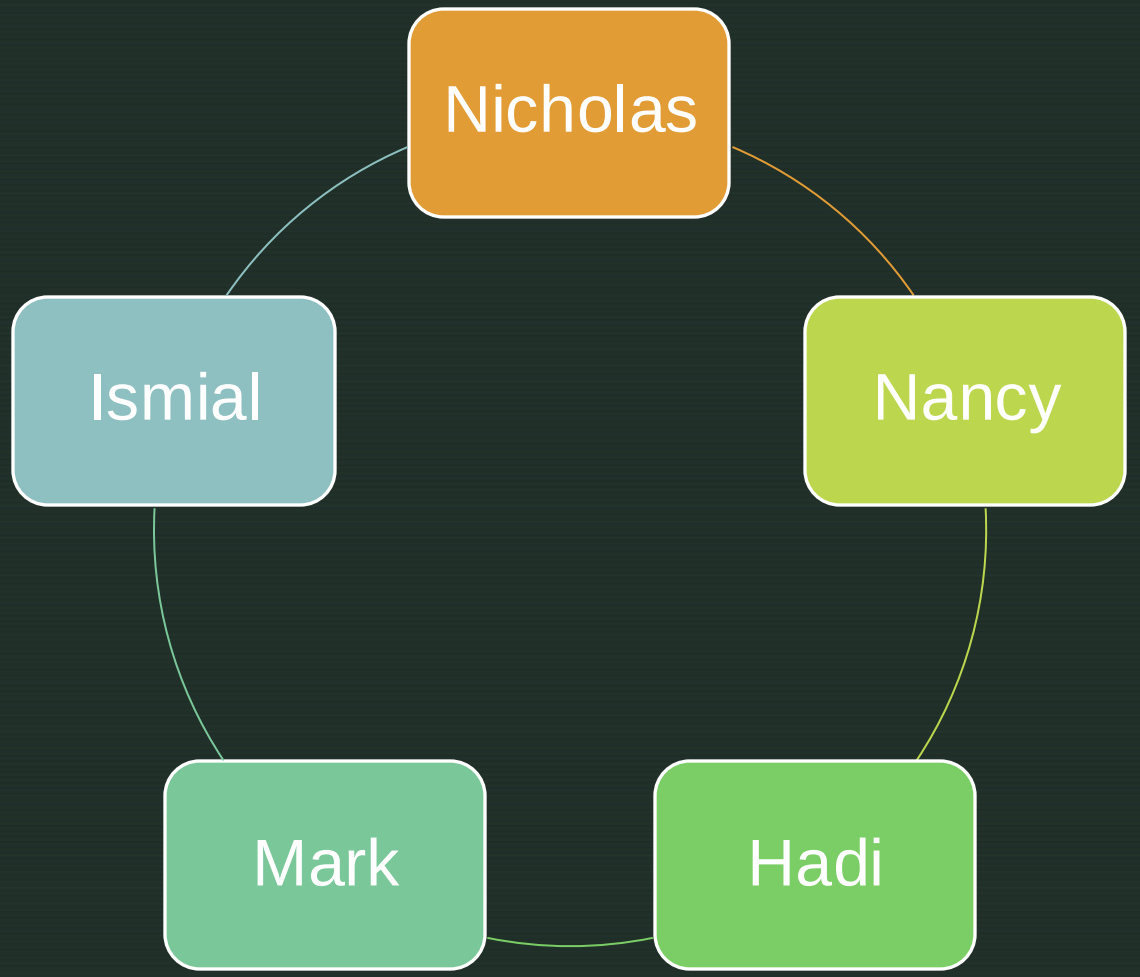
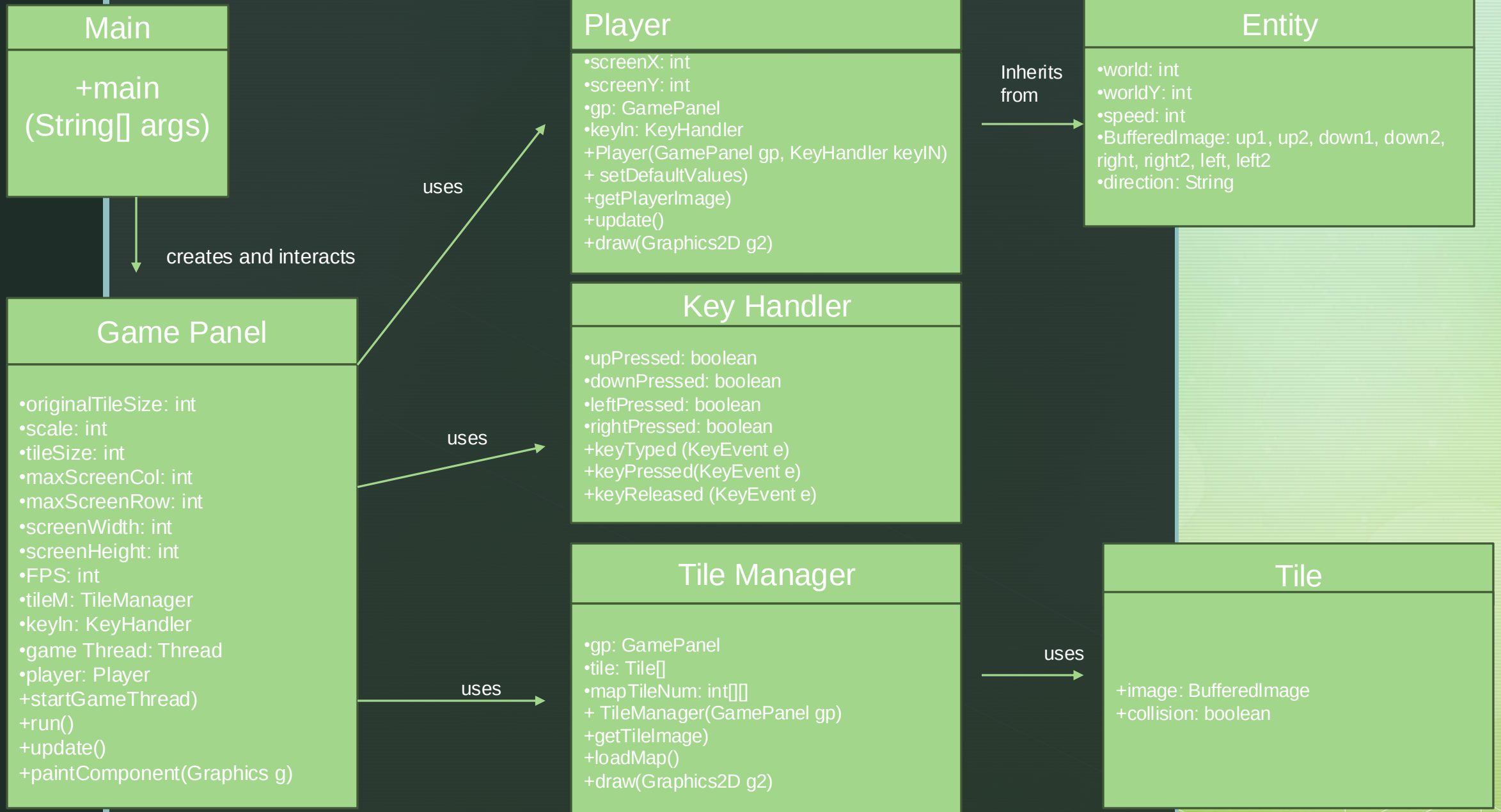
Adventure Of Sprite



Adventure of Sprite

- This game is a 2D adventure where you control a character on a grid-based world. You explore different areas, avoid obstacles, and move using the keyboard. The world is made up of different tiles, like grass and water. The game runs smoothly with 60 frames per second.


Main
+main
(String[] args)
creates and interacts
Game Panel
•originalTileSize: int
•scale: int
•tileSize: int
•maxScreenCol: int
•maxScreenRow: int
•screenWidth: int
•screenHeight: int
•FPS: int
•tileM: TileManager
•keyIn: KeyHandler
•game Thread: Thread
•player: Player
+startGameThread)
+run()
+update()
+paintComponent(Graphics g)
uses
Player
•screenX: int
•screenY: int
•gp: GamePanel
•keyIn: KeyHandler
+Player(GamePanel gp, KeyHandler keyIN)
+ setDefaultValues)
+getPlayerImage)
+update()
+draw(Graphics2D g2)
Inherits from
Entity
•world: int
•worldY: int
•speed: int
•BufferedImage: up1, up2, down1, down2, right, right2, left, left2
•direction: String
uses
Key Handler
•upPressed: boolean
•downPressed: boolean
•leftPressed: boolean
•rightPressed: boolean
+keyTyped (KeyEvent e)
+keyPressed(KeyEvent e)
+keyReleased (KeyEvent e)
uses
Tile Manager
•gp: GamePanel
•tile: Tile[]
•mapTileNum: int[][]
+ TileManager(GamePanel gp)
+getTileImage)
+loadMap()
+draw(Graphics2D g2)
uses
Tile
+image: BufferedImage
+collision: boolean

Main Class

- Creates a **GamePanel** (the main area of the game) and starts the game loop.

GamePanel Class

- **Purpose**: This class manages everything that happens in the game (like controlling the player's movement and drawing the screen).
- **How It Works**:
- **Game Loop**: The game runs in a loop where it constantly checks for player input, updates the player's position, and redraws the screen.
- **Handles Input**: It uses the **KeyHandler** class to listen for key presses (W, A, S, D to move).
- **Draws the Game**: It also uses the **TileManager** to draw the background (map) and the **Player** class to show the character.

Player Class

- **Purpose**: This is the player's character in the game. It handles the player's position, movement, and images.
- **How It Works**:
- **Movement**: The player moves around the screen based on which keys are pressed (W for up, S for down, A for left, D for right).
- **Drawing the Player**: The class also decides which image of the player to show (depending on which direction the player is facing).

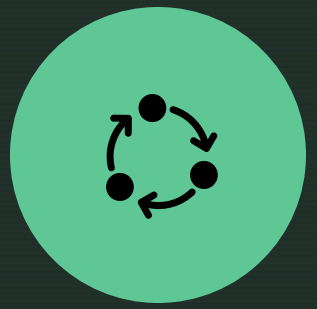
KeyHandler Class

- **Purpose**: This class listens for key presses and tells the game what to do when a key is pressed.
- **How It Works**:
- It checks which keys are pressed (W, A, S, D) and updates the player’s movement.
- It also stops the player from moving when a key is released.

TileManager Class

- **Purpose**: The **TileManager** controls the map of the game. It loads the images for the tiles (like grass, water) and places them in the game world.
- **How It Works**:
- It reads a map file that tells where each tile goes.
- It then draws those tiles to create the game world (like creating a background for the player to move around in).

Tile class



PURPOSE: THIS CLASS REPRESENTS A SINGLE TILE IN THE GAME (LIKE A PIECE OF GRASS OR WATER).

HOW IT WORKS:

EACH TILE HAS AN IMAGE AND A PROPERTY CALLED COLLISION TO CHECK IF THE PLAYER CAN WALK OVER IT.

Map

The map uses a grid to represent different terrains, with each number assigned to a specific tile type. "0" is grass, "1" is water, "2" is stone, "3" is sand, and "4" is wood plank.

Grass (0) is open terrain for easy movement. Water (1) blocks movement and shapes paths. Stone (2) provides solid areas for specific uses. Sand (3) is a softer terrain that transitions between areas. Wood planks (4) act as bridges or structural elements.

These tiles combine to create a dynamic and interactive map for varied gameplay or simulation.

Character: The Player

- **Role:** The main character in the game, controlled by the player.
- **Appearance:** A simple sprite that can face different directions (up, down, left, right) based on player input.
- **Starting Position:** The character begins in the center of the game world.
- **Movement:** The character can move in all four directions using the keyboard (W, A, S, D keys).
- **Goal:** Explore the game world, navigate through obstacles, and interact with the environment.
- **Personality:** The character is curious and brave, exploring the world without fear of the unknown.