

Implementation

Cohort 3 Team 4

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Third-Party Assets/Libraries used

libGDX: The main library used for the entire game. It provides the core components for creating a cross-platform game in Java, handling the game loop, rendering, input, file I/O, and screen management.

Suitability: Its code-centric nature offers great control over game logic. The framework also provides efficient rendering and a scalable structure for managing different states.

<https://libgdx.com/> , <https://github.com/libgdx/libgdx>

libGDX Tiled Map Integration: Allows for loading and rendering maps created with Tiled Map Editor. The MapManager class makes lots of use of this feature by loading a .tmx file and extracting tile layers (for collision) and object layers (for interactable events).

Suitability: This library is ideal as it separates level design from programming. It allows us to define different gameplay areas directly in the map file, creating a clean game structure.

<https://libgdx.com/wiki/graphics/2d/tile-maps>

gdx-freetype (Extension): An official extension used to generate fonts from .ttf files at runtime. It is used in our screens to create custom-styled fonts for the UI (timer, title etc.)

Suitability: This extension is highly suitable as it generates nice, scalable fonts. It allows for high-quality UI text with custom sizes and borders. Without it, text would be very pixelated.

<https://libgdx.com/wiki/extensions/gdx-freetype>

Features that weren't implemented/need more improvements:

Event System: EventManager is functional but rigid. It handles a few specific, hardcoded events, which works for the current implementation, although lacks flexibility and expandability for new puzzle types, thus making it definitely improvable for future reference.

Audio: While background music and a running sound are implemented, there are no code hooks for other common sound effects such as interacting with an object, collecting the key, UI button clicks etc.

Game Asset Documentation (Graphic, audio & font assets)

Asset Description	File Path	Source/Author	License	Usage in Project
Primary Tileset	ENG1\Game\assets\Art	https://ventilatore.itch.io/the-fantasy-tileset	Free/No Copyright	The core of the map, its main buildings, scenery, objects, paths and objects.
Secondary Tileset	ENG1\Game\assets\maps\Tilesets\Blocky_VikingVillage_Tileset.png	https://carbonova.itch.io/viking-village-rpg-tileset	Free/No Copyright	Viking touches to the map here and there, like some objects, buildings, bridges.
Background Music	ENG1\Game\assets\Sound\background_music.mp3	https://pixabay.com/music/main-title-shadows-of-valhalla-epic-viking-background-music-for-video-full-ver-393798/	Pixabay License/Royalty-Free	Play the music once the game loads all throughout on loop.
Running Sound Effects	ENG1\Game\assets\Sound\running_sound.mp3	https://pixabay.com/sound-effects/running-on-concrete-268478/	Pixabay License/Royalty-Free	Sound to be played whenever the character is moving on loop.
Main UI Font	ENG1\Game\assets\ui\arial.ttf	Monotype (Robin Nicholas, Patricia Saunders)	Proprietary	Used for titles, buttons, instructions, and all other UI text rendered in-game.
Splash Screen	ENG1\Game\assets\Art\Splash_Screen.png	Dashiell via Google Imagen 4	Generated Asset	Background to the screen that shows upon game launch.