

# TOWER OF ODYSSEY

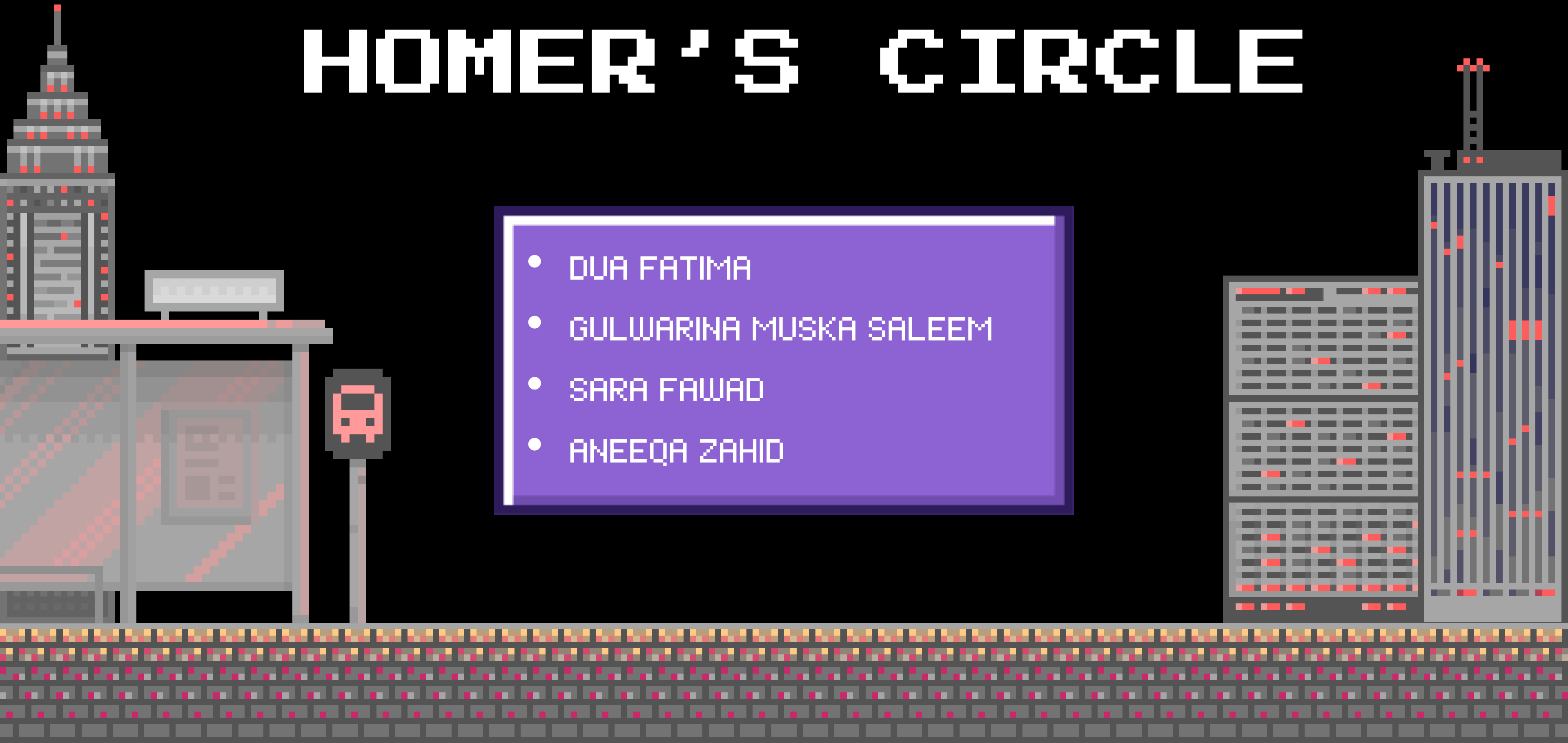
LET'S START



BY

# HOMER'S CIRCLE

- DUA FATIMA
- GULWARINA MUSKA SALEEM
- SARA FAWAD
- ANEEQA ZAHID



# ROLES OF TEAM MEMBERS

DUA

Create the PowerPoint presentation slides (project idea, features, architecture, third-party modules).– Document the breakdown of work done by each member.

ANEEQA

Prepare and conduct the project demo (test all features to ensure they run smoothly during the demo).– Screen Record the demo.Test everything (internet connection, audio, video, demo functionality).

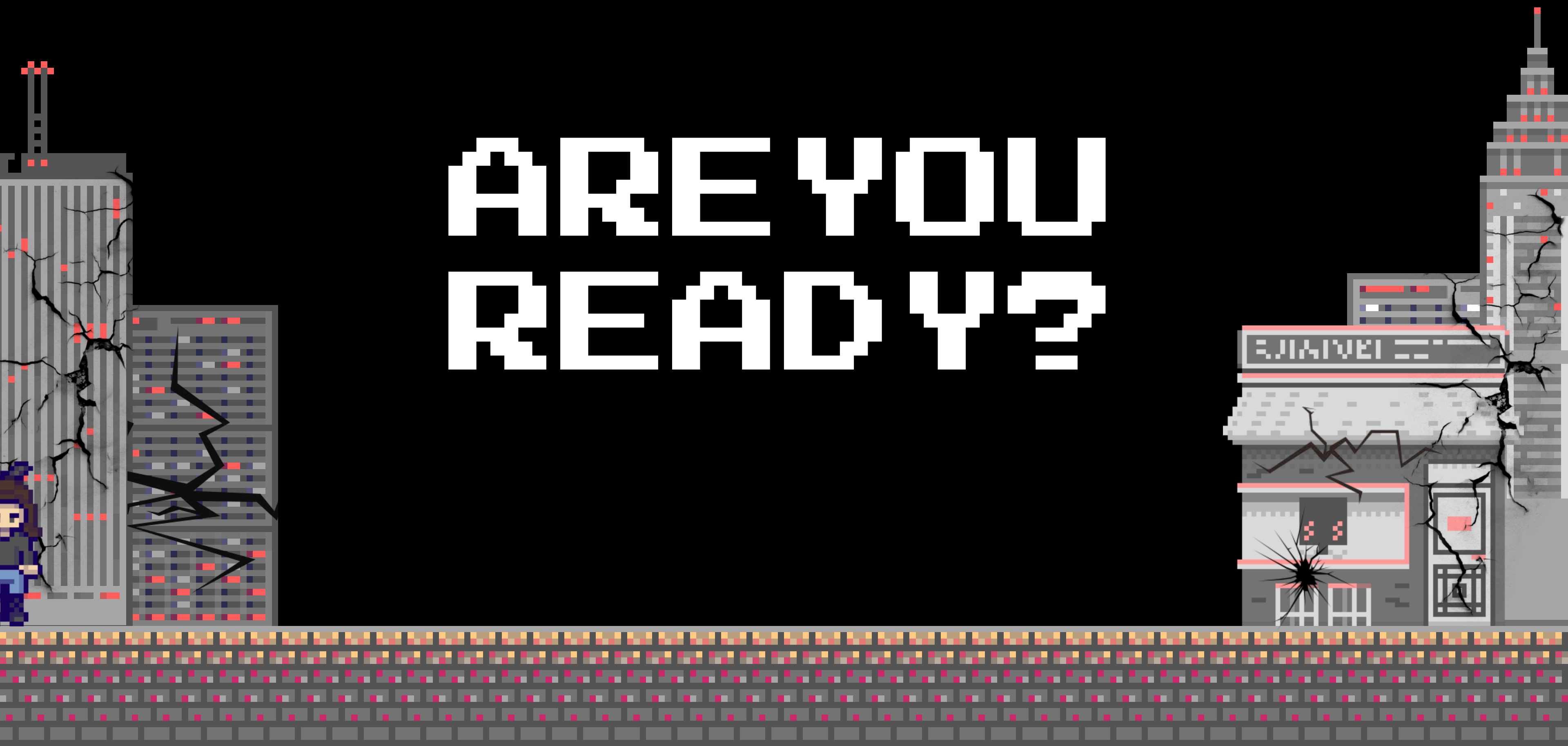
GULWARIN

Document the final project architecture in detail.– Provide descriptions of modules, third-party libraries, and interactions.– Create necessary diagrams.

A  
SARA

– Set up and finalize the GitHub repository.– Write the README.md file with project title, members, description, features, architecture, and running instructions.–

ARE YOU  
READY?



# INTRODUCTION:

## ·Overview:

Tower of Odyssey is an interactive, console-based game designed to teach and reinforce C++ programming concepts in a fun and engaging way.

## ·Purpose:

To combine learning with entertainment, helping users strengthen their coding skills through problem-solving and challenges.

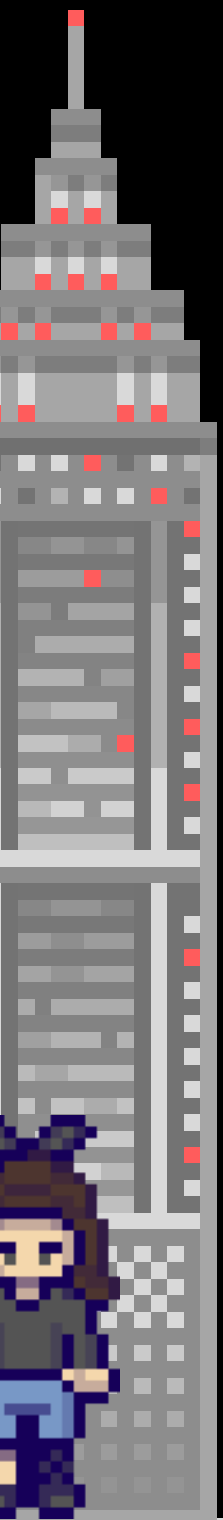
# OBJECTIVES

- Teach core C++ programming concepts (e.g., syntax, variables, functions).
- Provide an engaging gaming experience with mazes, puzzles, and challenges.
- Encourage critical thinking and debugging skills.

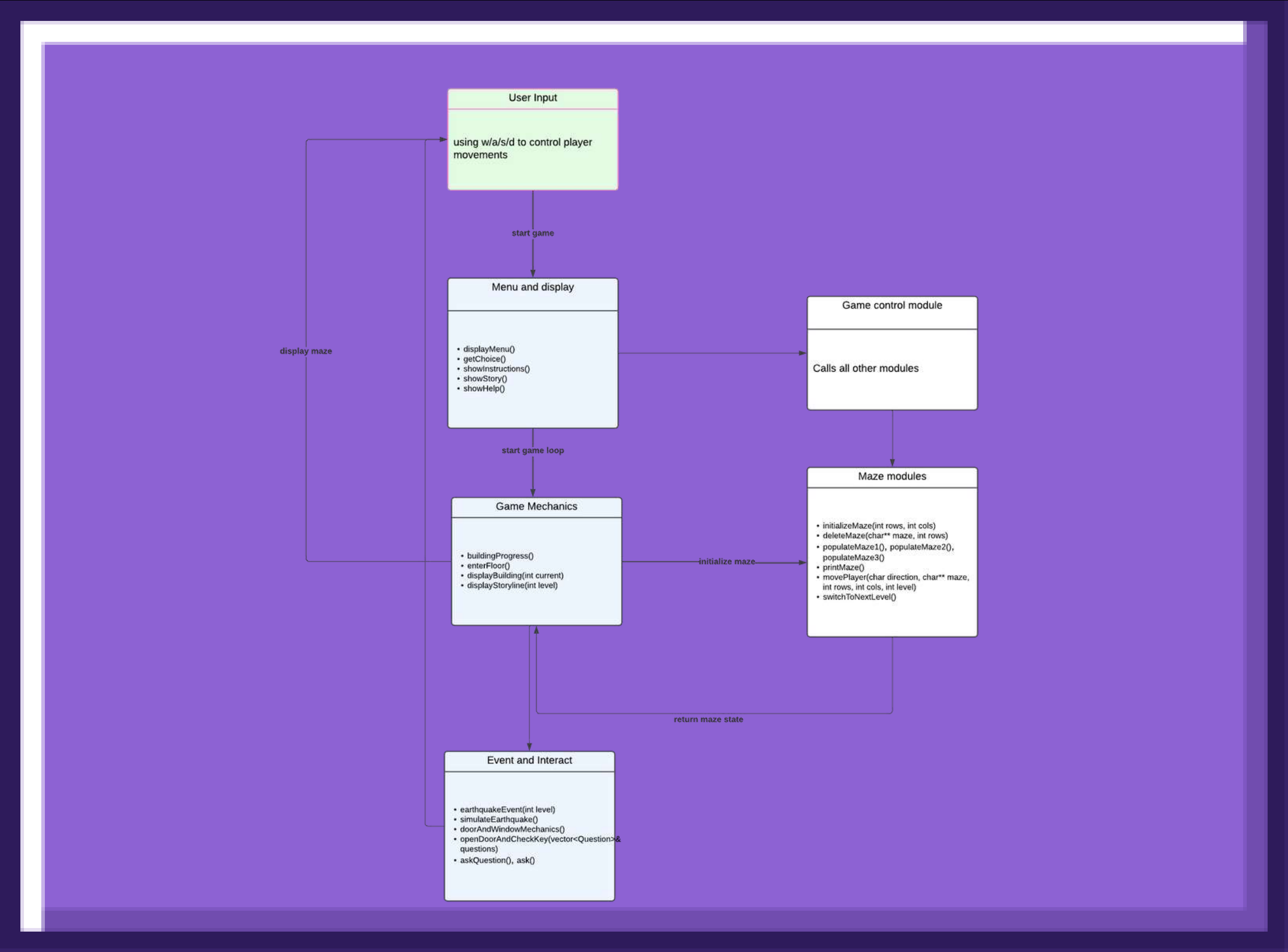
# STORYLINE:

## ·Plot:

You are a novice coder trapped in a mysterious building. To escape, you must ascend seven floors, solving C++ programming challenges and collecting parts.



# PROGRAM ARCHITECTURE





===== CODE ESCAPE CHALLENGE =====

Welcome to the ultimate test of your coding knowledge and survival instincts!

=====

Tower of Odyssey

=====

Welcome to the Tower of Odyssey!

Navigate the challenges and escape to freedom.

Loading menu, please wait...

[=====] 100%

Menu Options:

1. New Game
2. Load Game
3. Gameplay Instructions
4. Story Intro
5. Help
0. Exit

=====

Enter your choice: |

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# FEATURES:

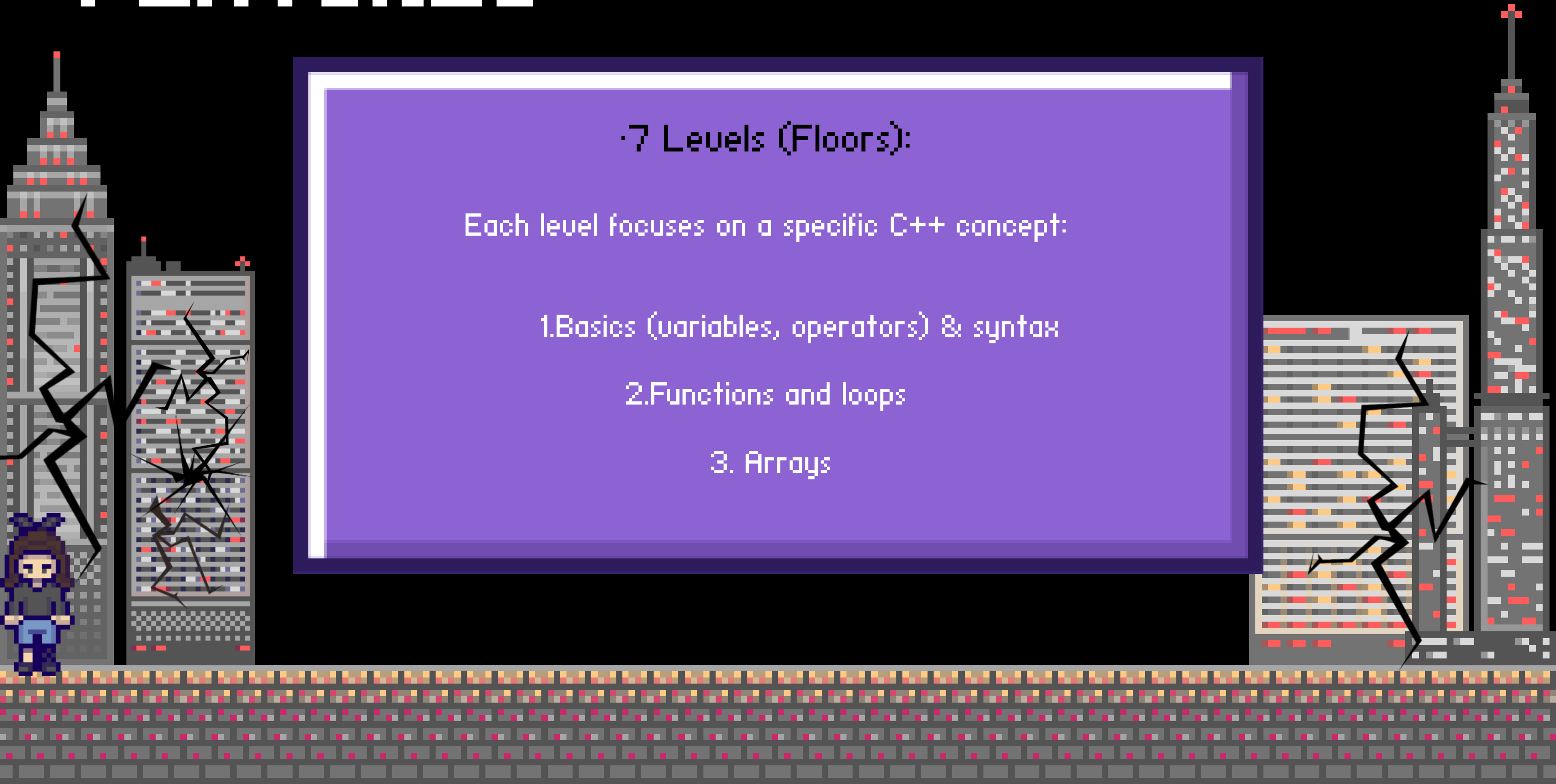
## · 7 Levels (Floors):

Each level focuses on a specific C++ concept:

1. Basics (variables, operators) & syntax

2. Functions and loops

3. Arrays



# FEATURES:

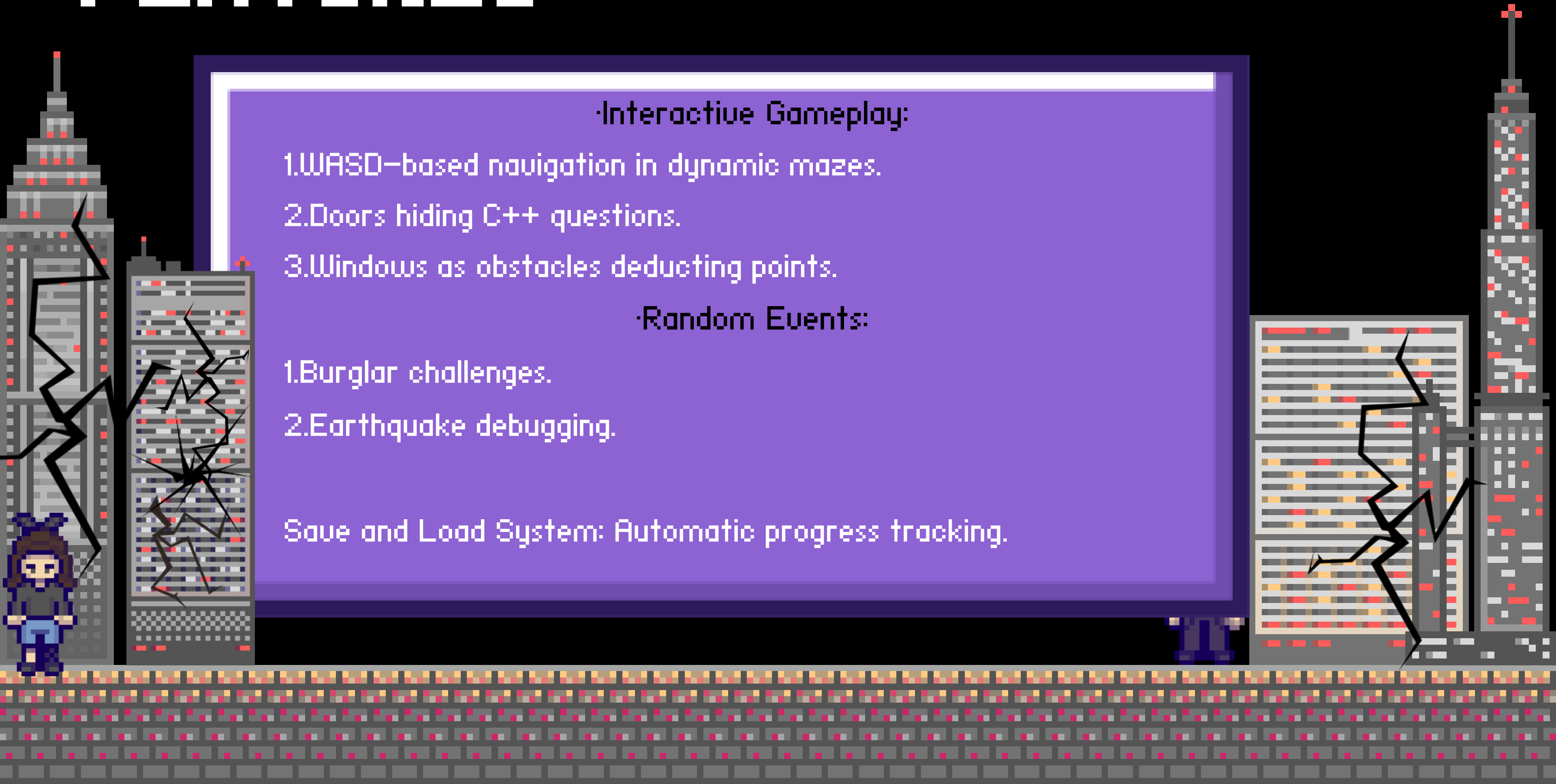
## ·Interactive Gameplay:

- 1.WASD-based navigation in dynamic mazes.
- 2.Doors hiding C++ questions.
- 3.Windows as obstacles deducting points.

## ·Random Events:

- 1.Burglar challenges.
- 2.Earthquake debugging.

Save and Load System: Automatic progress tracking.



# GAMEPLAY FLOW:

## Start:

- Enter the building via the main menu.
- Navigate through a grid-based maze.

## Challenges:

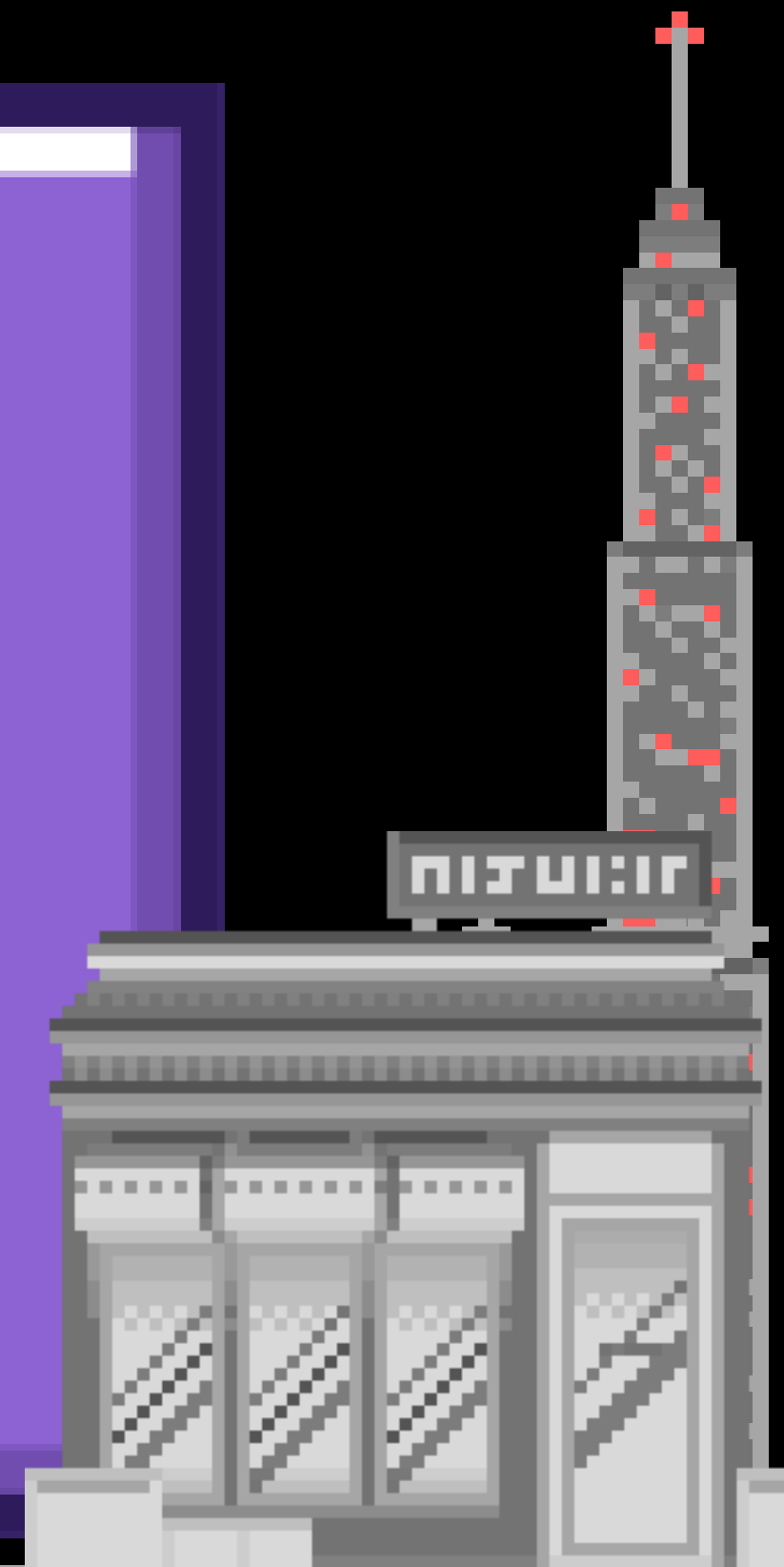
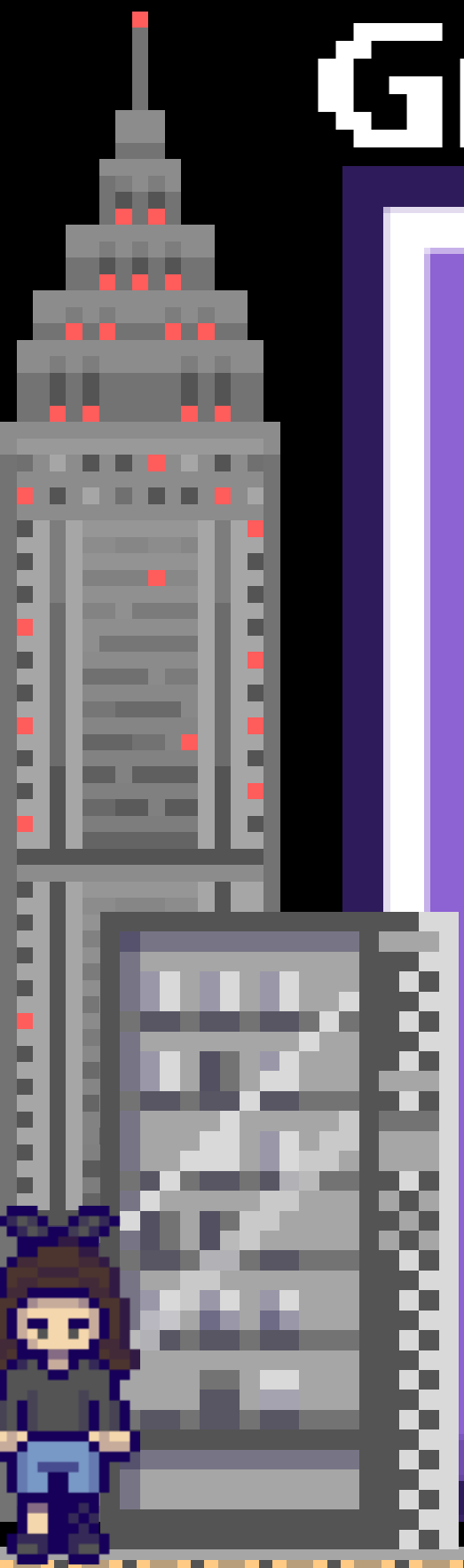
- Solve C++ questions to open doors.
- Avoid window collisions.

## Progression:

- Find the hidden key on each floor.
- Ascend to the next floor and increase difficulty.

## Winning:

Escape the building by solving all puzzles



# TECHNICAL IMPLEMENTATION:

·Programming Language:

C++

·Libraries Used:

- Strings and character data
- Math and numerics
- Sequence containers
- Algorithms
- Time

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·Programming Language:

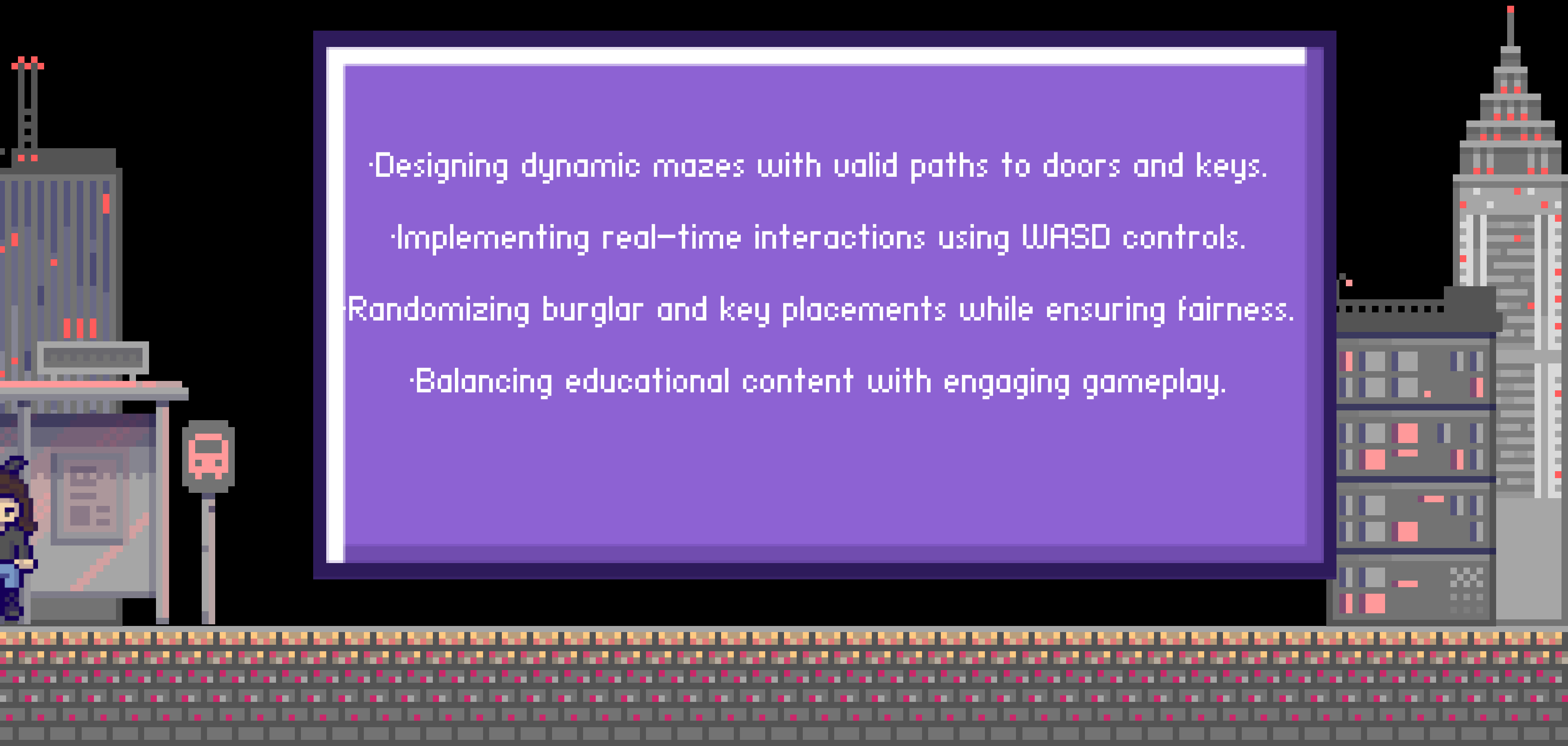
C++

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# CHALLENGES WE FACED:

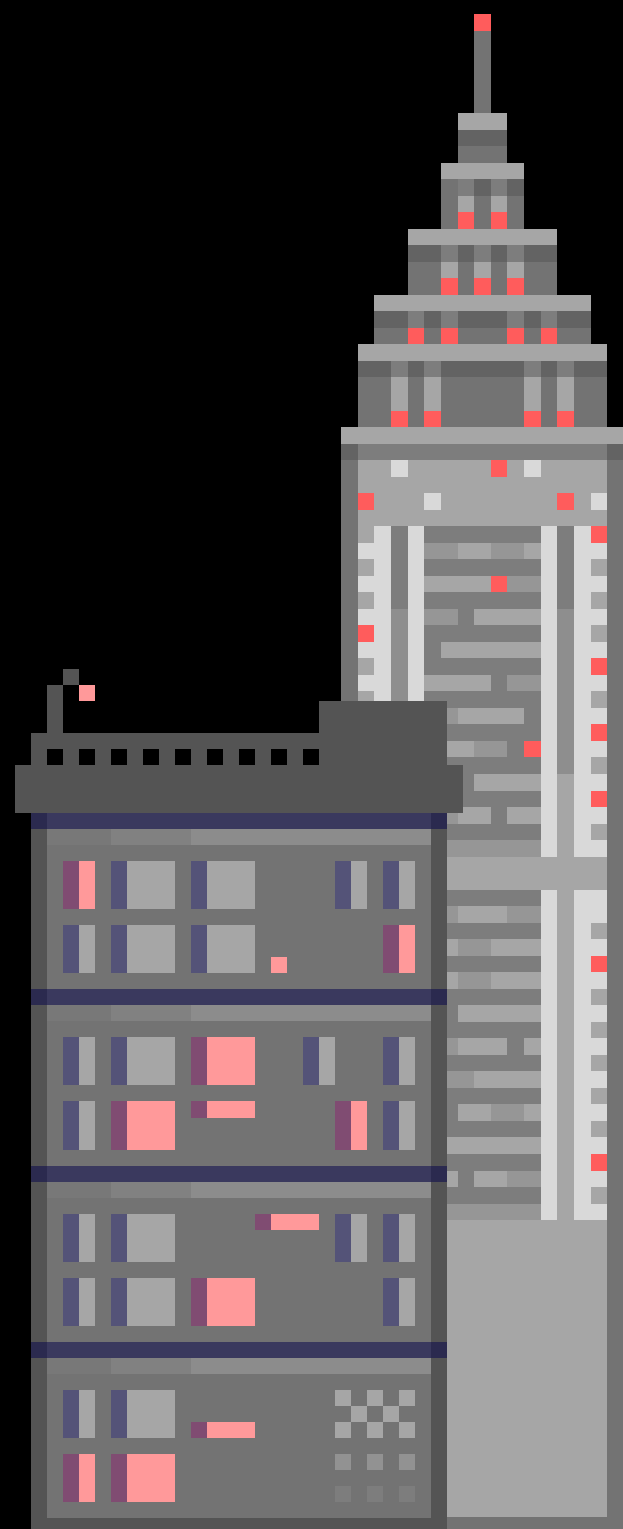
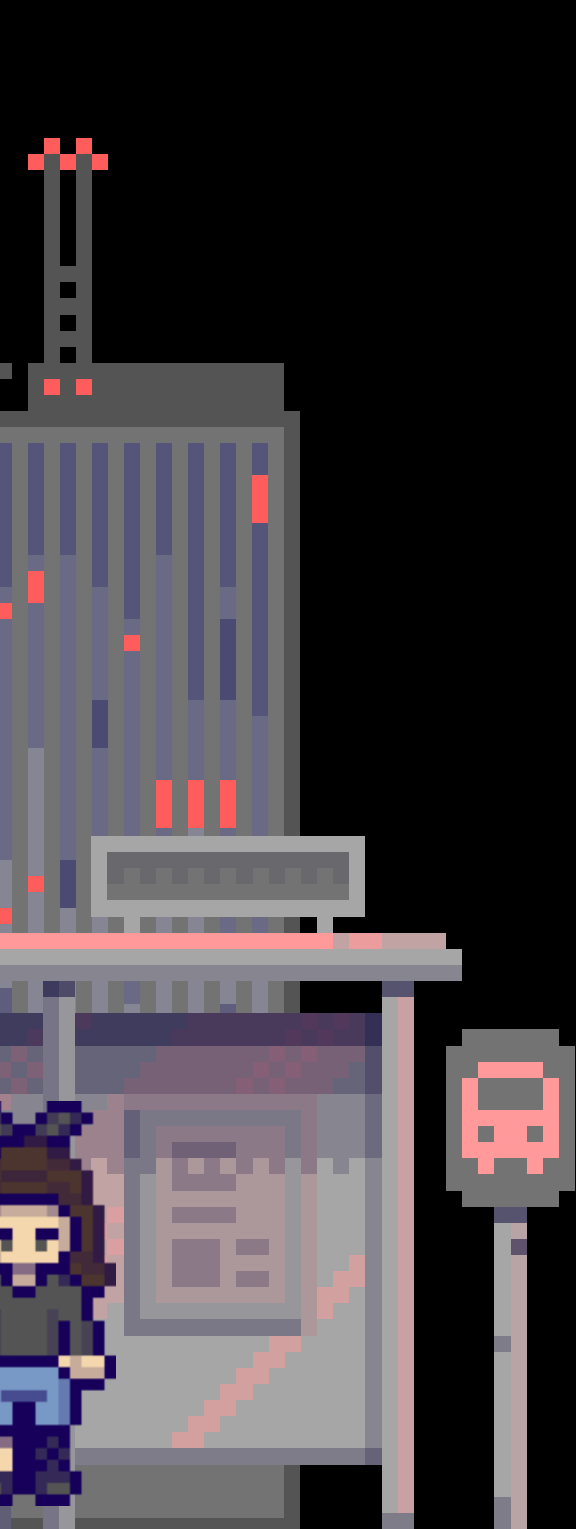
- Designing dynamic mazes with valid paths to doors and keys.
- Implementing real-time interactions using WASD controls.
- Randomizing burglar and key placements while ensuring fairness.
- Balancing educational content with engaging gameplay.





# LEARNING OUTCOMES:

- Improved understanding of C++ concepts like loops, functions, and file handling.
- Experience in designing interactive console-based applications.
- Problem-solving skills through debugging and algorithm design.



# THIRD PARTY MODULES:

1. SFML AUDIO: (<SFML/ Audio.hpp>) :

for audio functionalities

2.<conio.h>:

Compiler-specific for \_kbhit() and \_getch()

3.<windows.h>:

Windows-specific library for Sleep() and SetConsoleCursorPosition()

# THANK YOU FOR PLAYING!

We hope you had a blast!!!



Team Member	Responsibility	Modules/Tasks
Sara	Game Initialization & Score Management	– Game Initialization (loading previous progress, setting up the game) – Score Management (tracking and updating score)
Dua	Building Generation & Movement System	– Building Generation (creating layout with floors and doors) – Movement System (handling player movement between floors)
Gulwarina	Random Events & Quiz/Challenges	– Random Events (treasure, traps, NPCs affecting score) – Quiz and Challenges (C++ knowledge challenges)
Aneeqa	Display Score, Save High Score & Game Continuation	– Display Score (visual score updates) – Save High Score (saving score to file/database) – Game Continuation (deciding whether to continue or exit)