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Department of Computer Science and Engineering
Program: Bachelor of Science in Computer Science and Engineering

Project Final Report

Course No: CSE-1200

Course Title: Software Development – I

Project Title: **OUTERN: The Bloody Escape**

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Submitted to

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Introduction

1.1 Project Overview

OUTERN: The Bloody Escape is a fast-paced 2D side-scrolling action game where a prisoner seizes a chance to escape by overpowering a guard and stealing his weapons. As he goes down through the building using an elevator, he must go down through the building using an elevator and faces relentless waves of enemies like soldiers, tanks, helicopters and deadly bosses. The game focuses on intense melee combat, strategic weapon use and fast reflexes.

1.2 Objective

To develop a thrilling and strategic action game with an immersive escape storyline, challenging gameplay and intense combat experience.

Game Development

2.1 Tools & Technologies Used

- **Programming Language:** C, C++
- **IDE:** Visual Studio 2013
- **Graphics Library:** iGraphics
- **Platform:** Windows PC

2.2 Core Features

Wave System: Increasing difficulty with each wave. Each level contains 4 waves of enemies.

➤ **Power-Ups:** Temporary boosts like damage multipliers, speed boosts and shields. Both enemies and the main character gain powers after each wave.

➤ **Score System:** Points are awarded for each enemy destroyed. Bonus points awarded for completing waves without any damage.

➤ **Boss Battles:** Every fourth wave features a challenging boss. After defeating the boss, the next level is unlocked. Final boss appears at the end of level 4.

Implementation Details

3.1 Code Structure

The game consists of multiple modules:

- **main.cpp** – Initializes the game, starts the iGraphics engine.

3.2 Challenges Faced & Solutions

Challenge	Solution
Attack was unorganized.	Used precise bounding.
Movements of our hero was a bit faulty.	Proper sprites implemented for synchronization
Enemy spawning was predictable.	Implemented randomized enemy formations.

Screenshots



Figure-1: Loading Screen



Figure-2: Menu

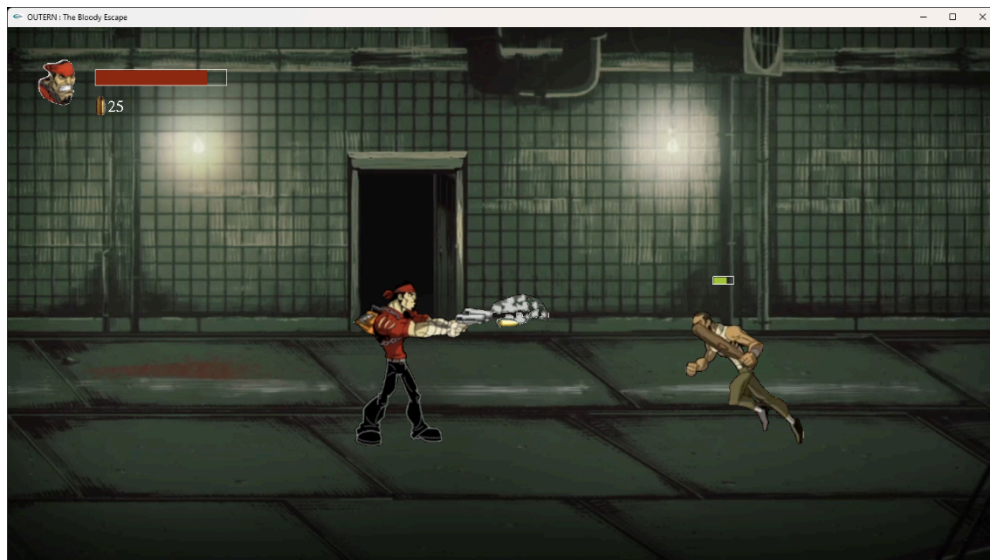


Figure 3: Hero Attacking

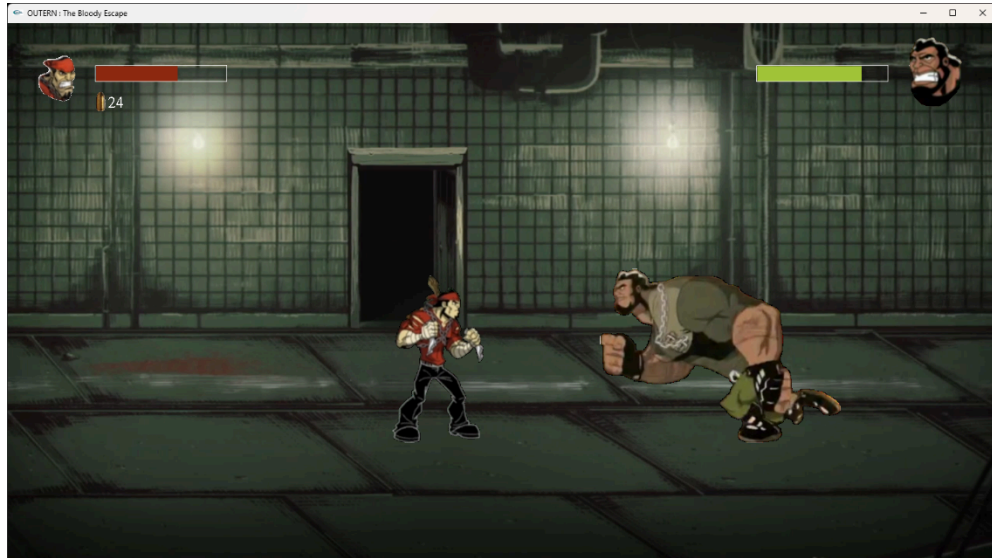


Figure 4: Boss Fighting

Conclusion & Future Improvements

5.1 Summary

This proposal outlines our plan to develop OUTERN: The Bloody Escape, a fast-paced and action-packed side-scrolling game using iGraphics. By following this development plan, we aim to deliver an intense, engaging and visually dynamic experience for players aged 12 and above.

5.2 Future Enhancements

- **Multiplayer Mode** – Allow two players to compete or cooperate.
- **Sound Effects** – Add background music and explosion sounds.
- **Advanced Graphics** – Improve alien animations and backgrounds.