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**Professor Panic: The Academic Exodus**

Requirements

Version 1.1

12/01/2023

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**Professor Panic: The Academic Exodus**

**Requirements**

**12/01/2023**

**WESTERN NEW ENGLAND UNIVERSITY**

**CPE -425, 525 SOFTWARE ENGINEERING**

**Team#1 Project**

DOCUMENT APPROVALS

|  |  |  |
| --- | --- | --- |
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DOCUMENT CONTROL / REVISION HISTORY

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| --- | --- |
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# *Business Requirements for Professor Panic: The Academic Exodus*

## 1. Introduction

The development of *Professor Panic: The Academic Exodus* will be covered along with the technical requirements. The scope, objectives, and features of the game are defined.

### 1.1 Purpose

The purpose of this project is to aid in the learning experience of the students of Team One. Through the development of Professor Panic: The Academic Exodus, students learn about the software engineering process.

### 1.2 Scope

*Professor Panic: The Academic Exodus* is an action/adventure game developed in Python using the PyGame module. This document will cover the high-level requirements, including an overview of the game, features, and functionality.

## 2. Game Overview

### 2.1 Game Concept While Sleith Hall provides students with a quality education during the day, past midnight everything changes as things go awry. After staying a little too long, *Professor Panic: The Academic Exodus* takes the player on an adventure to escape Sleith Hall by battling monsters and professors who have turned against you. The player will need to acquire a wide variety of tools available in rooms across the three floors before they can escape.

### 2.2 Target Audience The primary audience will be engineering students at WNE of any age along with professors but has themes that are universal to everyone who has been in an educational setting.

### 2.3 Game Objectives

1. The main goal for the player will be to escape Sleith Hall.
2. This will be accomplished by getting to the third floor and defeating the final boss.
3. To get to the third floor, the player will need to obtain the items necessary to build a functional LED circuit board, progress to the second floor and then the third floor.
4. Each floor will contain rooms which will have different items.
5. There will be 3 rooms on each floor. At the end of each floor the user will build the circuit with the items they have obtained.
6. A key will drop once the final boss is defeated allowing the player to leave.

## 3. Features and Functionality

### 3.1 Gameplay Features

### The game will feature item drops from enemies and chests.

### There will be various enemies on each floor.

### Each floor will have one boss.

### Collected items will be required to progress through the game.

### The player will be armed with a pencil as a weapon at the start of the game.

### After collecting certain items, a projectile weapon will become available to the player.

### The projectile weapon will be a microcontroller board similar to that used in CPE355.

### 3.2 User Interface

1. The keys W, A, S, and D will cause the character to move up, left, down, right respectively.
2. Clicking the mouse will cause the player to use the currently equipped weapon to attack.
3. Output will come through speakers for audio and monitor for visuals.
4. When in game, the Escape key will bring up the pause menu.
5. Keys 1-9 will allow the player to select a weapon.
6. The left-shift key will cause the character to sprint, increasing their movement speed.

For more specifics on controls and functionality, please see User’s Manual.

### 3.3 Graphics

Professor Panic: The Academic Exodus will:

1. Be a top-down 2D game with visible pixels.
2. Have an art style and audio selection reminiscent of games like The Legend of Zelda or old Pokemon Gameboy games.

### 3.4 Multiplayer or Single-Player

*Professor Panic: The Academic Exodus* shall be a single player game that will include multiplayer capabilities.

### 3.5 Platforms

*Professor Panic: The Academic Exodus* is compatible with any system that can run Python3 scripts, has the PyGame module downloaded, and has a keyboard, mouse, and visual output.

3.6 Main Menu

1. New Game shall start a new save game file and initiate the game.
2. Load Game shall allow the player to load from a previously saved position in the game.
3. Settings shall allow the player to change in game settings such as graphics, audio, and controls.

3.7 Enemies/Combat

1. The user will encounter minor enemies to combat.
2. The user will encounter major enemies to combat.

## Technical Requirements for The Academic Exodus

## 1. Programming Language

*Professor Panic: The Academic Exodus* will be programmed using the latest version of Python, utilizing the PyGame module.

## 2. Libraries and Frameworks

The latest version of PyGame will be used for implementation, which contains many methods and attributes which will reduce the time required for development and design. This is mainly because it includes modules and features for audio, graphics, and user input that will help with the development of the game.

## 3. System Requirements

## *Professor Panic: The Academic Exodus* islow intensity and is able to be run on any machine that can run Python3 and has PyGame installed as well as has all requisite I/O devices.

## 4. Project Timeline

See SDP document for most recent project timeline.

## 5. Risk Assessment

For risk assessments and countermeasures, please see Risk Management document.