Soul Collector

Computer Science 483W Team – The U.N.

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## 1 Abstract

Soul Collector is a top-down exploration game in which a dead protagonist attempts to escape a labyrinthine purgatory with multiple floors of traps and demons. In order to get through the maze, the player must utilize items that he finds to solve puzzles and escape the demons. The end goal is for the player to collect the pieces of his soul scattered across the various floors.

The game begins with the protagonist awaking in a random part of the purgatory with a memory of his death and a voice speaking to him. The voice explains to him that his soul has been broken through life and scattered throughout the labyrinth. If he can find all of the pieces of his soul before falling into darkness, he will be transported out of purgatory.

Light attracts demons (even though otherwise, they are blind) because they wish to destroy it; however, the player’s ability to see throughout the maze depends on light, whether it is the light from the Zippo he found in his pocket, or the light of the parts of his soul.

The player makes a choice between avoiding and killing the demons. Generally, it is more difficult to avoid the demons, and killing them seems like the best solution. However, the game has an implicit timer; as the player kills more demons (and slowly as time goes on), he becomes more beast-like. As the player transforms into a beast, he can utilize more direct and violent means of solving puzzles and defeating demons. If the player completely transforms into a beast, they will lose the will to escape, and become just like the rest of them - in other words, they lose. This mechanic requires the player to balance his humanity and will to escape. If the player chooses to use non-violent means to escape, they will advance through the maze by unlocking various doors with keys or through solving puzzles. But as more doors are opened, more demons are released into the playing area.

## 2 Requirements

### 2.1 Background

Monkey Island and other adventure games have existed since the beginning of the digital age. Recently, games utilizing excellent design have created horror games, such as Amnesia. However, no one (that we know of) has successfully blended the two genres together, creating a 2-D horror game with adventure elements. This is what we aim to create.

### 2.2 Essential Solution

We have described some of the mechanics the player will utilize in the abstract. Here, we will go more into detail.  
 The player will wake up within the labyrinth and a voice will speak to him, notifying him of the objective – to gather the parts of his soul. No other information is given at that time. The player will then take control of his avatar within the maze, with some controls described to him by way of dialog boxes, including the use of the lighter serving for his light source.

The measure of a player’s “demonic state” (how far he has gone in becoming a beast himself) will be measured on a bar on the player’s head’s up display (HUD), along with the player’s health. This HUD will be rendered as various labels and bars, on top of the portion of the maze the player can see. The player will be controlled using the arrow keys on the keyboard for movement.

The player’s sight will be limited if he does not have his lighter out. He will be able to see for only a very short distance in the dark, but monsters will also not be able to see him. The first encounter with a demon will be a scripted sequence in which there is a light in a hallway, and the monster rushes to attack it and extinguish it. In this way, the player will know that a demon will attack upon seeing a light.

Various puzzles will be scattered throughout the labyrinth. For example, one puzzle we may include is a door puzzle. If the player has transformed into a strong enough demon, he may simply break down the door using demonic powers, but this will further advance his demonic transformation. If the player does not wish to keep transforming, he may go and look for a key instead, or perhaps some gasoline to light the door on fire. Either option would entail further searches through the maze, making the player open more doors and let more demons loose.

The levels of the maze will be interconnected. The player will not be able to do them in any order they choose, but one level will be connected to many, allowing for some choice. This also means that demons from one level may be able to wander to other levels, making those more difficult. There will be breaks between the levels where the player does not have to fight or avoid monsters, so that the game will not feel completely tense all the time. These sections will most likely have non-violent puzzles in them.

### 2.3 Environment

The project will be cross-platform, so we discuss requirements for each OS.

Requirements for the Windows version of the product are:

* Microsoft Windows XP
* Microsoft C++ 2012 runtime

Requirements for the Linux version of the product are:

* A recent variant of Linux (executables will be created for popular distributions, such as Debian and Fedora)
* C++ libraries
* SFML runtime library

Requirements for MacOS have yet to be determined.

### 2.4 Implementation Outline

The development of this project will be in Visual Studio 2012. We will use SFML for graphics, sound and input, and Git for source control.

### 2.5 Operational Assumptions

We assume the computer is running at least Windows XP, Mac OS 10, or some recent version of Linux that supports shared objects. The system should have at least 256MB RAM, as well as some sort of graphics capability with VBO support. The system must have internet capability in order to download the game; the game will not be distributed on physical media.

We assume that the monitor has at least 800x600 pixels resolution. The player must also have a keyboard with arrow keys. The files, including images, maps, and DLLs, that ship with the game must be in an uncorrupted state.

## 3 Graphical Representation

Here we have some concept art of what the game might look like when it is finished.

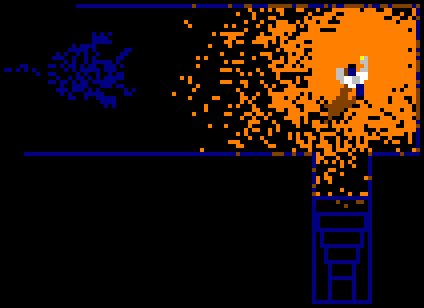


*Figure 1: The menu screen, which shows up when the user first launches the game. The “Play” button takes the player to Fig. 3 or 4. The “Settings” button takes the player to Fig.4. The “Help” button displays the controls, as well as some information about the authors.*



Figure : The settings menu, where the player can change the way the game is displayed and played. The “Resolution” drop-down menu changes the size of the window, as well as the color depth (bits per pixel). The “Difficulty” chooser changes how difficult the game is, including aspects such as player health, monster health, and size of the lighted area. Finally, the “control scheme” chooser changes whether the game is controlled by mouse or keyboard. The back button returns the player to the main menu, in Fig. 1.

Lit area



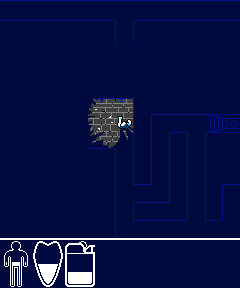
Monster, obscured

Stairs to another area

Player

Figure : In-game concept art. The player, along with a lit area, is next to a monster. Stairs, displayed toward the bottom, take the player to another level of the dungeon. The monster is only an outline because it is not inside the lit area.

Obscured walls (out of sight, but previously discovered)

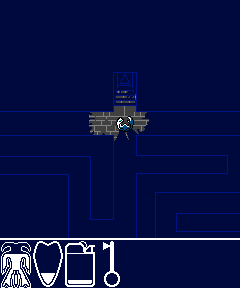


HUD, from right to left: humanity, health, and lighter fuel.

Player

Lit area

Figure : Another (updated) in-game screenshot, this one showing the HUD (heads up display) containing the player’s health, transformation state, and lighter fuel.



Key, picked up from the maze

Locked door

Player, now a monster

Figure : Another (updated) in-game screenshot, showing the HUD where the player has a key in his inventory and is close to being a full demon; note the changed humanity bar.



Figure : If the player loses all his/her health, the game ends and this screen is displayed.

## 4 Modules

In this section, we will discuss the different modules (classes) that will make up our project, as well as brief descriptions.

First, we will discuss some of the SFML libraries’ classes that are used in the project, and that are superclasses of some of ours.

* sf::Drawable : The base class for all

### 4.1 Back-End

## 5 Diagrams

### 5.1 Decomposition

This diagram shows how the game is decomposed into two modules; the frontend and the backend.



### 5.2 UML Diagrams

These UML diagrams show the relationships between the objects within the game, as well as how they are defined. *N.B.* Since the game is currently in development, these UML diagrams are subject to change.

#### 5.2.1 Back-End

Note that the elements of the back-end are not strictly computational elements; they have sprites/textures and can draw themselves. This decision was made so as not to make certain information redundant, such as position (which is held in the sprite class).



#### 5.2.2 Front-End



### 5.3 State Diagram

This state diagram shows the regular flow of the game.

