

# Flashlight

## Technical Design Document

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### Overview:

Also possibly referred to as the Flashlight Game, this game would primarily take on the isometric perspective with very simple 2D art for characters and furniture throughout the gameplay area. Before examining the aspects that Flashlight would focus on, it is first important to understand the basic concepts of the Flashlight Game and the Winchester Mystery House.

The Flashlight Game has variations and many different titles for its gameplay, but from a generic perspective it often involves the player, or players, to equip themselves with a flashlight before the start of the game. While it can be played alone, typically the game is played with multiple people or groups, and the game can begin once all players have met and positioned themselves at the starting point outside of the intended building or site. After the game begins, the players are instructed to adventure into the building or site until they finally reach the agreed upon destination. At that location, typically players must locate a journal or plaque and proceed to sign their signatures before returning to the starting point. Evidently, once the journal is collected, the game becomes a matter of testing which players made it through the trial first, and sometimes points are obtained for time, signature, and other side activities.

The Winchester Mystery House is a historical location, where essentially a simple mansion was constantly built upon by the heiress until death. The purpose of the unfinished building was the constantly expand the mansion's limits until it became a senseless maze that would supposedly cause spirits to become lost within. This was mostly a result of the fact that the heiress feared the spirits slain by the Winchester rifle, and therefore the mansion was built under the belief that, as long as the building was unfinished, it would be impossible for anything to settle there.

As a result of these two concepts, the purpose of this game would essentially be to construct a game involving a building in a similar style, while also allowing for single or multiplayer value in a competitive and cooperative environment. The outstanding goal of the game would essentially involve the competitive for players to gain points through the collection of various items and the sojourns at various journal locations. The main focus of the game would instruct players to delve into the building in order to reach a certain location, leave their signature, and then return to the starting point in order to end the game. It is possible that after reaching the end, after a certain time limit, the game would completely end for all players,

and points would be totaled. Points would be earned depending on which players reached the end, which players managed to sign the main journal, and for other various achievements. These achievements could involve reaching extra locations and leaving signatures there, collecting treasures, and potentially warding off spirits or paranormal experiences.

Therefore, while players might be able to (or have to) work together in some circumstances, the game would eventually conclude with a totaling of points and an eventual winner. While likely involving networking for multiple players, this game could still be played in singleplayer, as the two main focuses of this game would involve networking and game AI.

In this type of game, the AI would likely be one of the most important aspects, largely because it is not simply applied to individual units. Instead, the AI of the game would largely be in task of dictating the possible game routes, the randomization of items and keys, as well as the various circumstances that might affect players. In this sense, the game AI would be tasked with constantly monitoring the game state and locations of the players in order to essentially create circumstances and events near players in order to gradually thwart their movements.

### **Gameplay:**

The game would be played from an isometric perspective. Players would be able to move around using the **WASD** keys with the **SPACEBAR** available for various actions. While movement would be confined to the **WASD** keys, the **MOUSE** would be utilized for the rotation of the player character, thus allowing the player to manipulate the direction of the flashlight as they move throughout the building. The primary gameplay will place the player in darkened rooms, and therefore the manipulation of the flashlight will be important for exploration.

The player can choose to turn off the flashlight by tapping the **F** key. A flashlight has a certain amount of power, and once depleted, the flashlight will be inaccessible until a battery or alterative is found.

Item collection would be limited, although there is potential for various consumable items such as wards, charms, batteries, improved flashlights, health, or other various aspects. However, here is a short list of potential or known items for the gameplay:

- Treasure
  - Upon collection, treasure items would increase the \$ value displayed on the HUD, thus representing the additional score value also displayed on the HUD.

- Key
  - Once acquired, keys would be listed on a top bar, with a limit of four keys at a given time. After collecting a fifth key, the collected key would be added to the end of the vector, and the first key would be dropped.
  - Keys can appear in two different forms: generic and specific. Generic keys share a common image and can be utilized to open any locked normal door. Specific keys will have different visuals, and often these keys are important for opening required passageways to reach the end goal.
- Health
  - Upon acquisition, the player will recover a certain amount of health, depending on the item.
- Tea / Coffee / Pills
  - Upon acquisition, the player will recover a certain amount of sanity.
- Battery
  - This will increase the power availability for the flashlight.
- Improved flashlight
  - Other flashlights of different power levels may be found, interacting with them will allow for the player to switch flashlights.
- Wards / Charms
  - These items may be held onto in order to protect the player from a single spiritual / paranormal event. Or, these items may be held onto in order to dispel paranormal activity from a location, thus acquiring points within the game.

Therefore, the player's experience will primarily revolve around exploring the multi-floor building in order to make their way to the central location while collecting various items within the building to assist them during their adventure. The player's HUD will contain various aspects such as the point value, battery level, consumables, health, and sanity. Health and sanity dictate the player's ability to remain in the game. Upon losing all of their health or sanity, a player's character is either rendered dead or insane, and the player loses all of their items and is forced to restart at the starting location with a new player character. All items collected remain on the player's original character, and therefore can be collected by other players.

If a player's character is dead, the player's body will remain at the location and the items can be collected from the player's previous character. If a player's character loses sanity, the player will no longer have control over their previous character, and therefore items cannot be collected from the previous character until certain circumstances are met. These states will be noted later in this section when the game AI and events is discussed.

Due to the fact that the game may be multiplayer, a feature should be available, via **ENTER** to allow players to communicate through chat. This chat feature could be global or local depending on game testing.

Various interactions features could be gradually incorporated into the game. For instance, interacting with crates or chairs could allow the player to essentially push or pull them, thus blocking areas or revealing hidden passageways. A player could also interact with various light switches in order to illuminate some rooms. Cabinets and doors could be interacted with in order to reveal the interiors.

As far as events are concerned, the game AI would be primarily responsible for mixing intended events and randomness in order to change the experience of the players. These events could be designed and examined at a later time, but they could simply extend from the simple action of turning out of the lights in a given room to create an apparition that might attempt to harm a player's health or sanity.

As such, the game would take into account a player's location, when they enter a room, how long they've been in a room, what items they currently hold, or what players are near them in order to create unique events that might be different through each play through.

Furthermore, while the structure of the building might remain the same, the location of items and possible routes could still change. Therefore, even if a player knows the general map of the building, the location of keys to unlock doors and the exact doors that would be required to reach the end destination might still be unknown for each play through. For instance, if a certain ladder would allow the player to ascend to the second floor in one playthrough, in another playthrough the ladder might not exist, and instead, a different door would be unlockable elsewhere that would have a staircase within to reach the second floor.

The Game AI, as noted beforehand, would take into account a player's location and well-being in order to generate events. For instance, after acquiring a key the game might have a chance to cause one of the objects in the room to fly at the player to cause physical harm, or after entering the hallway the game might take into account the player's key and generate an apparition that might lower the player's sanity if they are stuck in the area for too long.

With regards to the player's death or insanity. Upon death, the game might have a chance to create a ghostly image of the previous character in the room of death. Upon insanity, the player's previous character may simply cower at their given location, or they may wander aimlessly around the building, forcing player's to find its location in order to acquire the items.

Evidently, the majority of these designs are essentially ideas that would have to be gradually constructed during development.

## **Technical Challenges:**

Evidently, the game structure has two major challenges involving the networking potential and the AI development. However, the art components should be relatively simple, as the players can simply be stick-figure character and the building design merely needs to be isometric. While many ideas are present, the reality is that they are available in a way that will allow for gradual development of the game.

As a result, it is possible to constantly implement new features throughout the project, as everything does not need to be incorporated in all at once. Therefore, the project can be a fun way to experiment with different AI concepts on various units and gameplay designs.

To start, the initial examinations would revolve around creating a game that could be networked between two or more players, with an option for essentially playing singleplayer. Initial stages of this development would likely involve creating a game state where a game can be hosted and then played, where each player controls a different unit on the screen.

After that, creating the building and its maze features would be the next step, as the starting gameplay would involve immersing the networked game into a simple isometric world that has players race to find the end point. At this stage, improvements to the isometric design should be constantly added onto the game.

From there, additions involving the different levels of the building, doors, and objects can be incorporated. Then particle effects for the building's darkness and flashlights, collectibles, interactive objects, and other experience feature can gradually be incorporated into the game.

Evidently, it's a lot of potential material, but since the game can begin as simple experimentation with networking and isometric design, the game can gradually evolve to the state discussed throughout the design document.