



University  
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School of Computer Science  
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**Master of Applied Computing**

**COMP-8117**

**Advanced Software Engineering Topics**

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# **Gap Analysis**

**for**

# **Silent Screamer**

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## **1. Initial game plot expectations**

It was supposed to be a Horror survival game played from a first-person perspective. The player works solo to complete a level where they need to kill all the ghosts including the final villain to free the site from evil spirit's possession. For tackling ghosts, users will have to collect materials and develop weapons while exploring. The user will have a bag/inventory where all its collected items are present. As the game progresses, the difficulty will be increased, and a new villain will be introduced on different sites.

## **2. Initial Customer needs**

1. Innovative ideas related to metaverse and omniverse which requires components allowing interactions with reality.
2. Customer had three primary requirements for the game that it is supposed to be
  - Engaging
  - Interactive, and
  - Entertaining
3. Good and creative reward system as well as sound graphics related to the game's theme for the users.

### **3. Expected output at the beginning**

- We will develop 2 different types of environments i.e., Mansion and Graveyard.
- We will also add interesting characters in the game like different types of ghosts and the final villain of the stage which will be taken from the famous horror movie character.
- There will be time constraints if the user does not free the sites from ghosts within the time, then again, he needs to play that level again.
- Users will be getting points based on the ghosts they killed while completing the level and using it they can buy the objects such as Clothes, Weapons Skins, Demon Destroyer Kit, etc.
- There will be certain points defined after that user will get below abilities which they can use for few seconds.
  1. Become Invisible to ghosts for a few seconds
  2. Shield to protect from ghosts for a few seconds
- The abilities will be activated through a particular voice command which will be predefined, and the commands would be from the famous magic or horror movies to make the game more interesting. E.g., Expecto Patronum (Patronus Charm).

## 4. FINAL OUTPUT

A User engaging Horror game with two sites and a voice-controlled weapon. The game starts at the mansion in which the player is directed to go inside and kill the ghosts. In the process of exploring the mansion user needs to collect the weapons which will help kill the ghosts. After the mansion, the other site (Graveyard) will be accessible. There are three kinds of weapons, a knife, an axe, and a sword(voice-controlled). Healing objects in the game are apples, they increase the player's health.

### Customer's needs:

- Voice Command activation for the sword is implemented. This sword can kill both primary and secondary ghosts in a single shot.
  - Game is engaging and interactive with the visuals and sound graphics along with the voice-controlled weapon.
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- Two sites/ environments were developed. Both Mansion and Graveyard sites were completely developed.
  - The final villain is known as “Yaku”, the character's animation and action part were completed and working fine.
  - The time constraint is not currently implemented, some constraints such as the battery level of the flashlight were implemented.
  - The reward system (points) is implemented. However, purchasing options and in-game stores are not implemented.
  - There will be certain points defined after that user will get below abilities which they can use for few seconds.
  - Invisibility and shield abilities are not implemented yet.
  - The voice command to kill the ghosts with a single strike is implemented and working fine. Furthermore, this variation in the voice and command to kill will be implemented.

## **5. Success Achieved**

- As we have proposed at the initial stage, we have implemented our main features of the game and completed our game with around 90% efficiency. This happened because we have used an appropriate methodology for our project which is Agile. It is the best fit for our project as we have a small amount of time to complete our project and by using it we can also satisfy customers changing requirements easily.
- Software engineering played a major role in our success as we have implemented each aspect of it in our project. As we were using agile we divided our project into four sprints and in each sprint, we implemented all the lifecycles phases from requirement gathering to testing and deployment of our game and get the feedback from our customers.
- Another reason for our success is that we have used the project management tools effectively. For instance, we have organized scrum meetings every day using Microsoft Teams to communicate with each of our team members. We have also used JIRA the project management tool to keep track of our sprints and each task in development as well as in documentation. Apart from that, we have also used GIT to integrate and manage our source code remotely so that any team member can easily access it.
- We would like to appreciate the help from our Professor, Customer, and Project Director who evaluated our project during every sprint and iteration which helped us in adding different features and making changes to the current working system.

## **6. Reasons for Failure**

- We have not developed all the features of our proposed system because of the constraints like lack of time and lack of experience in the game development lifecycle.
- All sprint tasks are not completed as proposed at the beginning of the sprint during the lack of experience and because of the sprint backlogs we missed quite a few features in our system as we have a limited period.



## **7. Future Work**

- Multiple phrases and weapons can be used to kill the ghost.
- Multiplayer game and Online interaction with other users.
- Different types of villains
- Gun Skins, Player Skins, and multiple characters
- Planning the sprints effectively and considering buffer time.
- Deployment of game