Multi-User Active Shooter response for University Campus Evacuation

1. ABSTRACT

This game is designed to train people how to handle active shooter situation in a computer science (CS) building in Bowie State University. This game theme is: there will be a active shooter in the CS building and will try to shoot the people in the building. Now the users will enter the environment from multiple devices, as a policeman or common person in the building. If user enter as a policeman, then that person will have access to gun. If user choose a role to enter as a common person, user will have no weapon to attack the enemy but get to throw the objects on the enemy to harm him, and also user get a chance to practice run, hide and fight activity. For the common person the aim of the game is to safely exit the building without getting killed by the enemy. If the user enters as a policeman, the aim is to eliminate the enemy by following certain protocols.

2. GOAL AND OBJECTIVES

The goal of this project is to create a multiuser active shooter game for Bowie State University campus. This is helpful to the users to train for the situation. To perform a mock drill for these kinds of situation in the real world it is hard and expensive. But by using multiuser virtual platform, it is easy to create situations like these. For performing mock drills, virtual platform is the best platform for saving the time and money. This multiuser game is designed to practice Run, Hide and Fight, during active shooter situation.

3. MODELING

This project is developed in Unity 3D. The modeling of environment is edited and developed in sketchup. Once the editing is done the campus is imported into Unity assets. An account is created in photon cloud. A project room is created with the project name, in the photon cloud. Once the room is created, photon will create an ID. This ID will be saved for reference. In the Unity, photon assets are loaded into assets store. Once the photon assets are loaded successfully, Unity will let user to add the photon ID, this will let Unity access to Photon cloud. Photo is responsible for data sharing between users. With the necessary code attached to the objects in the unity will enable multi player mode. As shown in the figure below. Once the application is built successfully an EXC file will be generated. By having this file in a compute will let use to access the application.

4. PROGRAMMING

This application is developed for multiuser environment. Achieving multiuser is little hard to achieve, by using photon cloud service this became little easy. Photon cloud will act as a data exchange platform between the cloud users. Sometimes there will be a chances loosing internet connectivity, for those situations there is offline seen created. When connecting to the system user will get an option to select offline mode or online mode as shone in the figure. Once the user select the mode, then the next window will popup with two more options to select they are police and people as shone in the figure. After this window the loading window will popup. Ones the user select the online, the application will try to reach photon cloud. If any user already connected to the cloud then the data will get transferred to the new user and will let the user start the scenario from the same scenario.
V. CONCLUSION

This application is able to generate the multiuser game successfully. Achieving the multiuser networking is the hard task to achieve. It involves lot of code editing. The precaution needs to be taken is, this application will run on the open internet network but not in a network with firewalls turned on. In future the application will be developed in the more advanced level with the better animations to make the environment more realistically.

VI. ACKNOWLEDGEMENT

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VII. SCREEN SHOTS

User having the options to select Online Mode or Offline Mode.

Selecting the role of the user in the environment.
Loading screen for loading application.

Playing Run, Hide and Fight video.
Enemy attacking User.

You were successful. Hopefully you won't need to use these skills, but if you do, make sure to put them to good use.

Retry

Successful screen appearing after eliminating user successfully.
You failed. Perhaps you should retry?!
You were successful. Hopefully you won't need to use these skills, but if you do, make sure to put them to good use.

Retry