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## Goals and objectives:

1. Create a virtual simulation of a fire evacuation on a School Bus.
2. Through virtual simulation show effective ways to conduct a fire evacuation
3. Show a landscape perspective as well as an individual perspective of a fire evacuation

## Software used in project:

Vizard  
Sketchup

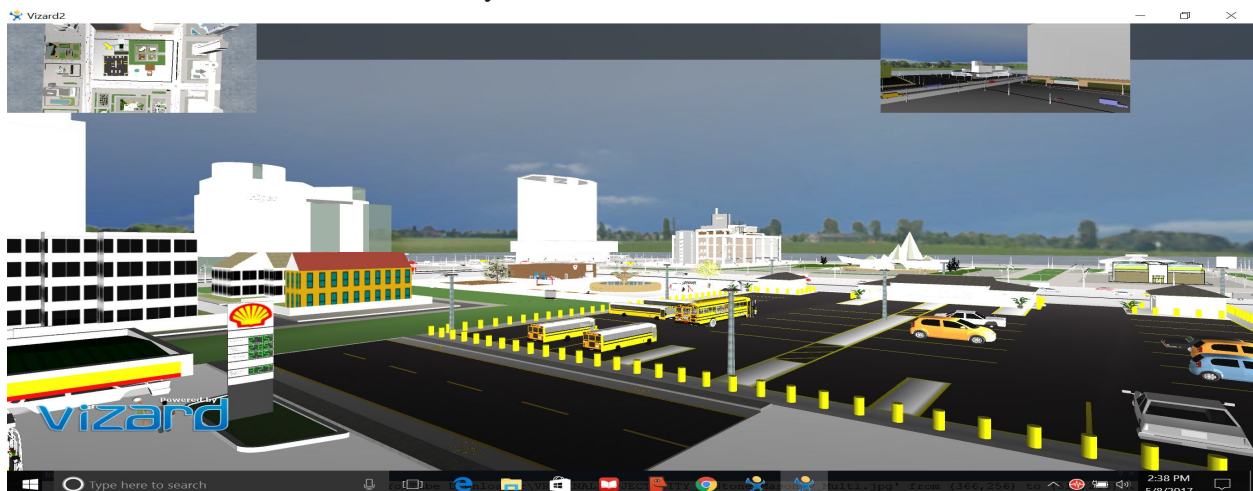
## INTRODUCTION:

School bus emergencies can happen anywhere, anytime, or involve anyone. There doesn't have to be a crash to cause the evacuation of the school bus. An on-board fire or the school bus stalling in a dangerous place like a railroad crossing or near a gas station on fire could be reason to evacuate the bus. What do you do in an emergency? Whose responsibility is it to take what action? The school bus driver is usually the only adult immediately available. Every driver should be physically able to carry-out the emergency evacuation plan without hesitation. In some emergencies, you may have only two to five minutes to evacuate the bus before students could be seriously injured.

## Modeling:

### Environment

We have created a virtual simulation of a fire evacuation on a School Bus with help of vizard and sketchup. This project will have bigger environment ,city like view where the school is located in the middle the city.





## GAME THEME:

- The game theme is to find bomb in the city.
- The player has first person view and the has control of the environment
- There is a timer which calculates the time taken by the player to complete the game.
- A set of checkpoints(bombs) placed around the city.
- When the player passes these checkpoints the checkpoint value gets incremented.
- When the checkpoint value reaches 5,the bombs are found and the city is safe..
- If the player can't find the bombs in given time, the bombs blows up and then the evacuation comes under the plan.





## SYSTEM REQUIREMENTS:

- ❖ Desktop:
  - OS: Windows XP+, Mac OS X 10.7+, Ubuntu 10.10+, SteamOS+
  - Graphics card: DX9 (shader model 2.0) capabilities; generally everything made since 2004 should work.
  - CPU: SSE2 instruction set support.
  - Web player supports IE, Chrome, Firefox, Safari and others.
- ❖ iOS: requires iOS 6.0 or later.
- ❖ Android: OS 2.3.1 or later; ARMv7 (Cortex) CPU or Atom CPU; OpenGL ES 2.0 or later.
- ❖ Blackberry: OS 10 or later.

## Functionality:

The game includes following functionalities

## **LIGHTS:**

Lights are an essential part of every scene. Lights define the color and mood of our 3D environment.



## **Window view:**

The window view is good functionality to see the full environment from a single window which is so useful from a game point of view.

Its two windows:

- The upper right window is a rear view of the scene.
- The upper left window is a bird eye view.



### **TIMER:**

Timer measures the time taken by player to find at least 7 bomb to complete task.



### **KEYBOARD FUNCTIONALITIES:**

Keyboard functionality is used to move player in the city environment. The user starts moving upon pressing W, A, S, D keys or by using arrows.

### **AUDIO FILES:**

To give effect of evacuation, we includes sounds for fire service(108) , burning fire sound and school bus driver voice,who trying say the people to evacuate the school bus. sound of bomb blast ,when you failed to complete the game within given time.

### **TEXTURES:**

Texture is added to the surface of a terrain to provide fine details. Every object in the game is given unique texture to make it look as realistic as possible.

### **SENSORS:**

we added proximity sensors around the bombs.



### **AVATARS:**



we includes avatars around the environment and avatars are used to show the evacuation of the school bus.



### **FUTURE DEVELOPMENTS:**

- Make the game a multiplayer.
- Use vizconnect feature and connect it to HTC vive.