



By :

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UNDER

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# Goals and objectives:

- Create a virtual simulation of a fire evacuation on a School Bus.
- Through virtual simulation show effective ways to conduct a fire evacuation
- Shows 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.

What do you do in an emergency? Whose responsibility is it to take what action?

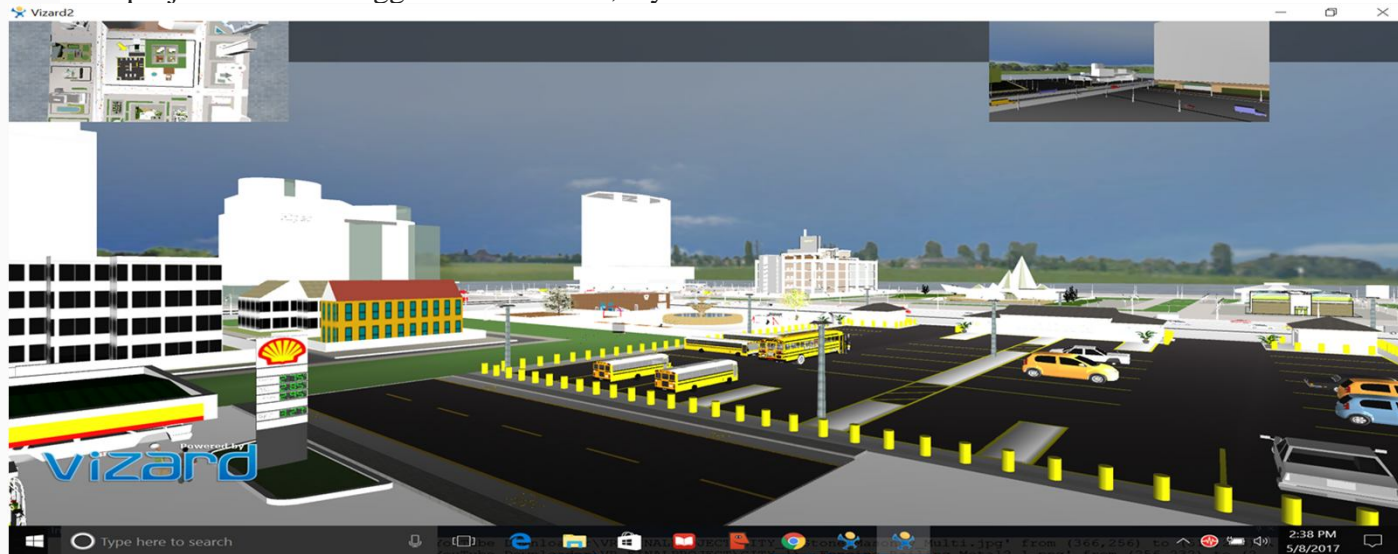
In some emergencies, you may have only two to five minutes to evacuate the bus before students could be seriously injured.

# PYTHON CODE

```
[50] #custom male3
[51] gas_male = viz.addAvatar('vcc_male.cfg', pos=(-43.45,0,123), euler=(90,0,0))
[52] gas_male.setScale(2,2,2)
[53] gas_male.state(1)
[54] face2 = viz.addFace('morph_head.vzf')
[55] face2.setScale(2,2,2)
[56] gas_male.face(face2)
[57]
[58]
[59] #####pigeons#####
[60] pigeons = []
[61] for i in range(20):
[62]     x = random.randint(-6,19)
[63]     z = random.randint(22,50)
[64]     yaw = random.randint(0,360)
[65]     pigeon = viz.addAvatar('pigeon.cfg')
[66]     pigeon.setScale([1.5,1.5,1.5])
[67]     pigeon.setPosition([x,0,z])
[68]     pigeon.setEuler([yaw,0,0])
[69]     pigeon.state(2)
[70]     pigeons.append(pigeon)
[71]
[72] #viz.collision(viz.OFF)
[73]
[74] sceen = viz.addChild('only_school.dae')
[75] sceen.setPosition(0,0,0)
[76] city=viz.addChild('city_1.dae')
[77] city.setPosition(80,-4.2,139)
[78]
[79] #####bomb_location#####
[80]
[81] bomb_in_car=viz.addChild('bomb.dae')
[82] bomb_in_car.setScale(2,2,2)
[83] bomb_in_car.setPosition(-85,0.3,30)
[84]
[85]
[86] bomb_in_smallbuilding=viz.addChild('bomb.dae')
```

# 3D MODELING

- 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 7.
- If the player can't find the bombs in given time, the bombs blows up and then the evacuation comes under the plan.

# GAME MENU

## Keys to start the game and move around the city

- ❑ press <b> to start the game
- ❑ press <k> to toggle the sensors
- ❑ press 1-5 for change different view point
- ❑ press <p> for to see particular landmarks

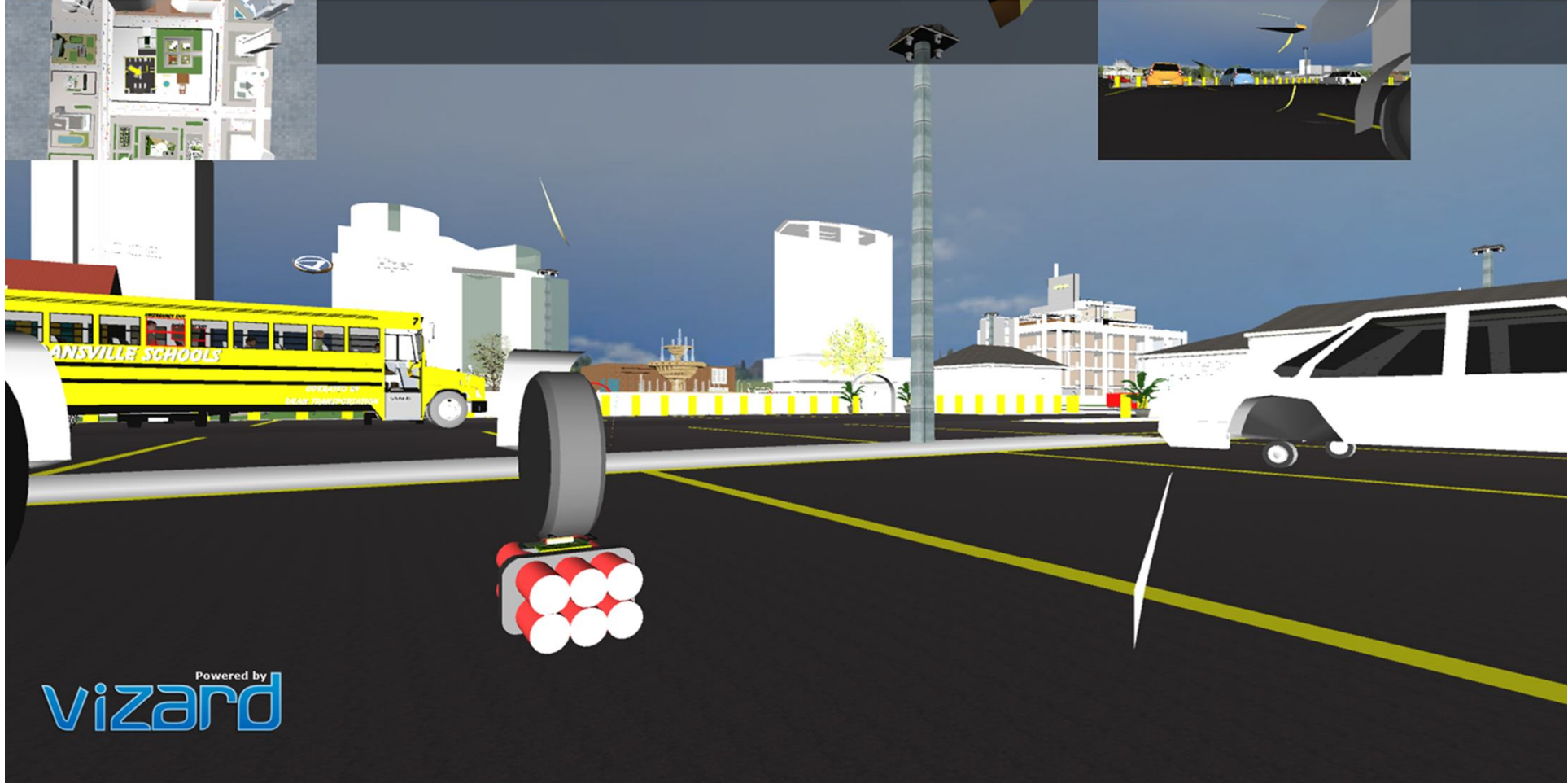


7 bombs are to be defused in the city. You have 40 seconds to get to each of them. Use the mouse to move around. The locations of the bombs include a the school, school bus, trash can, by the bench etc be very observant while looking for the bomb so you do not run out of time and blow up the city. Press spacebar to begin the bomb defusal game!

Powered by  
**vizard**



Vizard2



Powered by  
**vizard**

Windows taskbar showing the search bar with the text "Type here to search", a taskbar with various application icons (including Chrome, Edge, and Vizard), and the system tray on the right displaying the time "2:52 PM" and the date "5/8/2017".

Vizard2



Windows taskbar showing search bar, taskbar icons, and system tray with date and time (2:46 PM 5/8/2017).



### TIMER:

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



## AUDIO FILES:

- To give effect of evacuation, we includes sounds for fire service(108) , burning fire sound .
- 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.

## SENSORS:

we added proximity sensors around the bombs .

We can see a purple box near the flower Pot ,that is proximity sensors around the bombs.



## Conclusion:

- In this Project , we have demonstrate the virtual city which has multiple bombs in it .
- Virtual reality offers a way for engineers to visualize , manipulate and interact with computers and extremely complex data.
- It gives the feeling of a real evacuation scenario.



thank you!