



Fall 2016

Shopping in a Virtual Mall

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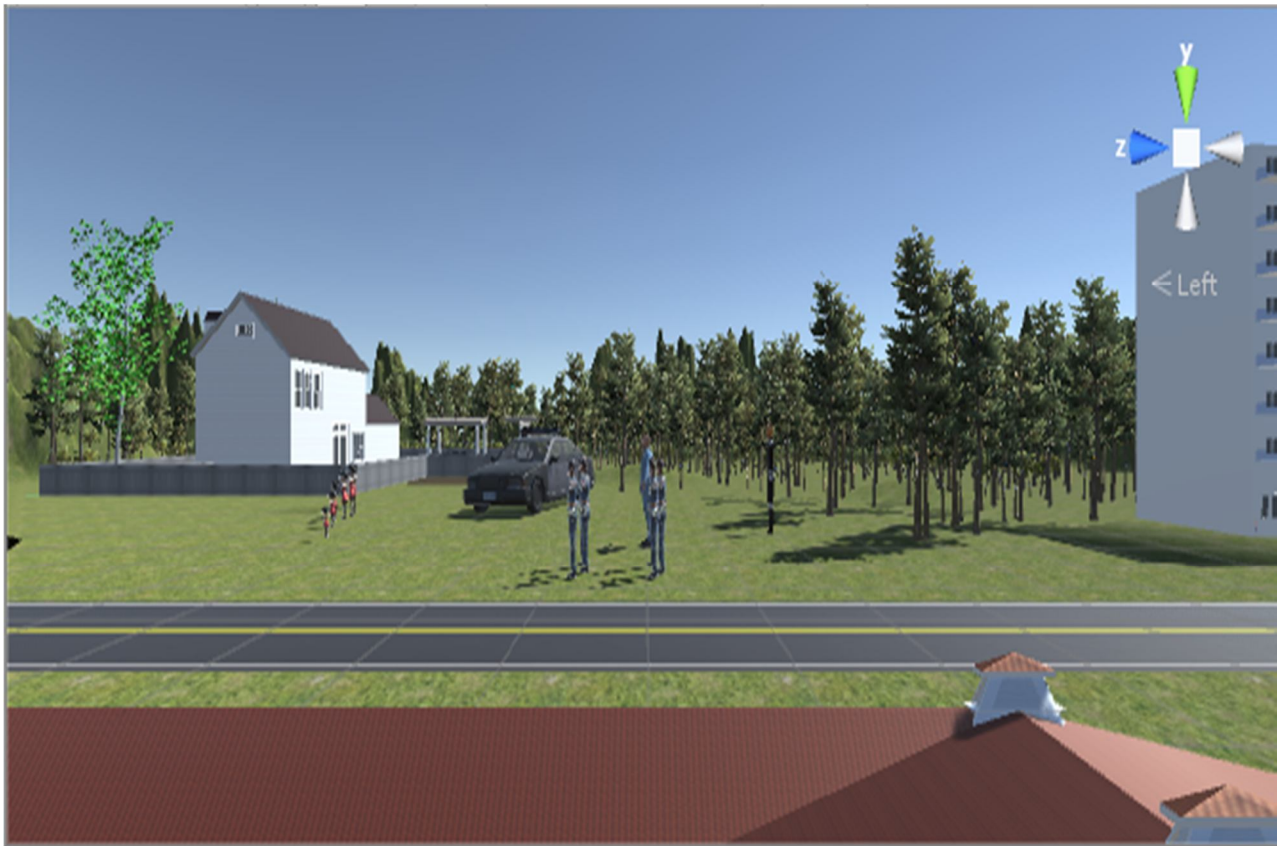
Goals and Objectives:

The objective of this project was to create a virtual mall that people can use to do online shopping. This project is created to help people shop online in the virtual mall while having the feeling of being in an actual mall and they will be able to interact with the environment and see the items in 3D. The mall has two levels and there are several store in each level.

Modeling:

The modeling of the area of the mall consist of an outdoor environment. The mall is in a small city and is surrounded by buildings. The environment also includes trees, a road that lead to the mall, street lights, cars, and people. The mall is an attractive white building very easy to locate. The entry consists of door which a sensor that take the first person controller to the interior when you get close to it. The buildings were imported from google sketchup and the trees, mountains, water and the rest of the environment were modeled in unity3d's.





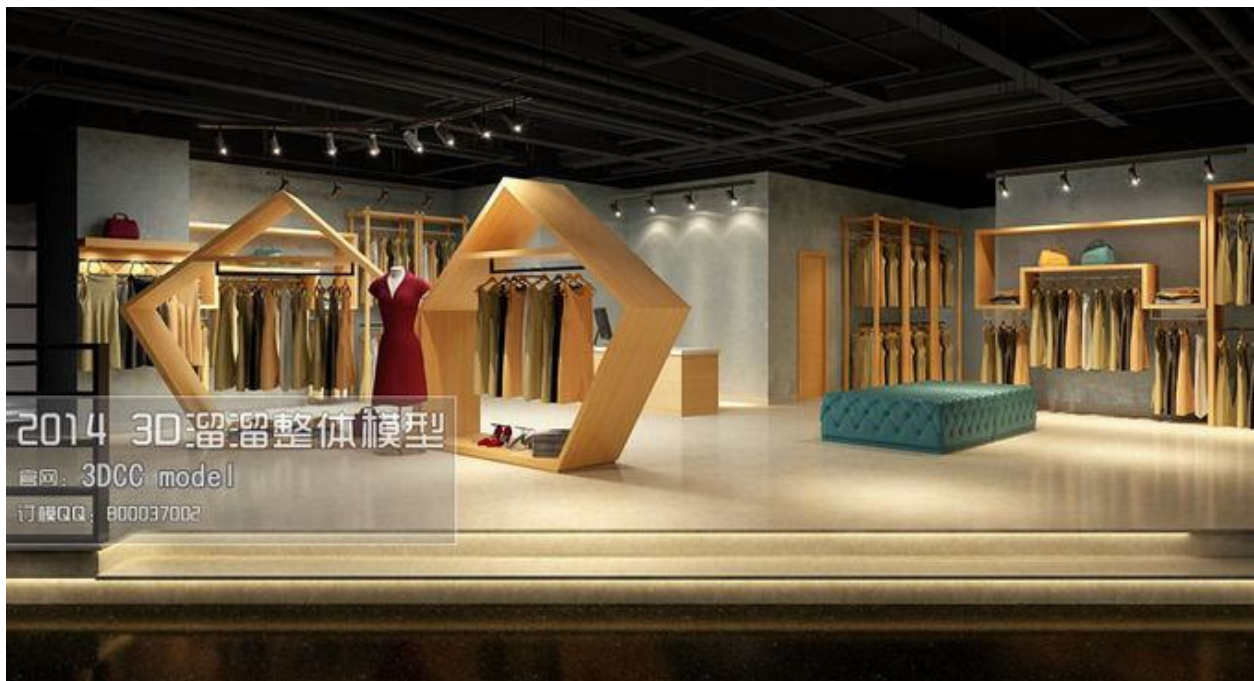
The entry leads to the first level which is consist of several stores around and big opens space in the middle. The modeling of the most of the stores are not very detailed. Stores have glass windows so that you can see what is inside and the name of the store are be display in the front. We choose two stores in

which we put more details. Both stores are clothing stores. The interior is modeled like a real store. There are several clothes hanged around the store and others are lied on the two table around the store. There also models, around the store that feature some clothes. When you click on an item it displays information about the item such as the price, the name of the item, the seller's information. The user can enter the environment using the first person controller.

There are stairs that take you on the second level. You will find more stores on the second floor with a similar display as the first floor.

The modeling of the interior of the mall and the two clothing stores were done on 3Ds Max and imported to unity3D.





Lighting:

We add the sky and sun environment to the unity environment and the skybox comes with daily light so does what we use to lighted the outdoor environment. We also used projectors, directional, and point lights for the interior of the mall and the stores as well.

Sensors:

The city with the mall exterior, the mall interior and the two stores are all in different scenes, so we use proximity sensors to move from one scene to another. When the first person controller get close to front door of the mall, the proximity sensor is used to take it to the next scene which is the mall interior. And the same process used inside to class to go into the closing stores. A timer is also used to calculate how longue it take the use to get inside the mall and visit both stores.

The collision sensor is activated on unity 3D, so the first person controller is not be able to walk through the building.

Avatars animation:

The user is logged into the environment sing the first person control which is a build in tool from unity 3D, so the user can use the mouse and the arrow keys to move it around. We have more avatars that are interacting with the virtual environment. There are avatars that walking, standing or doing other activities.

Management Plan:

Since we only have two people in our group, we did most of the work together but Yacine was focus on the unity 3D environment, and sensors while Chigozie worked on modeling thing in google sketchup and 3D Max and avatars animation.

Problem encountered

The project was very challenging, we had technical problem and that is one of the reason we didn` t implement everything we planned to. One of the most challenging part was using sensors to chance scenes. And the another problem was with the timer. We found a tutorial for it and we implement the code and everything we working with not syntax error but when you hit play, it the timer shows on the screen but does count properly but we were able to fix it. The program crashed on us twice. The first time it crashed, Yacine was working on it from home and the whole thing froze, and she had to use control_all_delete to close the program and when she reopens it the last update she did on it were all gone. So we have to start over and once we get the sensors, timer and switch scenes button, the same thing happen again. It said that we need to move the library from the asset folder and when we did the program was shot down and when we reopen it everything that we worked on for pass three days were gone even though we were saving the chances as we worked on it. It was very frustrated, we worked very hard for the project and some of our classmates are wetness of the work we done but it seems like we have bad luck with it. After the last shutdown, we did not have time to get everything done again, so we submit what we have left.

Conclusion

Our project was about a virtual mall which is located in a small city. The project is focus on the mall and the objective is to help people do online shopping with a three dimensions' view and a more realistic

feeling. This application is useful because people like to visit the mall for fun and everyone also like to shop online because it is convenient, so having the two combined will be a great invention and this can only be done using virtual reality.