InsRyan Smith - Calvin Tang - Roy McIntosh - Eric Versaw

Junior Project Spring 2020

Cadillac App

Project Goals

Our project goals for this Cadillac project was to create an application that would: showcase 3 safety features of the new Cadillac GTX, have good looking art and textures that could run on a phone or tablet, have tile-able environments that give a never ending driving experience, and have smooth gyro scoping to be able to tilt the camera like it's your head in the app.

Main Stakeholders

The main stakeholders for our project are the salespeople at the car dealerships. Our clients at Cadillac told us this app would be used to help train the salespeople into learning the new Cadillac GTX’s safety features, so that they could better understand how the safety features work, visually.

Roles and Skills

Ryan Smith

I ultimately acted as project lead and distributed my skills across multiple fronts during the entirety of the project. My job was ultimately to keep the production consistently moving forward.

Calvin Tang

My role was one of the environment artists in the team. During early development, I helped with the retopo of the car. Initially, Ryan split up the car into 12 groups and I think I did 6 of them. After the retopo was done, my position was shifted to creating prefab for the environments as well as to create the low poly painted versions of the buildings. Finally helped out with giving a 3d model of the Cadillac logo for the main menu screen. I wanted the assets to be made by us, but we figured it would have been too much so Cadillac gave us the city asset kit and we just worked from there.

Roy McIntosh

My role on this project was as an environment and texture artist. At the beginning of the project I worked on the car retopo along with Ryan and Calvin. I completed the doors as well as the interior seats and the interior doors. After that I joined Cavin in making environmental prefabs I made 3 total prefabs. I also contributed to this section by making some floor textures for the grass and the concrete section of the city where we did not have any assets in the Cadillac provided asset kit. After that I worked on the cars textures in substance and getting them into unity. After that I made the prototype for the low poly building

bake. And finally, I made the UI for the steering wheel, the shifter, the gas and brake pedal, the gyro reset button, the auto steering cruise button, the pause play and exit buttons. And the other remaining UI.

Eric Versaw

My role was the main programmer on this project. In early development I made grey boxes/prototypes for the user controls and application itself. Then when art started flying in. I implemented the art and programmed the main touch input controls, main safety feature functionality, user interface, and art implementation. When there was not much artwork left to do on the project, Ryan came and helped my do some programming which is why I believe our project ended up being so successful.

Why were you drawn to the project?

Ryan Smith

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Calvin Tang

When the class started, I was divided by 2 groups. This one and the Flame group. I wanted to pick projects that were heavy on art, because I have absolutely 0 programming skills. I want to be an environment artist so I decided this group would be probably the better one. Additionally, Flame group was extremely popular, so me being me chose the unpopular group.

Roy McIntosh

I was at the time shifting my portfolio focus to do work with more automotive companies. So being able to work with Cadillac even if loosely was super appealing to me. Besides that, I currently prefer working on art with a realistic edge, so the Flame group was also supper appealing to me. That being said the ability to work with an automobile edged out for me.

Eric Versaw

I was drawn to this specific project because I have worked in the automotive industry before and I figured if I were to make a cool project that is automotive themed, having that in my portfolio might help me land a job locally in the future. If Cadillac is experimenting with app development/game development skills other automotive companies may like to see that I have made such an app. Also, in 315 I made a configurator and I wanted my portfolio to have a variety, so I chose this project over the other options for that reason as well.

Process Book Entries

Eric Versaw's Project Logs:

Project Log 1

So our project is with the Cadillac tx6 2020 car and display it's safety features in a 3D environment. I believe the final product could be a web-based application, mobile app, or VR/AR application. We a leaning more towards AR. I am the computer

programmer, so this project is going to be a doozy for me. I am going to use art assets to create an intractable experience for people to test the safety features of the Cadillac tx6 2020. MVP of this product is some sort of application that they can use easily with 3 safety features highlighted in nice detail.

We don't have much so far but we do have planned milestones and lists of chores for this project to start off with. I have an image upload with this text box. So far as deliverables go we need to retopo the car model they gave us and then make or download some other models to make a complete or multiple street/urban environments. Then I will have to program three examples of safety features for that car.

Project Log 2

This week we assembled groups and discussed what needs to be done for the next 2 milestones. We will probably have a complete schedule by next week or the week after. We also had a skype meeting with the 3 dudes we are doing this project for, so that we were all on the same page for what they wanted out of this project.

What I will be working on for sprint one is getting used ti Unity's touch Input functionality and being able to get it to work with certain controls and such. I personal am supposed to start prototyping for the first safety feature. Of course now that I have started messing with the touch Input I now know that is out of scope for the first sprint and what I will actually be doing is learning as much about touch input as I can and come up with prototypes for the user controls. After I get that down then I will be able to focus on the actual app's features itself. I have already started making a cube rotate by you touching

the screen and swiping and also made a dummy steering wheel prototype that turns when you touch and swipe on it. The other guys are retopoing the car right now so I will have to box it out for a while before I get the stuff from them. I know it's sunday so I will probably have a few other UI tests done for my team to look at on Tuesday.

Project Log 3

For sprint one as a team the artists got most of the car retopoed. As for me the programmer I got controls down for mobile and most of the physic stays covered. I might have to make minor adjustments. I didn’t start on a prototype for the actual app yet but that will be started this week and next week. The only change made was to have more realistic goals. Like I was supposed to start making the safety features functional but I just worked on controls and I was supposed to make a prototype on the computer but we switched it to start mobile controls since it was my first time working with mobile controls. Also the artists thought they’d be done sooner on the retopoing so they have given themselves more time on that. For sprint 2 the artists will start making environmental assets and I will start making the safety features functional.

Project Log 4

So far so good. I worked on the super cruise safety feature for the Cadillac project. I made an environment that would spawn and despawn based on the location of the player's car so we can have reoccurring environmental street blocks. Also I started developing AI for the expressway environment. I had to make a video of the user interface for the clients which was enjoyable and now will give them a good vision and understanding of how the product's UI works. Next I will continue to work on the super

cruise functionality because I was given 2 weeks to finish it. Nothing in my way so far I know I should do some build testing soon because I haven't yet which could be bad for the future of this project if we don't soon.

Project Log 5

During sprint 2 I got the super cruise feature nearly completed. Most of what we set out has been met. And not many changes were made for this week. For the next sprint I will have the next two weeks to create the functionality of another safety feature.

Project Log 6

This one totally slipped my mind sorry Brandy. During the next sprint we are going to implement a lot of art with the project while at the same time I will be finishing up some code for the last two safety features. I will mitigate those impediments by finding the time to work on it. I built a PC recently and am trying to get it fully functional so I can use it for school now. It will work 10x better than my laptop so if I don't get it working soon I'll just use my laptop which will get the job done still.

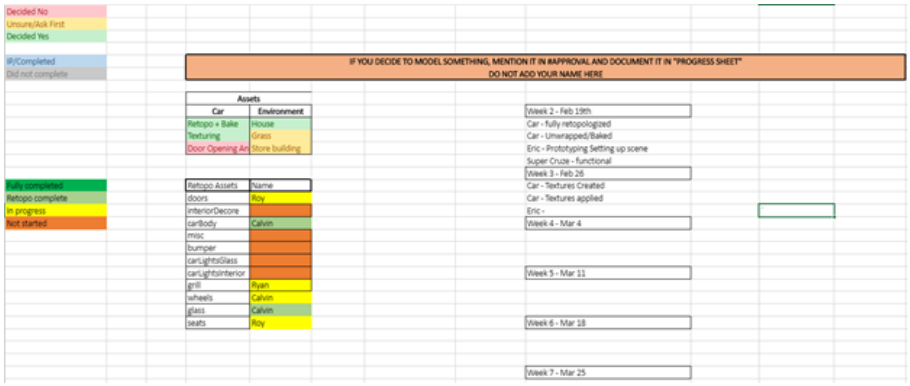
Project Log 7

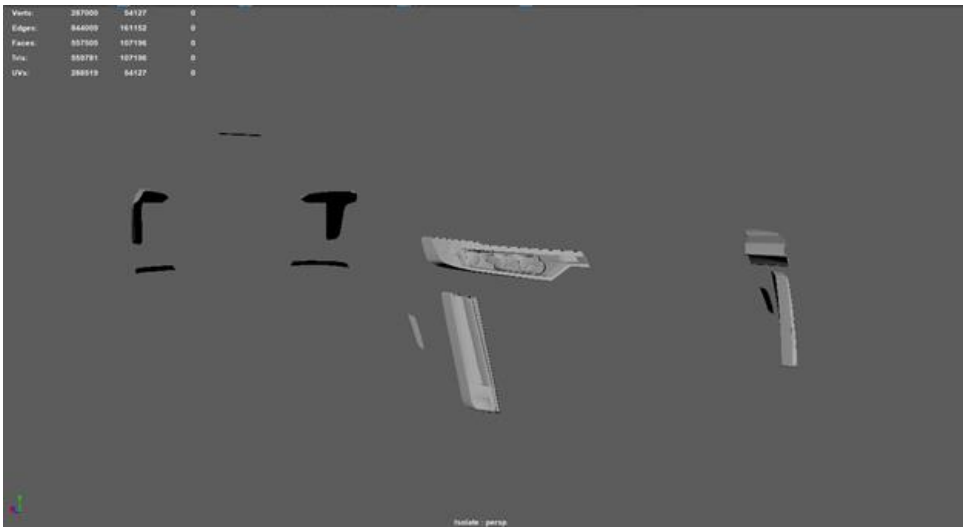
We will be finishing up the functionality of the safety features for the next sprint. I will be programming and fixing glitches personally. Nothing in our way besides work for other classes. I will mitigate those impediments by doing all my homework and staying on task.

Project Log 8

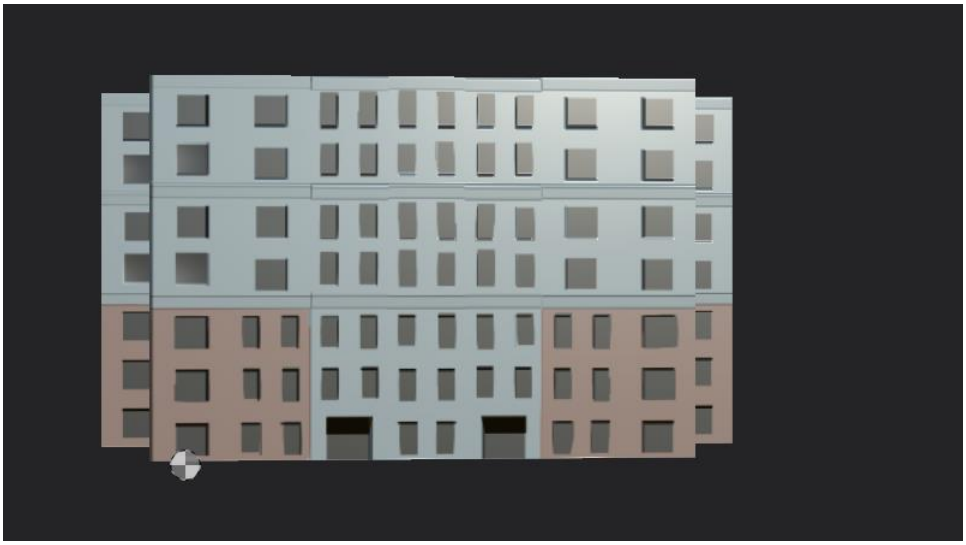
For this next sprint we are basically finishing up our assignment. I already made a pause and main menu and connected all the scenes together. Also I made text tutorials pop up for each safety feature. We are basically on the home stretch and will be finishing up the project in the next couple weeks. All we have to do is lower the texture resolution, finish up cross traffic alerts functionality and possibly add AR. Might not get to AR functionality but we can try.

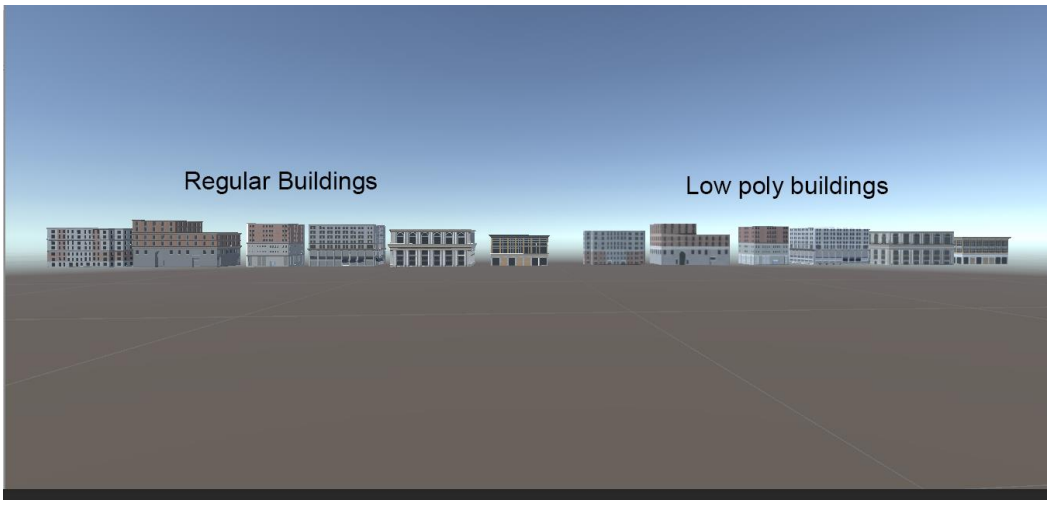
Supporting Screenshots






City Ban




Regular Buildings
Low poly buildings

What went right?

We accomplished all of our project goals that we established from the beginning of the class. We also kept good communication throughout the entire semester because of our discord server and our meetings that we had with the clients every week. We stayed on task and were able to accomplish our goals with ease. We were able to avoid procrastination and not waste our time working on things on the project that the clients would not like.

What went wrong?

We probably should have done more build testing earlier, so we would have had more time to optimize the app, but that can probably be blamed on not being face-to-face with group members due to Pandemic. Also, we were planning on adding pedestrian auto brake safety feature but decided to polish what we had done instead of making another new feature. It would have been an extra

feature anyways from what we originally scoped out, but it would have been a cool addition. It would have been nice to add sound effects too, but we ended up not implementing any due to time constraints.

What would you change if you were doing this project again?

The project went well, and we believe it was a great success, but if we were to change something it would have to be better optimization. Test builds ran alright, but not as good as we would have liked it too. This could be due to too many big textures/polygons in models to run as a mobile app. Also, something with the code and delta time could be to blame too for strange framerates at times.

Grading our project

We put in A effort, so we would have to say that we got an A on the project. Everything went super solid throughout the entire project. We did most of everything thing we wanted to do. We had great communication throughout the entire semester, even with the Coronavirus pandemic. We always had group meetings weekly and with the Cadillac guys as well.

Peer Review

Ryan Smith

Ryan was the project manager and did a great job taking the creative lead on this project. He handled everyone's questions and concerns well and put in a lot of work and effort to make this project end up as successful as it became.

Roy McIntosh

Roy did a good job helping with retoplogizing the high-poly car model.

Personal Reflection of project

Ryan Smith

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Calvin Tang

I felt a little bad since all I did was pure art. But I suppose that is to be expected since I was not a leader and I had no programming skills. I feel like I helped with some parts of this project but I definitely would not have finished everything by myself. I feel like Ryan and Eric did most of the heavy lifting when we were done retopoing. They did a lot of programming in Unity and bringing in the assets me and Roy did. Making sure everything worked correctly.

Roy McIntosh

I think this was just about the perfect group for this particular project we definitely benefited from having a set meeting time and set turn in times. While I feel bad about Eric and Ryan having to do some of the most intense work as it was supper program heavy towards the end. That being said Calvin and I sill found ways to keep busy and improve the project even I they weren't the most exciting jobs like asset assembly, texturing, low poly work, or UI design. All in all I’m very impressed at our ability to communicate and complete this project.

Eric Versaw

I think the project turned out better than I thought it was going to. All the ideas that I was unsure we were going to add ended up making it into the final product, which I am proud of. Ryan is to thank too, for this project would not be as good and as stress free if I didn’t have someone to help with the programming. I am just sad I cannot have this on my phone because I have an iPhone and to make builds for iOS you need to pay them for a developer’s license.

How has online learning effected your project?

Online learning did not affect us in a negative way at all because we had file-sharing and a discord server for communication. We thought not being face-to-face might make the project harder to accomplish, but with all the software becoming free, and our good communication habits; our project went smooth.

How has the Pandemic effected your team?

Besides being sort of depressed from world events, we all really put our best efforts in and did not let the Pandemic distract us from accomplishing our main goals and finishing our projects. We used this project as a distraction from the terrible things happening out in the world today.

What did you learn?

Ryan Smith

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Calvin Tang

In the beginning of the project, when we were still retopoing, Ryan showed me in depth how to use Maya, unwrapping in Maya and retopoing in Maya. He also showed me how to bake objects with multiple materials in Substance painter. What I used to do before was really bad, which was bring everything in 1 by 1 and baking it and texturing it. It was just really slow back then. Now I do everything much quicker with that and even applied that skill into other classes such as DAGD 375 with the character stuff.

Roy McIntosh

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Eric Versaw

This project brought me out of my comfort zone and forced me to learn how to make touch input in Unity. I have always wanted to learn this and I'm glad this project forced me to push myself into learning it. Also, I learned from Ryan and Youtube how to use another camera in the Unity scene to create a rendered texture and apply it to Game objects. That is a nifty little feature in Unity that I will definitely use again for future projects.

How can you apply it to projects in the future?

Ryan Smith

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Calvin Tang

Future projects will have much better models as I have learned how to retopo at a higher level with better topology. Better textures with the substance per baking technique. I think future projects I work on will be more efficient, and look better than before. Last time I did a project, I knew nothing I knew now, so everything I did was just horribly inefficient.

Roy McIntosh

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Eric Versaw

I plan to make more mobile applications in the future, and possibly make racing games, for I enjoyed making these driving controls and UI. I will use the render texture for future Unity project as well, for that is a cool feature to have and know about.