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| **STUDENT NAME** | Elliot Chester |
| **PROJECT NAME** | DMC: “The R34 Adventure” |
| What do you think went well on the project? | We started working with Augmented Reality during the Emerging Tech module last year, as part of the module we researched all the different AR Options including AR Core, ARKit and Vuforia. We decided to use Vuforia for the module as it is the easiest to use within Unity.  This meant that we didn’t have to spend long deciding which AR Implementation we wanted to use for the project as we all had a good understanding of Vuforia when we started the project. In addition to this it is also the best option for creating AR applications for both android and IOS. This saved us a lot of time at the start of this project that otherwise would have been spent researching the different methods.  We started working on this project very early in the year during the Summer Break. This allowed us to spend a lot of time on the project that we wouldn’t have if we had started during the semester as we would have had other modules taking up a lot more of our time. I feel that this shows in the application as we were able to dedicate a lot more time towards working on it.  We spent the summer almost exclusively working on designing the application. We had meetings at university where we would decide what the application would include, what it will look like, and how to implement the features requested by the client.  We created a design document which was extremely useful for not only showing the client what their application will be, but also to align the visions of everybody in the group, this is because we were all communicating our ideas and if we didn’t understand a section of the app, we could refer to the design document.  Screen mockups were included in the design brief that detail every individual screen in the app, this was surprisingly useful for creating the UI in the game, but also for coming up with changes that we could make as were able to more easily visualize somebody using the application.  During the year we had a lot of communication with our client. We wanted to make sure that a lot of the decisions regarding the app were made with them, this way we could ensure that the application would be perfect for them.  A good example of how the communication changed a big part of the application is the way the user will interact with clients. Originally, the plan was to have a series of posters, that could only be unlocked in a specific order, we did this because we thought the posters would be put up in specific locations around the museum, however, after talking to the client we changed it to a system that doesn’t have a specific order. This was because the posters will be put up in random positions in and around the museum. We made the change because people can come and go from many different directions, this means that having the posters in a specific order may not be practical for everybody. This is an issue that would have been missed if it wasn’t for the good amount of communication we had with the client.  Aswell as online communication, we were able to go and see the client and visit their museum in person, this allowed us to have a lot more productive communication with them as we were able to ensure they knew what we were doing and they were also able to test the app for themselves and give feedback based on that. We were also able to see the collection of research and pictures that he has related to the Airship the app was based on, this gave us the opportunity to get as much information as we needed to ensure the app was as accurate as possible.  Throughout the year we all worked very well as a group, we were very good at identifying problems with the application and making sure the rest of the group knew so that it could be dealt with as efficiently as possible. We also had Jams regularly that allowed us to work together to fix issues very quickly and ensure that we all knew what we were all working on in the app. At times we underestimated and overestimated the size of tasks, when this happened, we were good communicating to decide if others should take the task to help finish the sprint.  As our group is all programmers, we have had to rely on a lot of playtesting and feedback from our peers on the design course to ensure that we create a good experience. We had them playtest the game and asked them what they liked, didn’t like and how they would improve it. This allowed us to make changed that we wouldn’t have come up with by ourselves. |
| What do you think needed improvement on the project? | When the project started, we decided to use GitHub aswell as Unity Collab, this ended up causing a lot of problems as Unity Collab would make changes to the project and cause a lot of merge conflicts in GitHub, we eventually changed to just GitHub which ended our issues, however. While we were using both, the merge conflicts caused some work to be deleted and we had to spend a lot of time recreating assets.  There were also some issues with the code and implementation that were caused by the three of us not following the same methods. This is seen first within the scripts within the app, we have all used different naming conventions causing a little confusion when trying to sort and find specific code.  We also didn’t comment the code as much as we should have, this caused us to sometimes must talk to each other to find out how our code works. Having to wait for responses slowed down some tasks, and if we didn’t ask, we could create scripts and assets that don’t work as efficiently as they could. |
| What do you think of your own contribution to the project? | I felt that my contribution to the project was very good.  I was responsible for the target system within the app that assigns targets to the different posters. This system must save which posters the user scans first and saves them even when the app is closed. This also feeds into the collection screen that will have locked and unlocked items.  After adding the target system, I made the contextual button system, this will appear when an event is on the screen. Each event will have some text that will show on the screen and a page that will open when the contextual button is pressed. The button also has an animation that makes it look like the app’s mascot is telling the user about the event.  I made some events that have been used in the application. I also made an inset prefab that was used for both the crew and the stowaway events.  I had the most experience with animations, so I was given the task of animating the help screen that shows the user what to do, but in case it wasn’t clear enough, this also had a modified speech bubble animation that tells the user what to do.  Towards the end of the project I was responsible for editing recordings of the application so that we can show the client the progress we have made in the project.  While I think the work I did was good, I could have been better with client communication. Whenever we contacted the client, I left it mostly to the rest of my group, this is because I felt that they would be better at it. Even though I didn’t conduct the communication, I did as well as I could to respond to it. I worked with the rest of my group to make changes to the application based on the feedback we received. |
| **OVERVIEW** |  |
| **Thinking about the project you have worked on this year, what are the important lessons that you will take away from the experience for your next group project?** | While I didn’t do much of the communication in the start, I have observed the rest of my group who were more comfortable with it and towards the end of the project I was giving a lot more input towards what we were sending the client. Also editing the videos that we were sending to them with all of the relevant information that they needed.  I feel that I have learned a lot about working in a team to make changes to a project. I have never had to work in a project with other people before, I don’t think they had either which is why we ran into the GitHub merge issues, however, now that we have had the issues, we know how to fix them in the future.  I have learned a lot about working within a project with others. In this project we had some issues with scripts not working together as they should, and messiness and inconsistency in the coding style. Because I have now experienced this, in future I will ensure that I communicate with whoever I am working with to ensure that we all know how to make all our code compatible with each other.  While I knew before that communication was important to a project, I have had a lot more communication with my group in this project that any other in the past. It has allowed us to know exactly what is happening within the project and is incredibly useful for completing my work to a better standard.  I also have a much better understanding of version control software. I am now able to fix a lot of issues that I had never encountered before.  All of the lessons I have learned from this project will definitely help me with other projects I am currently working on and new projects I may work on in the future. |

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| **Asset List**  **Scripts**   * TargetManager.cs * TargetScript.cs * cameraTextureSetup.cs * ContextualARButton.cs * HelpAnimationScript.cs * MatchMainCameraScript.cs * MenuScript.cs * ObjectScript * R34Flying.cs * ScrollingButton.cs * ScreenCutoutShader.cs | **AR Event Scenes**   * Weather Event + ParticleEffects * Crew Event * Inset Event Prefab (Used to allow Crew and Stowaway to function properly)   **Animations**   * Mascot Speech bubble + functionality * Help Screen Animation * Contextual Button Animations   **Other**   * Screen Mockups for early development * Edited The videos used to demonstrate functionality to the client |