Project Deliverable F

-Prototype I and Customer Feedback-

Group B4

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Introduction

In this deliverable we are outlining the testing plan which must take place to determine the viability of our first prototype. At this point our first prototype is complete and testing will take place to determine what aspects of our product must change for the second prototype. Our test plan includes the reasons for testing, the objectives of the testing, a description of our prototype, expected results, desired results and a measuring system for these results. There is also an updated gantt chart outlining the timing for the testing process and the tasks that depend on this testing. This plan will help to ensure that the project is staying on track and satisfying the customers needs.

Why are we doing this test?

Prototype testing is an essential part of developing a product. More information about the prototype will be revealed when putting it into use, and comprehension will therefore be strengthened. A main goal of our testing is to be able display our prototype to the client to receive feedback and ensure that our vision continues to align with their own. Another purpose of testing specific to our project is being able to evaluate the outputs from Unity, since we have never used the platform before. The testing will allow us to further understand what we are capable of implementing into the application and what is simply out of our depth. This will eliminate the risk of coding when we are unsure of what the outcome will be. Finally, testing our prototype will allow us to evaluate the functionality and overall performance of what we have created.

Test Objective Description

The main objective of the testing of our first prototype is to ensure that the application can be opened on both an android and IOS device. We also want to ensure that a user can successfully login to the application and reach the project page on both types of devices.

This prototype is helping us to learn more about the functionality of Unity. We have created a simplistic version of our final application to communicate the base user interface we will implement. Based on the results of the testing of this prototype we will have a better understanding of Unity and what we can implement moving forward.

The possible results of our testing will be fairly simple. The application will either be able to be opened on both android and IOS devices or it will crash. Furthermore, for the login if our code is correct the user will successfully be able to login. If not, there will be error codes that will block the login from happening.

Based on the results of our testing we will be able to see if our current code is functional. If it is not we will need to make adjustments for our next prototype. If the prototype is functional we will be able to continue implementing new, more complex aspects of the application. We may also choose to focus on one compatible device type depending on the results of our testing. If the

results display only one type of device is compatible we may focus solely on progressing with that device and readdress dual functionality at a later time.

A success for this testing period would be if the application can successfully open on both IOS and Android devices and that the user can successfully login, finding themselves on the project page. If any of these actions are unsuccessful then the testing would not be entirely successful.

What is going on and how is it being done?

The prototype we have built is a focused analytical one. Indeed, our prototype I contains a few attributes of the final product. Furthermore, it answers specific questions about the product design such as the security and aesthetics ones. Lastly, this is only the first prototype. Indeed, we are still going to make two more prototypes which is another reason why our prototype is focused since we generally need many of them before having our final product. It is also analytical because this prototype is cheaper than a physical one (it did not cost us anything) and it has allowed the group to experiment with more freedom. We have chosen this prototype because it is easier for us to make many prototypes where we will add features every single time which will allow us to obtain our final product.

In order to continue working on our project, we need to test our first prototype. In fact, by testing our prototype we will be able to detect any possible flaws it could have or even if there might be a way to simplify the use of the app. Our main aim is to make the prototype as simple as possible so that the user can figure out how to make it work.

The testing process is pretty simple and straightforward. Our prototype I is mainly composed of the login page that will be available for the user to enter the company files with Firebase. However, Unity is the chosen software and will be used as the base program for the app. Hence, the testing part will be to verify if we can login into the app from Firebase without any issues. For that, we will use an iOS but also an Android device to make sure that the app is accessible for both operating systems. While performing the test, we will see if by logging in we can access the program without any issues. Thereby, we will measure the security level but also the aesthetics because we would also like the login page to look welcoming. After that, we will record the results and report any issues that could be solved. As said before, the material that will be needed is only an iOS and Android device to verify the accessibility of the app. This means that there is no cost for the testing process.

The work that needs to be done is to check if we can login into the app from the chosen software without any issue. The software will be verified during the testing process.

When is it happening?

The testing process will not take long and will happen before the client meeting on November 6. In fact, all that needs to be done is to login and monitor any possible flaws that can compromise the login. However, before starting the testing process we will need to check that the code is completely done and correct and also if Unity and Firebase are connected. Indeed, if the code

contains any issue it will not run and hence, we won't be able to login. We can add that all code and scripts for Unity have been written in C#.

The results should be required immediately after the testing process. However, the results will be given right after the testing process since we will be able to figure out if it is possible to login on both devices. For this test, we only depend on the iOS and Android devices. Since we already have both we will get the results once the test is done.

Prototype

The objective of this prototype is to effectively connect and use firebase on the app. We have used unity two create an app on two platforms: Android and iOS. Using the app keys and some C# scripts, we were able to connect them to the Firebase database where we are able to perform two functions: access app analytics and authenticating a user. The analytics tells us exactly how many people are on the app at a given time, show an average app usage and report any crashes. The user authentication is a login system. A user would be able to sign up using an email and password. They would then be able to log in and access the data stored in their profile. The app is presented in a landscape 16:9 resolution (1920 by 1080 pixels). Additionally, a possible sketch for a logo for the app was created.

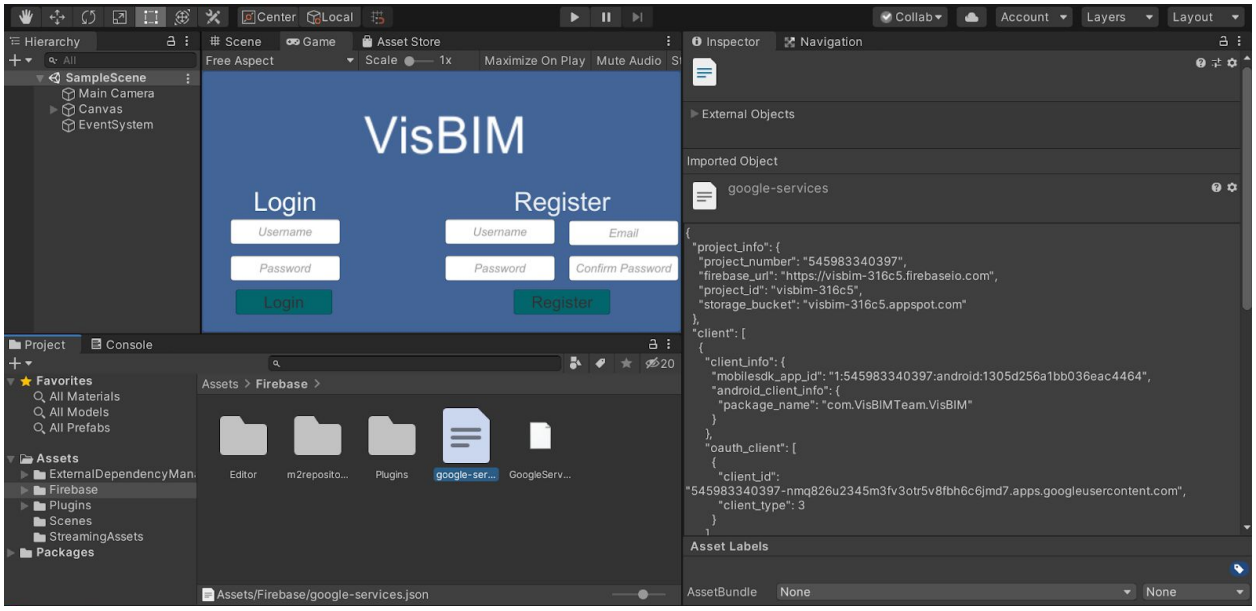

Figure 1: Screenshot of the Unity login screen

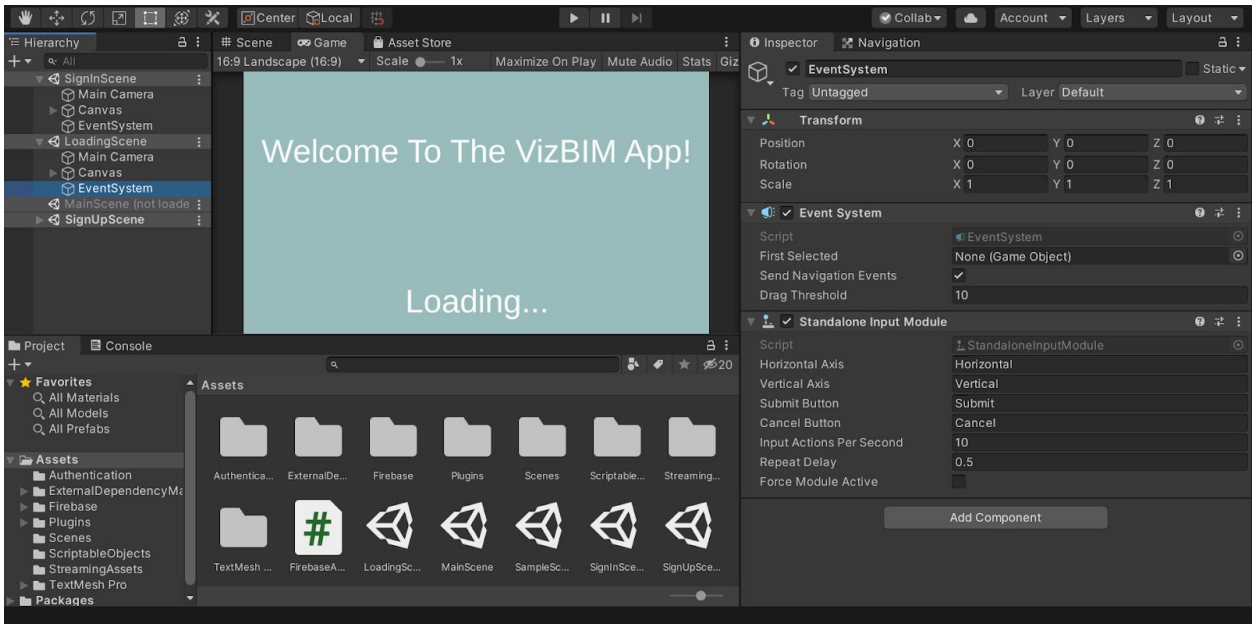

Figure 2: Screenshot of the Unity loading screen

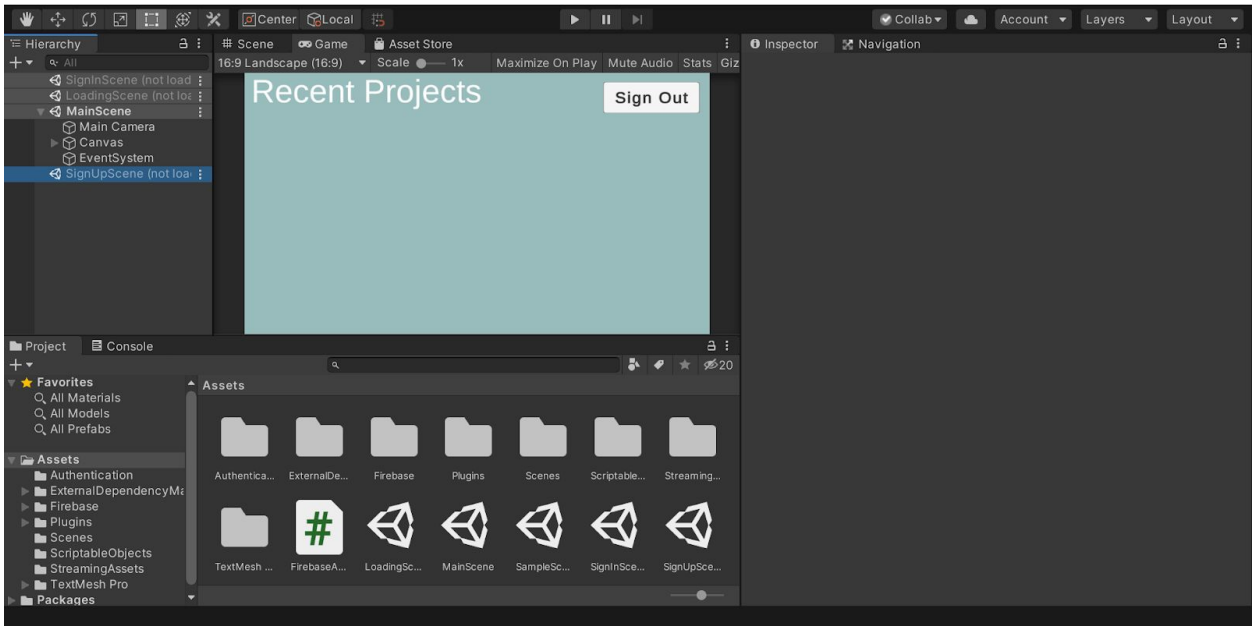

Figure 3: Screenshot of the Unity main screen

Figure 4: VizBIM application logo

Conclusion

In conclusion, we have tested our first prototype and followed every step given above. We have written down our results. The connection is possible on both devices without an issue which makes our first prototype a success. We are now ready to proceed to the next step of the project which is the making of our prototype II. But before that we will wait for the client's feedback about our first prototype and will make changes accordingly. However, no purchase for this prototype was required, so our budget is still intact for the rest of the project. Regarding prototype II, our group has set up a few goals. It will be ideal to reach all of them for this prototype as the third one will need other features that rely on prototype II. Therefore, for the second prototype, we thought of creating conceptual designs for AR overlays, to work on Unity an AR scene construction, and eventually finalize our logo for the app.