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Real World Interactive Systems

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Individual report:

FooshPlop review and related papers

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1. Introduction

Nowadays, there are people that only play mobile games for a short period of time (5 minutes in the train, in a break…) but also people that are really engaged to this kind of games and want to play longer. FooshPlop is both fulfilling and rewarding for everyone, as it is an interesting and cozy game casual players can enjoy in their free time but also rewards the more experienced players with collectibles and extra content.

We developed FooshPlop with this idea in mind and where able to meet the deadlines and complete all the functionalities we wanted to include in the game. From a fully complete main menu, with a level selector, a shop, a customization menu and a fish collection, to a fun and interesting fishing gameplay throughout 5 different levels.

As part of the class requirements, we made use of a real world sensor, in this case the gyroscopic sensor from the smartphone, to cast the line and pull it back. By using the acceleration, we were able to determine if the player wanted to perform an action and then use it as an input in the game. Finally, we were able to deploy in the Google Play Store, so that people can enjoy the game.

The rest of this paper is organized as follows: an explanation of the collaborative development and personal participation in the project, the introduction of related research, the posters of the final presentation, release status and conclusions about the project, the work done and the class.

2. Collaborative development

2.1 Version control and collaborative development tools

For version control and collaborative development, the tool chosen and used was Github. All the team members were familiar with Github, and it is a popular, useful and easy to use tool that makes programming as a team much simpler. I created the repository in Github, named RWIS-Group-7:
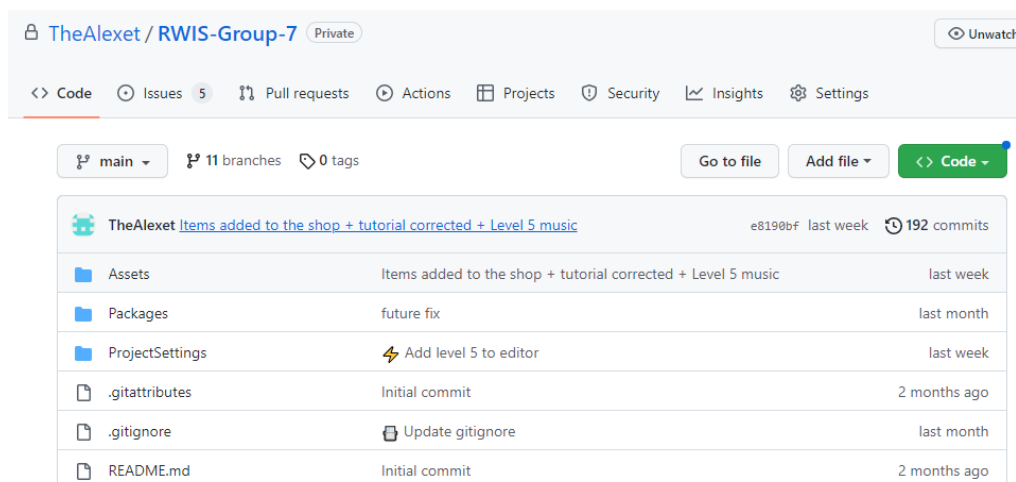
From that point, the team members had weekly meetings face-to-face, where we reviewed the work done from the previous week, gave feedback to the other member, solved issues and bugs, evaluated the functionalities not yet implemented and decided the work to be done by each member for the following week.

Then, each member created their own branch in Github and worked on their tasks. In my case, I used the Github Desktop application, which makes the process easier, from push and pull to create branches and solve code conflicts. Before the next weekly meeting, a pull request by each member was created, to bring the changes from each branch to main, solving the conflicts and obtaining the new version for the next week.

In this way, we were able to work on our own tasks, progress faster and then compare code and ask for help and feedback to the other person, solving possible discrepancies and problems and having an agreement on what to do next. As a result, we worked smoothly as a team and could complete all the functionalities we wanted to develop.

2.2 Personal participation in the project

During the weekly meetings mentioned in the previous part, we decided what we wanted to work on during the week. As working always in the same thing can be a bit underwhelming and tiring, we kept switching among functionalities from week to week. Nevertheless, I'm going to summarize the parts I mostly worked on.

First of all, I worked on having a simple level selector menu, with buttons for navigating among the different menus and a scrolling system for selecting the desired level. This menu was later improved by my friend. Secondly, I developed the gameplay mechanics. I researched about the Unity gyroscope and calibrated the player strength to make the gameplay smooth and entertaining. Then, worked on the process of throwing the line and catching fishes.

Additionally, I worked on the acorns system: earning acorns depending on the fish, saving them and using them for buying items. I also designed the fish data menu, which is a part of the fish collection menu. Furthermore, I designed the shop menu and its functionality. Finally, I did the tutorial menu that shows when the player is not performing any action.

3. Related research

This paper chosen is the following one: Adrian Ramcharitar and Robert J. Teather. 2017. A Fitts' Law Evaluation of Video Game Controllers: Thumbstick, Touchpad and Gyrosensor. In Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '17).

In this paper, the throughput of some input methods are compared. To that end, a Steam controller is used, which has touchpad, thumbstick and gyrosensor. The mouse is taken as the point of reference, because it gives the best throughput, and the rest of input methods are compared among them to check their precision and utility.

As a result, the thumbstick, that should be the best method because it is the most used one, turns out to be the worst one. On the other hand, the gyrosensor performs surprisingly well, taking into account that we are talking about a game controller and not a smartphone, so it is something to think about. This reflects that, even on a came controller, the gyroscope is a good way of creating inputs. If that is the case, in a smartphone, which already uses the gyroscope more that a controller, the results should be even better.

This is shown in our game, Foosh Plop. There are no thumbsticks or any other way of input in the screen, it only uses the gyrosensor. But as it is a fishing game, the mechanics are really easy and intuitive. You just move your phone as if you were fishing with a real rod. Hence, the user experience and satisfaction of the players are very positive, because they can enjoy the game from the very beginning and nobody has to tell them what to do. Moreover, the game response is smooth and realistic. Because the movement is easy to be understood by the game, once the player moves the phone, the game quickly understands the input and throws the rod.
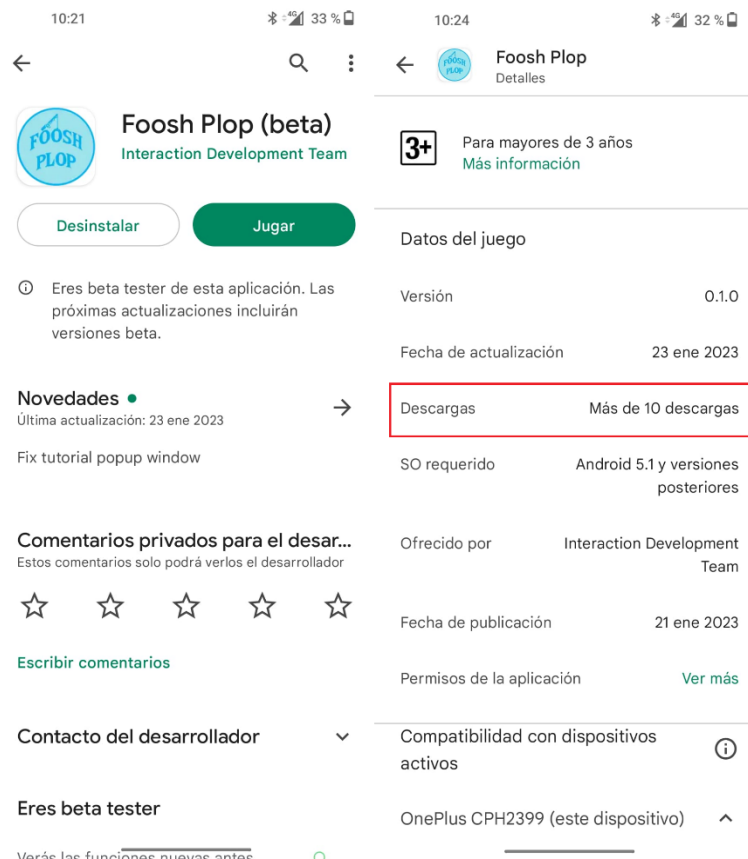
4. Final presentation posters

5. Release status

5.1 Google Play Store

The app Foosh Plop was deployed in the play store for around one week. In that time, we have not promoted it, but is has over 10 downloads already.

5.2 User experience and feedback

People really liked Foosh Plop during the final presentation. We had a QR code prepared in the slides so that people could download it easily from the play store, so many students tried it and gave us some feedback.

First of all, people really liked the cartoonish look of the game, from the character to the maps. In addition, the possibility of purchasing items in the shop using the game coin (acorns) encouraged people to play for a longer time to obtain more acorns than their friends and purchase better items.

Finally, the invited professor proposed us to make some research into the fishing field, by asking people that go fishing what they think about the game. In that way, they could

give us some advice about things we do not know about fishing, so that we can include them as features later on. For example, he proposed us to create various types of baits that would have a different effect depending on the fish we are catching.

In a company's real world project, the feedback obtained from the user would be documented as new features to be added to the project in the future, together with the features we already wanted to implement before.

6. Conclusion

As a person that likes software development, I really enjoyed this course. It was positive to have explanation videos for the beginners but also a lot of freedom for the more experienced people. The first classes where nice to meet the other people, think about app ideas and decide which path was going to be taken. After that, we were able to split into teams and work on our own, which gave us the needed time to focus on our apps and develop faster. In addition, the presentations allowed us to show our progress to the professor and the rest of the class, obtaining feedback from everyone and helping us improve the app. I really appreciated the class plan and would not change a thing.

The development of the app started the 2nd of November with the initial commit to Github. The final presentation is going to be the 24th of January. This means we were able to develop the game in 2 months and 22 days, which is a pretty short period of time taking into account we have other courses and research. Because of that, I'm proud of the work we both did.

As for teamwork and collaborative development, I think my partner and me were lucky to work with each other, as we both had previous experience in collaborative development, Github and Unity, and we were able to work smoothly, without any problem. As a result, Foosh Plop has been developed and deployed, and I'm satisfied with our work as a team.