Zoo Application Report

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1   Introduction

Zoo App is an application that will improve the experience of travelers visiting Varna's Zoo. Very often when people visit a zoo, they only see a label with very little information about the animal. Furthermore, if the animal is asleep or is hiding somewhere you can't even see it. The application gives users additional knowledge about the animals, such as where they are from, what do they sound like and many more. It also has a food ordering system connected to the Zoo's restaurant so that if you feel hungry at some point and you want your food to be ready by the time you go to the restaurant you can just order it and pay from the application. Also, for travelers which are not from the city there is contact information as well as a map pointing exactly where the zoo is located.

I gained this inspiration because I have traveled around the world and visited a lot of zoos. Most of them only have a label with the name of the animal and where it is from and even if you manage to see the animal it doesn't give you the full experience. However, when I went to Barcelona's zoo, they had an app, which simplified everything. It had a map of the zoo and where all the animals are, as well as information about them and when there are going to be any events with the animals. And that's where I gained my inspiration for the application I have created.

2   Software Design

After deciding on an application, I started thinking about how I should start it. This included 1-2 days of sketching for the User Interface (some of the final sketches have been included below) and thinking about how to implement them. After that I started writing pseudo code and thinking about the various classes I should have (animal and food for example). Some of the difficulties I encountered were:
How to implement Google Maps so that the location of the zoo can be shown?
How to add different sound effects and images for each animal?
How should the menu (now named as Activities) look like?
After a lot of research on these and more problems and deciding on what would be best for the user experience, I started implementing my ideas.

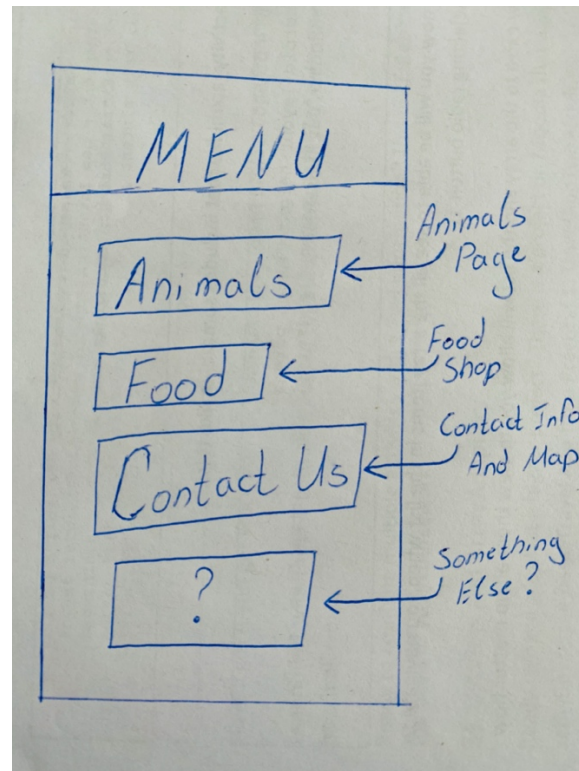*Image 1*: **Menu Page** – Sketch for the Menu and the buttons which will be there.

Image 2: **Animals Page** – Sketch for the Animals Page with clickable Images leading to another page with more information.
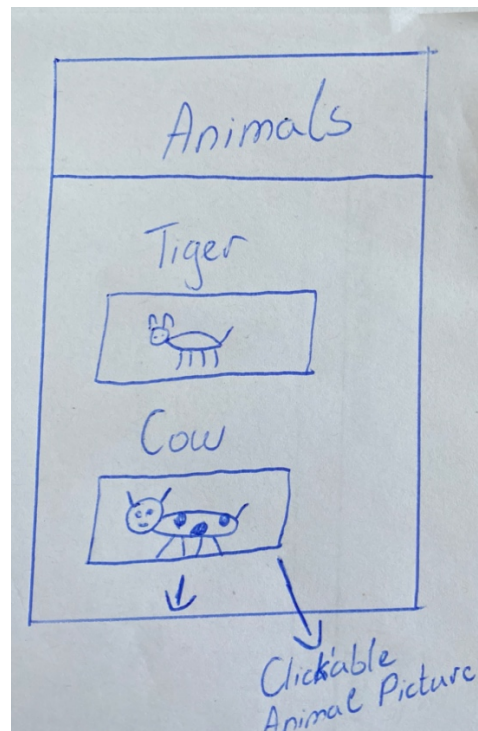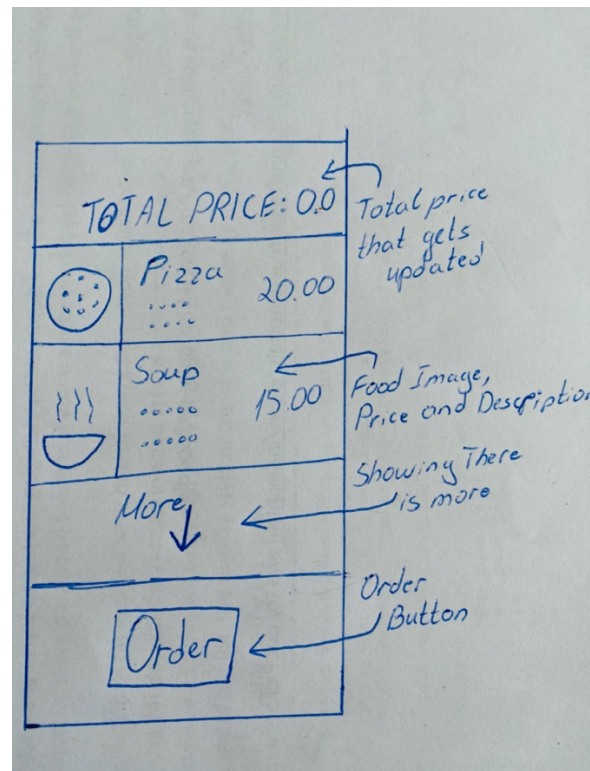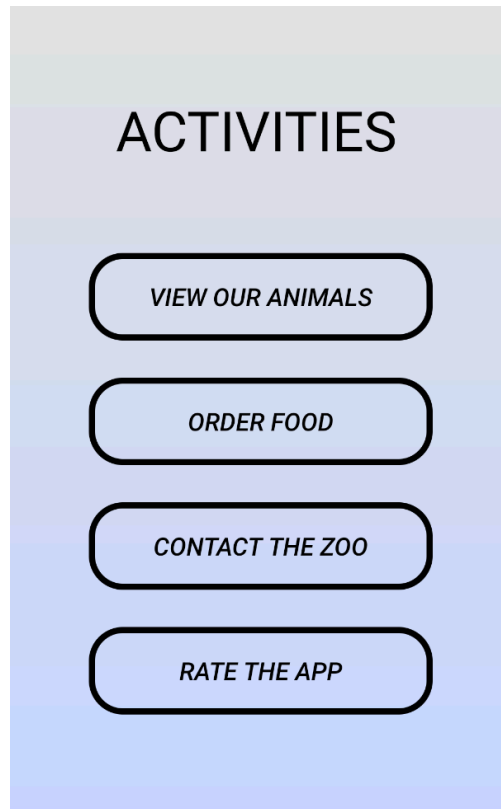
Image 3: **Food Page** – Sketch for the Food Page with Order button and functionality to show the total price.

3 Implementation

When I started implementing everything it was almost the same as I imagined and sketched it. During the process most of the names for the different elements and buttons were changed, some of the ideas were removed and others were added. But the whole idea of the application stayed. Some of the changes from the initial Sketches and ideas were: changing the animal clickable image from square shape to circle, as well as adding a basket with a counter to the food page and deciding what the fourth button should be (Rate the app), which would allow the user to give me feedback of whether he liked application and what should be improved in the future.
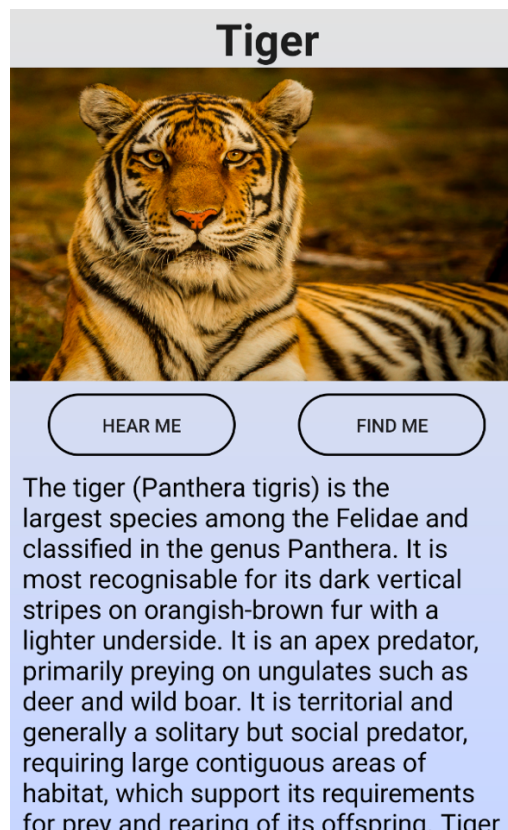
Image 4: **Activities** – Final implementation of the Activities (previously Menu) with all the buttons

Image 5: **Animals** – Final implementation of the Animals with clickable circle shaped images.

Image 6: **Animal Information** – Final implementation of Animal Information page where additional information, images, sound and map about the animal can be seen.

Image 7: **Order Food** – Final implementation of Order Food where there is a basket and price which get updated when you click on a food.
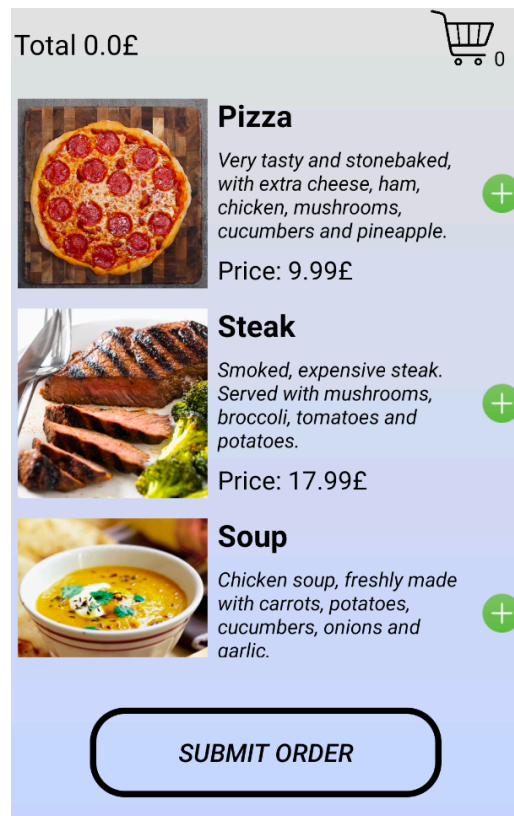
Image 8: **Contact the Zoo**– Final implementation of Contact the Zoo where there is contact information and a Donate button. Also, a clickable image of Google Maps which leads to the zoo location.
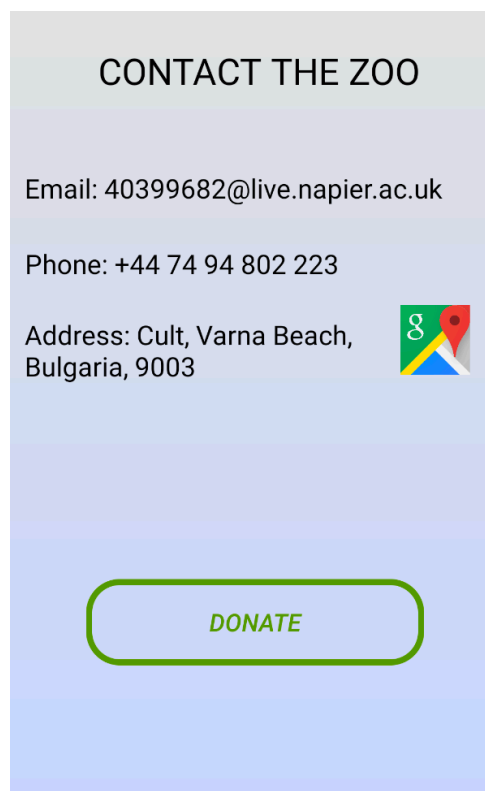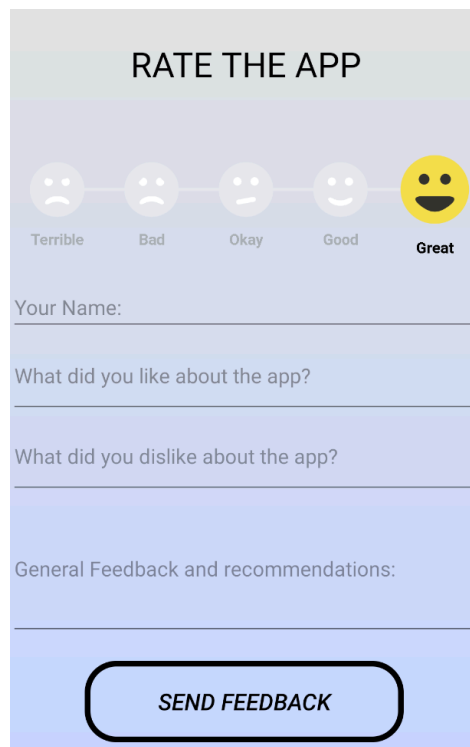
Image 9: **Rate the App**– Final implementation of Rate the app which accepts user feedback and sends it to a Firebase.

4 Evaluation

Comparing the final implementation to the original concept everything is the same excluding some minor changes. Changes included adding more features and deciding not to include others such as an Event button showing the various events which will be played at the zoo. Overall almost everything from the original idea has been implemented in the final implementation.

Comparing this application to the one that inspired it (Barcelona Zoo App) almost everything is the same. However, this application has improvements such as the food ordering functionality which the Barcelona Zoo App didn't. It is also simpler to use and gives more information about a given animal for example what noise it makes.

So far, the feedback I have received is mainly positive. There have been some recommendations on adding a map inside the zoo with locations for all the animals and routes to them, because the zoo is quite big, and you can get easily lost.

Possible improvements to the application might be the map for all the animals. Another one could be making the Google Maps to actually show you the route from your current location to the location of the zoo. Also, an Event list could

be added, which would give the user a notification when there is an event, so they do not miss it.

5 Summary

Overall, I hope the application helps user and improves their experience with visiting the zoo. I have made the design simple, clean and easy to use, as well as added multiple language support and placed as much information as possible so that they can learn as much as possible as fast as possible.

6 Resources

Animal Sound Effects: https://www.zapsplat.com/sound-effect-category/animals/
Smiley Face Rating Bar: https://github.com/sujithkanna/SmileyRating
Firebase Tutorial: https://www.youtube.com/watch?v=9kRgVxULbag
Fancy Toast: https://github.com/Shashank02051997/FancyToast-Android
Image Flipper: https://github.com/therealshabi/AutoImageFlipper
Circle Image view: https://github.com/hdodenhof/CircleImageView
Background Image: https://www.ebay.com/itm/ZOO-Cartoon-Animals-7x5FT-Polyester-Photography-Background-Backdrop-Studio-Props-/132281740071
Google Maps: https://www.youtube.com/watch?v=eiexkzCI8m8
Dialog Tutorial: https://www.youtube.com/watch?v=Bsm-BlXo2SI
Barcelona Zoo App: https://www.youtube.com/watch?v=DGIhaj1vlXM