COMP3011J Mobile Computing 2023-2024

Beijing-Dublin International College

Project Final

StudySpace

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1 Project Progress Introduction

The StudySpace application has been fully completed and extensively tested. In this final stage, I completed all the visual analytics charts section, which provided an in-depth analysis of the user's study hours through the use of different charts. I eventually used four different visualisation charts for the analysis. In addition, the final version was thoroughly tested, some of the interfaces were fine-tuned, and some of the minor issues were fixed to ensure that the project ran smoothly and without errors. The subsequent sections will provide a detailed overview of the accomplished work. Specific images are shown in the PowerPoint.

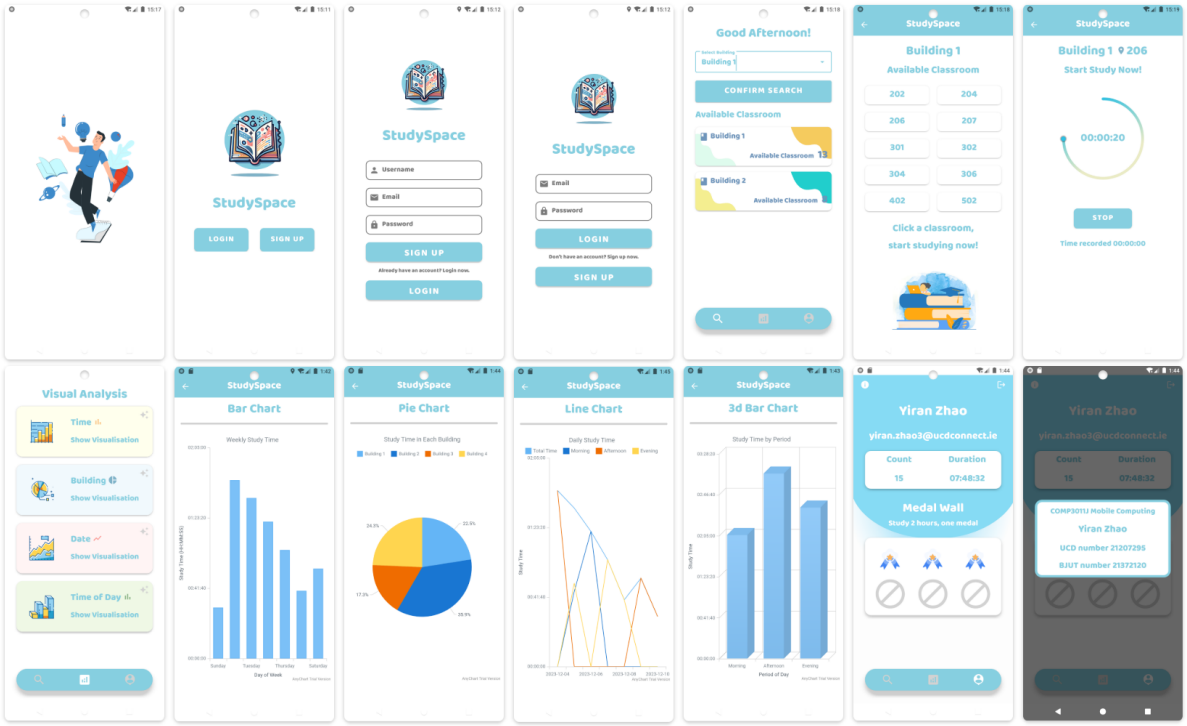

Figure 1: StudySpace Application Final Interface Style

2 Accomplished Work

2.1 Visual Analysis Charts

The final main analysis interface of the StudySpace application encompasses four distinct analytical modules, each dedicated to visualizing various aspects of study duration data. These modules are tailored to provide insights into study duration, academic buildings, dates, and time periods, utilizing different types of visual charts. Each module is designed to analyze different facets of the users' study duration data:

- **Time:** This module analyzes the duration of study time across the week, from Monday to Sunday, and is presented using a bar chart. It enables users to view their daily study duration for the current week. Interactive elements in the chart allow users to click on individual bars, prompting a toast message that displays the duration of study on a specific day of the week.
- **Building:** This module offers an analysis of the proportion of study time spent in different academic buildings from the first to the last study session. A pie chart is employed for this purpose, providing users with insights into their study duration in various buildings. This visualization aids users in identifying their

preferred academic buildings for study.

- **Date:** Analyzing the total and segmented study durations for each day from the first to the last study session, this module employs a line chart. Different colors in the chart represent the total study duration, as well as the morning, afternoon, and evening study durations for each day. Clicking on a specific day reveals detailed study duration for different periods of that day.
- **Time of Day:** This module is dedicated to analyzing study duration across different times of the day, visualized using a 3D bar chart. It distinctly represents morning, afternoon, and evening study durations, offering a comprehensive view of the user's daily study patterns.

All the animation effects in the project are realised using Lottie[**b1**]. All visual analysis charts are implemented using Anychart[**b2**].

2.2 Final Testing and Debugging

In the final phase of the project, I conducted thorough testing and debugging. This included functionality testing, performance testing and user experience testing. I ensured the stability and compatibility of the application on the devices. In addition, I made some user interface fine-tuning based on testing feedback to enhance the user experience. The final all interface style is shown in Figure 1.

3 Conclusion

The development of the StudySpace application was a comprehensive and challenging experience. Through this project, I not only improved my programming and Android development skills but also enhanced my analytical and problem-solving abilities. In the end, the app not only met the goals set out in the initial phase but also provided a powerful tool to help users more easily check out available classrooms and more effectively record manage and analyse their study time. With the successful completion of the project, I look forward to applying these lessons to future projects.

References

[1] https://github.com/airbnb/lottie-android

[2] https://github.com/AnyChart/AnyChart-Android