University of Ottawa

Final Report
Service Novigrad Project

Chris McNeice, 300080511
Ishaanveer Gobin, 300135454
Hassan Khan, 300058345
Jessica Cai, 300061610
Introduction to Software Engineering, SEG 2105
Dr. Hussein Al Osman
December 6 2020

Introduction

The purpose of this project is to design and develop a mobile application for Android, which is designed for a fictional province named Novigrad to help its fictional residents. Some services this application will offer to its residents include but are not limited to obtaining a driver's license, a photo ID, and/or a health card.

This project went through all phases of a typical software development cycle, i.e., collecting requirements from a designated project PDF, documenting design specification, generating UML models, creating graphical assets, designing and implementing source code (for the core software and GUI), conducting tests to verify the "correctness" of the code and generating a final report. The coding language for this project is Java and the project was done via Android Studio.

The idea behind this project is to give students the opportunity to expand on the theoretical knowledge learned in class, thus allowing them to gain practical experience implementing the concepts learned in class. Furthermore, this project gave students insight on and experience in working with colleagues and developing mobile applications. Learning outcomes range from deepening understanding of concepts relating to software engineering, to the overall knowledge of programming for android, management, and team-relation skills.

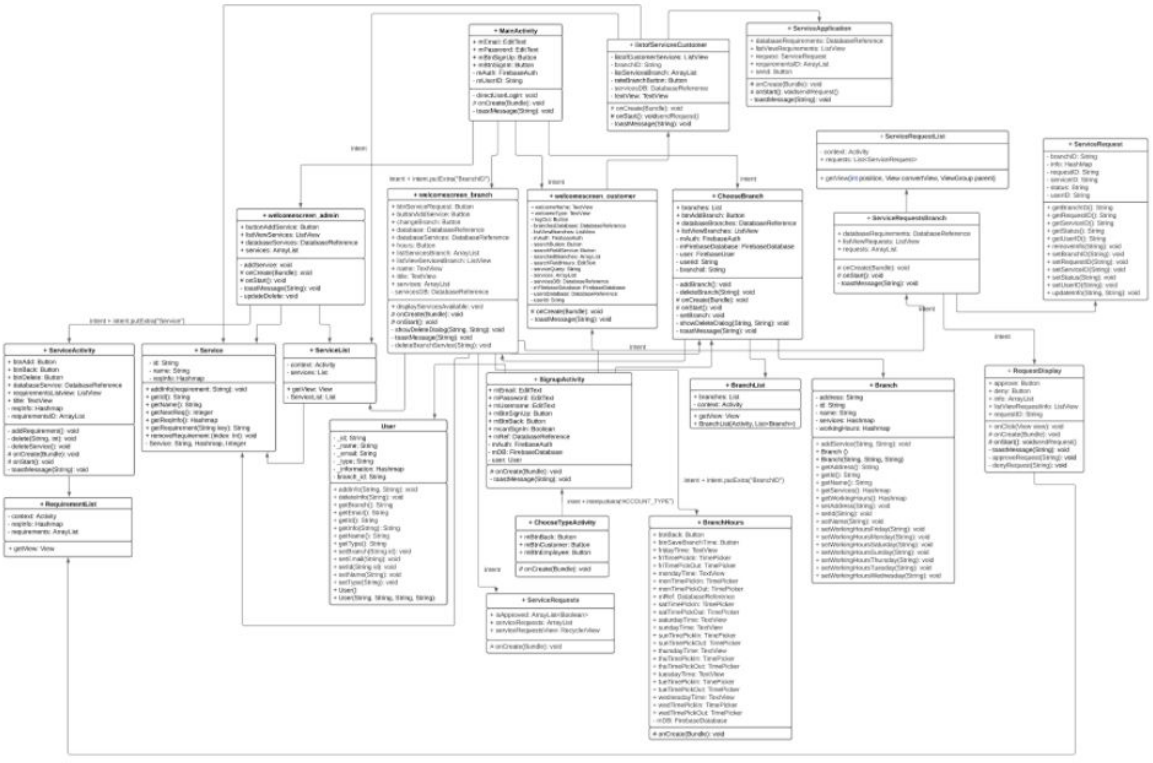


Figure 1: Updated UML Class Diagram

	Deliverable 1	Deliverable 2	Deliverable 3	Deliverable 4
Chris M.	**(1)** Service Novigrad Branch Employee Implementation	**(1)** Implemented the editing feature of services	**(1)** Unit Tests **(2)** Create an account for the branch and login to that account	**(1)** Implemented the branch searchability **(2)** Handling Service Requests
Ishaanveer G.	**(1)** Team in Github **(2)** CustomerAccount **(3)** Firebase	**(1)** Adding services and validating them	**(1)** Delete unavailable services **(2)** Can view, approve or reject service requests submitted to the branch	**(1)** Implemented the branch searchability **(2)** Branch rating **(3)** Handling Service Requests
Hassan K.	**(1)** Field Validation **(2)** Helped with UI	**(1)** Added functionality to addServices **(2)** Adding services and validating them	**(1)** Specified branch working hours and editing the working hours	**(1)** Handling Service requests **(2)** JUnit tests
Ieva G.	**(1)** WelcomeScreen **(2)** UserRole **(3)** Name	**(1)** Added functionality to addServices	DROPPED	DROPPED
Jessica C.	**(1)** UML **(2)** Meeting note-taker/Organizer	**(1)** UML **(2)** Meeting note-taker/Organizer	**(1)** UML **(2)** Field validation **(3)** Meeting note-taker/Organizer	**(1)** UML **(2)** Final Report **(3)** Meeting note-taker/Organizer

Lessons Learned

Throughout the Service Novigrad Project, the most valuable lesson we learned concerned an important aspect of designing an application: implementing classes that don't have XMLs associated with them, to perform functions throughout the project. We made the mistake of not implementing these files, which resulted in our code being more tightly coupled. To improve, we should have improved the class organization and followed a design pattern. This would have prevented us from having the majority of our branches and services in non-concrete classes.

We also learned a lesson about the importance of proper research. 'Googling', a term implying the search for information via the search engine Google, is an essential skill that developers must learn to have. There is a particular tact in being ingenious enough to find out what exactly we are looking for, and this is a skill we truly realized the importance of while doing this project. It lead us to many valuable resources and made us better problem solvers and stronger engineering students.

Another lesson we learned centered on the importance of team communication. A team can be defined as a group of people who are working together in an interdependent fashion to accomplish a common goal. Communication in a team means that interaction and the exchange of information among the team members must happen. Throughout the duration of the Service Novigrad Project, our team members communicated well with one another about project expectations and had thorough discussions concerning how to approach the project requirements.

However, there were some instances in which it was difficult for our group to arrange a time to work together on the project deliverables. There were several factors contributing to this i.e., schedule conflicts. We learned to resolve schedule conflicts by selecting time periods at night where everyone was available and we learned about the limitations of several social media platforms; some were underdeveloped for our purposes of holding voice and video conferences. Given that our project's time frame fell under the extenuating circumstances of a global pandemic, it was impossible for our group members to meet in person to discuss our parts and work together. However, we learned the value of voice and video conferencing as it gave us the means to work on this project together, from the safety of our homes.

Screenshots:

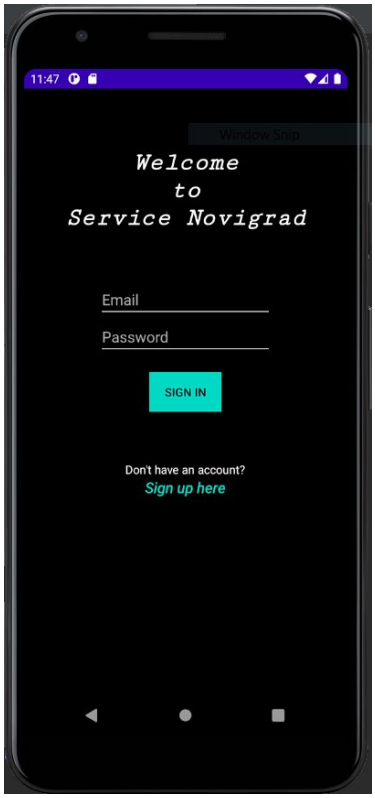


Figure 1: Diagram of Sign in Page

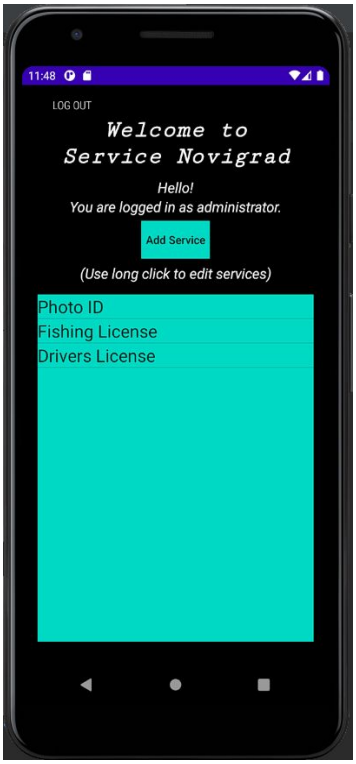


Figure 2: Diagram of Admin Edits Services

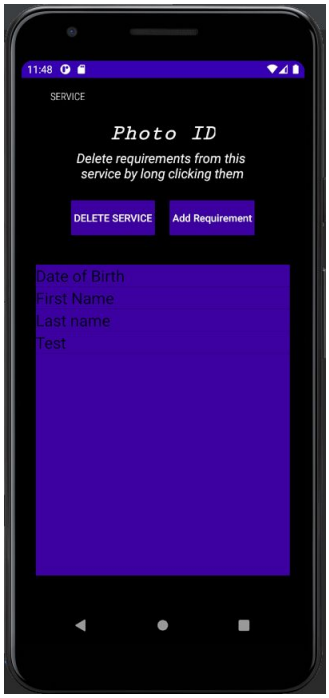


Figure 3: Diagram of Photo ID

Figure 4: Diagram of Customer Welcome Screen

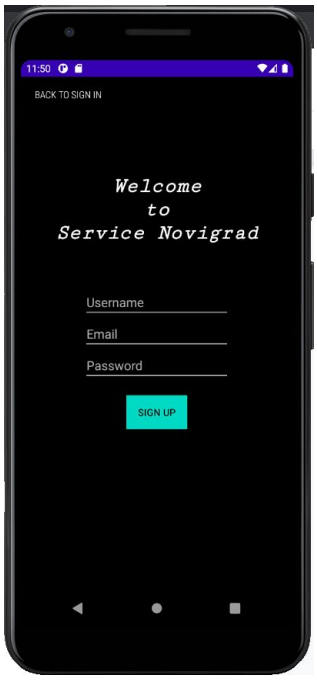
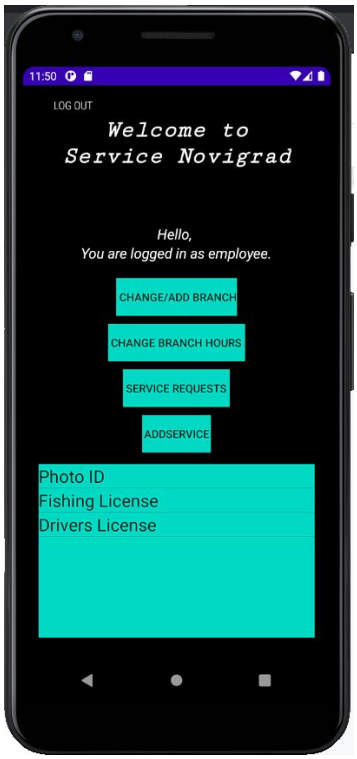


Figure 5: Diagram of Signup UserType

Figure 6: Diagram of Sign Up Screen



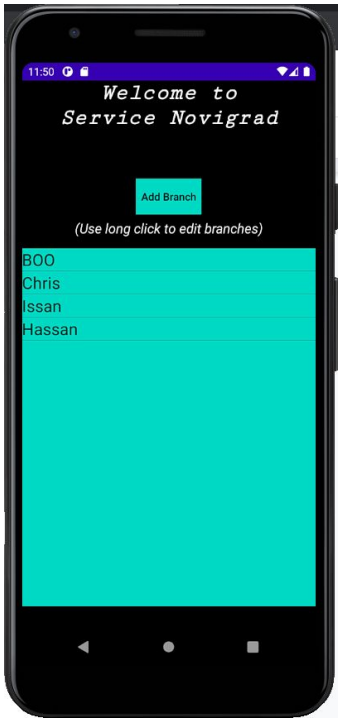


Figure 7: Diagram of Branch Adding Services

Figure 8: Diagram of Search branch

Figure 9: Diagram of Branch Hours

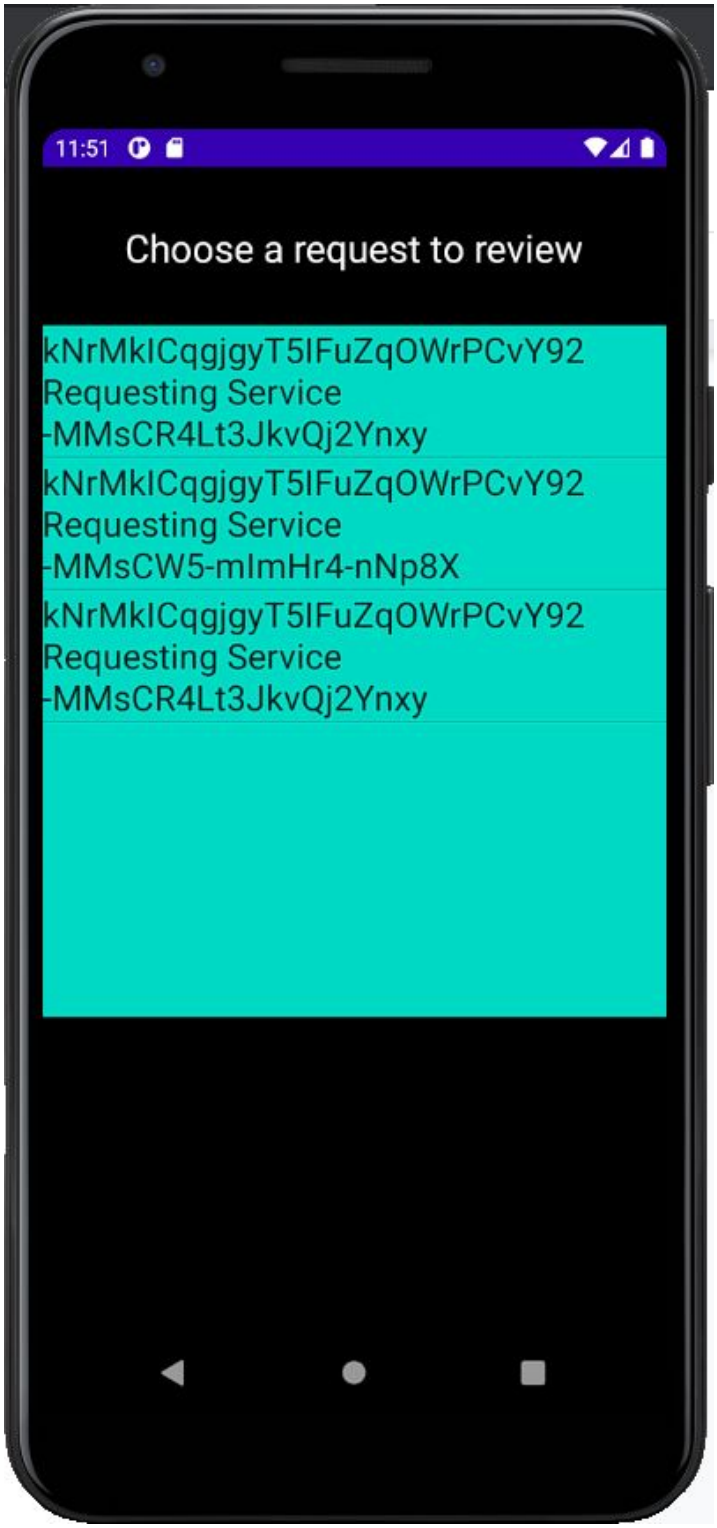


Figure 10: Diagram of Choose Request Type