BankSimul35

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Information Technology, Device and Product Design, Software Development

Introduction

The purpose of this project was to create a simplified version of an ATM, to understand how backend and frontend development work and to strengthen teamwork skills.

Objectives

The main objective of this project was to develop an ATM software that works together with an RFID Station. The customer provided functionalities that had to be implemented into the program. The software was designed to be used on a touch screen. The RFID Card is used to log into the ATM where the user can check their account balance and withdraw money. (See figure 1 below.)

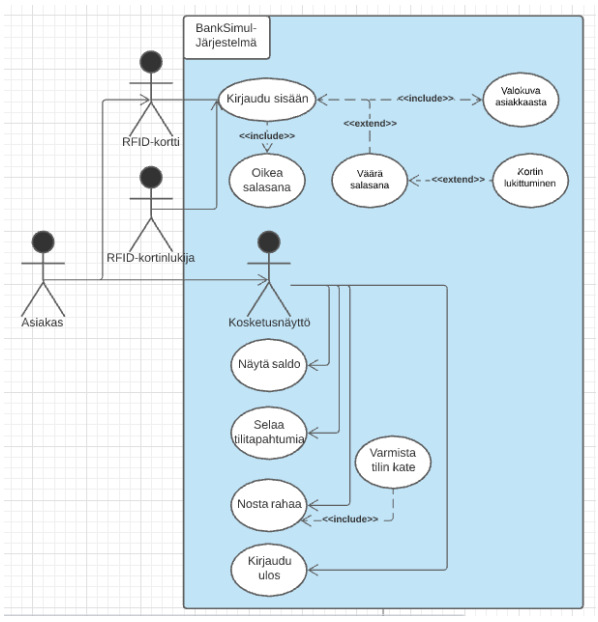

FIGURE 1. *The Use Case Diagram*

Methods

The platforms used in this project were GitHub for version control, Postman for testing, QT Creator for the frontend application in C++ language, MySQL for the database and Express.js to communicate between the application and the database.

FIGURE 2. *The RFID Device and Cards*

Results

The software worked as the customer had requested. The only setback that occurred during the project was that the RFID Device (see figure 2 above) did not always work as expected and occasionally read two different cards simultaneously.

This problem was bypassed by code that ignored the times that the reader returned two card IDs (see figure 3 below).

```
30  void engine::readData()
31  {
32
33      QString data = "";
34      data = pQSerialPort->readAll();
35      data.remove(0,4);
36      data.chop(3);
37      if (data.length() >=10)
38      {
39          qDebug() << "lukuvirhe";
40          emit errToInterface();
41      }
42      else
43      {
44      qDebug() << data;
45      pQSerialPort->close();
46      qDebug() << "Suljetaan lopuksi";
47      emit signalToInterface(data);
48      }
49  }
```

FIGURE 3. *Code that fixed the Issue with the RFID Reader.*

Conclusions

Currently the project is still a work in progress but as a team we find that the difficulty level of the project was well suited for our skills. We did not assign separate tasks for the team members but instead the project was executed together as a team. We found that this approach provided a more thorough understanding for everyone involved.

References

1.Olimex datasheet Source: https://www.olimex.com/Products/Modules/RFID/MOD-RFID125/resources/MOD-RFID125.pdf

Software Application Project

ECTS Credits: 15

Date of Publication: 2021, Spring

Instructor: Pekka Alaluukas