Capstone Project Design I: Proposal report

Payment Management System  
(KNUPay)

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1. **Our team**

**Our team consists of 5 people from 4 different countries** **whose common interest is computer science. During this project we need to learn our strengths and weaknesses and how to communicate effectively. Therefore, teamwork will be one of the biggest challenges for us.**

1. **Motivation for the project**

**We noticed that one of the biggest problems for foreign students is giving money back. Most often one person pays for food or a taxi, and later the rest gives money to the person who has paid. However, there is often a problem, sometimes people do not have a wallet with them or only have a credit card. Then you have to wait a long time for giving money back or do complicated banking operations. This is how the application idea came about. Our application will deal with the payments between students.**

1. **Our application – KNUpay**

**In our application everyone will be able to create their own password protected account. On account all information about the available funds (expressed in our own currency KNUcoin) will be stored. There will also be access to transaction history and the option of transferring money. We would like to allow making transfers using NFC technology, which will speed up the process of giving money back. All what will be needed to use KNUpay is Internet connection and smartphone supporting NFC.**

1. **What needs to be done?**

**Our application will be designed for smartphones with Android operation system. For that purpose we are going to use Android Studio. We decided that we will write in Java programming language, which is the language most of us have already encountered. We will also need a database, where users’ data such as: username, password, account funds,** transaction history **will be stored. Since we want to use NFC we will have to learn how to program it so that one device sends money and the other receives it without any mistakes.**

1. **Tools:**

* git – version control system
* Android Studio - Android emulation
* Firebase - application development platform
* NFC - Near Field Communication technology
* Gimp - raster graphics editor
* MongoDB – open source database

1. **Conclusions**

At the moment, our greatest priority is task distribution, setting the deadlines and starting programming. We hope that this project will allow us to prepare for the future work of programmers through experience of working in a real team. What is more, we will be able to use the knowledge we will gain in our future projects and who knows, maybe our idea of fast payments will revolutionize the cashless payment market.