Binary Ninjaz

EPI-USE - NFC Business Cards

Sizo Duma	15245579
John Ojo	15096794
Kevin Reid	15008739
Shaun Yates	16007493
Letanyan Arumugam	14228123
Teboho Mokoena	14415888

Stakeholders

EPI-USE Africa

Mvuyisi Scheepers

Contents

1 Binary Ninjaz

1.1 About Us

Binary Ninjaz is a diverse team of young, hard working and passionate software developers. Each member of the team brings their own unique, diverse skill set to the table, which includes competence in a wide range of fields such as Artificial Intelligence, Multimedia and also Business intellect. Binary Ninjaz has a fun and modern culture that promotes blue sky thinking and solutions that fit into the modern environment. The team works exceptionally well together and all members aim to produce a quality product while also creating a constructive relationship with our client.

1.2 The Team

1.2.1 Sizo Duma

Course : BSc Information Technology (Software Development stream)

Career Interest : Software Systems Engineering, Moblie Application Developer

Skills :

- Programming (C, C++, Java, C#, XML)
- Advanced Database Systems (Relational, Document & Object Oriented)
- Systems Design
- Mobile Development (Android Studio)
- Web Development (LAMP/WAMP)

Bio : I started at the University of Pretoria in 2015 studying Computer Science. In second year I decided to switch to the BSc Information Technology program which allowed me to take Computer Science along with Informatics as a second major. I did this because while I am highly passionate about the deeper back-end development that Computer Science offers targets. I also like business. I particularly like the business aspect of IT along with front-end development, and wish to attain as much knowledge as I can about: systems development, front-end development, and back-end development which are all catered for best in BSc Information Technology (Software Development). I am passionate about what I am studying which makes putting in the extra effort to always produce a perfect product that much easier.

1.2.2 John Ojo

Course : BSc Information Technology & Applied Mathematics

Career Interest : Software Developments/Engineering, Financial/System Analyst

Skills :

- Programming (C++, Java, MATLAB, SAS, Assembly)
- Web development
- Database Systems (Relational)

Bio : Since the beginning of my degree I have been looking forward to doing Software Engineering. I wanted to combine different systems, mix the old and the new and especially combine mathematics and Information Technology. Mathematics has been the one subject that has been getting the best of students since the beginning and IT is the new world that everyone wants to be part of. I chose to do both to truly defeat something that has challenged to students and join the world of IT where concepts and theories were made possible. I want to work with different people, create things that were just thoughts and improve life as a whole. IT gives me that opportunity.

1.2.3 Kevin Reid

Course : BSc Computer Science

Career Interest : Software Development, Game Development

Skills :

- Programming: C, C++, Java, Assembly (x86), HTML, JavaScript, CSS, MySQL (MariaDB), PHP, XML, BASH, ZSH, LaTeX.
- GNU/Linux (Debian and Arch based)
- 3D modelling and texturing (Blender)
- Circuitry and Electronics
- LAMP Stack

Bio : I came out of high school and went into computer engineering for a year and a half, after only enjoying the computer science modules, I decided it was time to make a change. Since that change, I have grown to love almost all things computer science, and have never been happier. In my spare time I tend to enjoy video games, series and movies. But otherwise, I take great pleasure in programming–nothing better than a good challenge–or other computer related things; like when you have over 60 mods (it's not many I know) in skyrim and it all works–then you realise that that's actually the best part of the game; or learning Dvorak was great fun; blender's my on and off again lover; installing and configuring an operating system is always a hoot–speaking of: it's time I installed Arch again. . .

1.2.4 Shaun Yates

Course : BSc Computer Science

Career Interest : Software Development

Skills :

-
-
- Artificial Intelligence

Bio :

1.2.5 Letanyan Arumugam

Course : BSc Computer Science

Career Interest : Software Engineering

Skills :

- Programming Language: C, C++, Java, Swift, Objective-C, SQL, Python, Delphi, x86 ASM, HTML, JavaScript, CSS, PHP, Bash.
- macOS, iOS, tvOS, watchOS development
- Windows development
- Web Development
- Known Technologies: MAMP Stack, Git, XCode

Bio : I am currently a 3rd-year student at the University of Pretoria studying BSc. Computer Science. In my spare time, I'm an active member of the Swift-Evolution community, which deals with the language design of, the programming language, Swift. With Swift, I have created applications that have were published on the Apple App Store. Building these apps allows me to do a few things that I enjoy. These would be algorithm optimisation, user experience and designing an excellent looking user interface.

1.2.6 Teboho Mokoena

Course : BSc Information Technology

Career Interest : Software Engineering, Systems Analyst

Skills :

- Programming (and Netcentric) Languages: C++, Java, C, C sharp, MongoDB, NodeJS, Javascript, PHP
- Android Application Development and .Net Application Development
- Software Modelling, Operating System and Concurrent Systems
- API and REST Architecture interfaces
- Xamarin Mobile Application development

Bio : Teboho Vincent Mokoena, born and raised in Qwa-Qwa, Free State. Enrolled in the BSc It (Knowledge and Information system) programme at the University of Pretoria, in the year 2015. Majoring in Computer Science (Software Development elective group). Active member of World CodeSprint 12 coding contest orginisation since 2016.

2 Motivation For Project

When deciding what projects to bid for, each team member suggested three projects which they were interested in. The NFC Business Cards tender is the only project that every team member had a mutual interest in, and was individually suggested by every member. This common interest increases the chances of project success as well as the chance of producing a top-level application as we are all willing to go the extra mile on this project, hence this is our first choice project.

Every team member also has skills that will contribute to making this a successful project. The team has members who major in Computer Science, Informatics, Mathematics & Multimedia. The Multimedia & Informatics members will focus on the front-end development of the project and produce a system with a flawless user experience and interface. The Mathematics and some Computer Science team members will be more focused on the backend part of the system, such as security.

We are the best choice for this project because of our diverse skills and excellent team work. With our common interest in this project we aim at doing our best to meet all the client's requirements and exceed expectations.

3 The Project

3.1 High Level Description

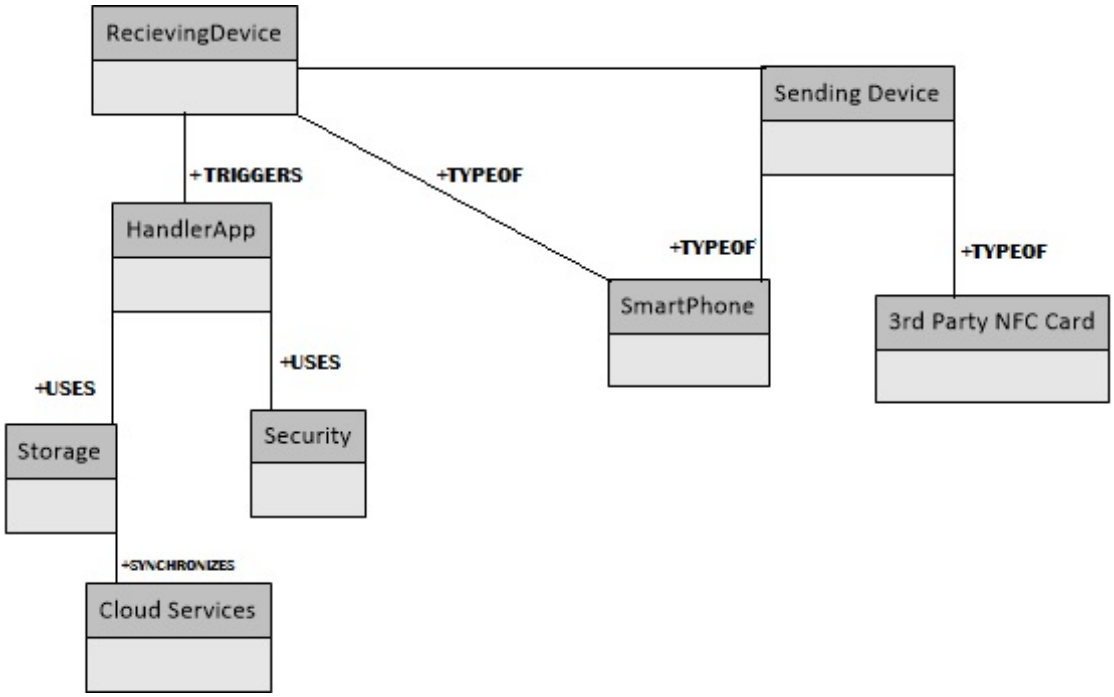
The project is to develop a efficient and effective system of electronic business cards making use of devices such as our smart phones and 3rd party electronic NFC cards. The System should be able to gather potential client details seamlessly with the use of NFC technology and automate features such as sending fist contact mail, and adding relevant contact info either your email address book or contact book. The system should also be able to extend to other social media platforms such as Linked In, Facebook and

more.

The following requirements will be met :

- The ability to seamlessly transfer contact (business card) data between two devices.
- Automation of general tasks such as first contact mail between first time interactions.
- A safe and secure platform for data gathering & sharing.

3.2 The Domain Model



3.3 Technologies To Be Used

- NFC Enabled Smart Mobile Phones
- Android Studio For App Development
- Java For Backend Development
- Android SQLlite/MySQL
- Google Cloud Services
- Other: 3rd party NFC enabled cards

3.4 Development Methodology

We will be utilising **Agile** development methodologies with specific reference to **SCRUM** practices. We believe that this is the best means to enable both us as the engineering team and the client to focus on effectively performing the tasks integral to successfully providing the desired mobile application For this project. EPI-USEy will take the part as Product Owner and us as Binary Ninjaz will be the Development Team.

Interactions are highly valued by our team, hence we are dedicated to conducting weekly or bi-weekly meetings with EPI-USE to ensure we are on course with the clients expectations.This will also serve and start and end points for Sprints (which serve as schedules for delivery of agreed upon requirements) . We will also be regularly meeting and consulting with our lectures and tutors for further guidance throughout the duration of the project. All of the above mentioned parties will have access a third party instant messaging platform in order to facilitate communication apart from physical meetings.

A collaborative and cooperative approach between both stakeholders will be employed for the life span of the project. There will also be a focus on the frequent, iterative presentation of small, incremental releases of deliverables to the client. The role of EPI-USE in this approach includes:

- Active involvement and collaboration in all phases of project
- Analysis and Design - The client will facilitate the identification, definition, prioritisation and continuous refinement of high level requirements, system architecture and design decisions of the mobile application in order to ensure the correct functionality of the end product.
- Development and Deployment - The client will periodically review all instances of the product in order to ensure to it is in line with their expectations
- Critical and constructive analysis on not only what we as the engineering team deliver but also on the quality of our service and whether or not we conducted ourselves as would be expected from those in a occupational environment
- To provide us with the means to produce an effective end product. An exhaustive list of these required means will be provided in further Analysis and Design specification.

Thank You EPI-USE Africa. The Binary Ninjaz look forward to working with you in the near future.