

## BINARY NINJAZ

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### EPI-USE - NFC Business Cards

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STAKEHOLDERS

EPI-USE Africa

Mvuyisi Scheepers

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## 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. These include competence in a wide range of fields such as: Artificial Intelligence, Multimedia, Mathematics and also Business. 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, Mobile Application Developer

Skills :

- Programming (C, C++, Java, C#, XML, JavaScript, PHP, HTML5, CSS3)
- Advanced Database Systems (Relational, Document & Object Oriented)
- Systems Modelling/Design
- Mobile Development (Android Studio)
- Web Development (LAMP & WAMP)

**Bio :** I started at the University of Pretoria in studying BSc Computer Science. The following 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 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 (Information Technology) âš Information and Knowledge Systems

Career Interest : Artificial Intelligence

Skills :

- Programming (C++, Java, MySQL, HTML, CSS, JavaScript, PHP)
- Database Systems (Relational)
- Systems Design/Modelling

**Bio :** I was shown the world of IT at a young age due to my dad being an IT consultant, which helped show me that a career in IT is what I want to do with my life. I started my course in 2016, originally taking the Genetics elective group due to it interesting me; it also allowed me to take Artificial Intelligence in third year, which few elective groups allow. Now, in third year, I got the choice to take more Computer Science related modules instead of the Genetics electives, and I opted for that instead. In my spare time I enjoy series or going out and meeting new people. I like to think I am a very sociable person and look forward to working with many different people in the years to come, as I firmly believe you can learn a lot from anybody that you meet.

#### 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 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 :** I started BSc IT (Knowledge and Information Systems) in 2015, I am currently doing my final year at the University of Pretoria. I have been a member of World Code-Sprint 12 (local and global coding competition) since the year 2016. My enthusiasm for programming and Computer Science remains undiminished after facing many challenges, including a cancer diagnosis (which I underwent treatment for and have been cured from) and the death of two immediate-family members - to mention a few. I have a determination to finish what I start and a hunger to do more. I have this relentless passion for programming and software engineering allows me to maximise my potential.

## 2 Motivation For Project

When deciding what projects to bid for because of the diverse personnel on our team, it was a bit of a challenge picking one project we all agreed upon. We tackled this issue by having each team member make a top five list of projects which they were interested in. The NFC Business Cards was not only suggested by every member but ranked highly on every members list, and at the same time was the only project we all had mutual interest in. This common interest has led to this being our first choice option by far and we believe that this also increases the chances of project success and us working well together on it to produce a top-level system as we are all willing to go the extra mile on

this 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, data management part of the system and enforce things such as security and efficiency.

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

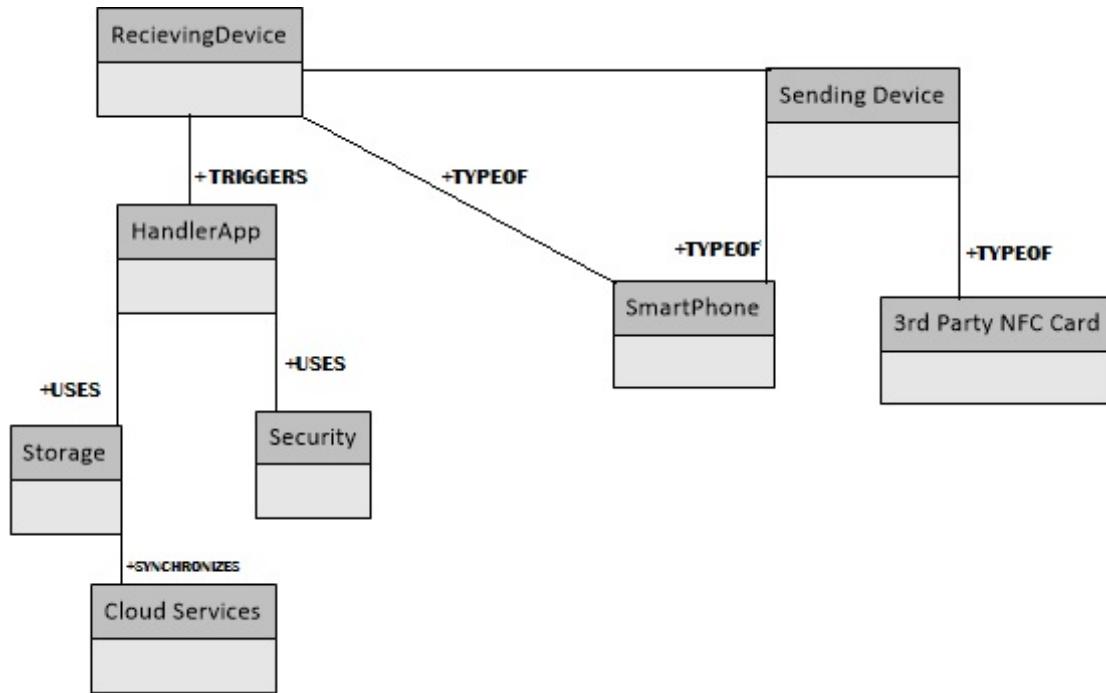
#### 3.1 High Level Description

The project is to develop an efficient and effective system of electronic business cards making use of devices such as our Smartphones and possibly 3rd party electronic NFC cards. The System should make collection of potential client or giving out of business information more convenient through the use of one device rather than plenty of physical cards (which may sometimes get lost and are costly long term), and it should make it much more seamless with the use of NFC technology. It will automate features such as sending first contact mail, and adding relevant contact info either to your email address book or contact book if it is a first contact situation. 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.
- and more feature to be determined.

### 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 SQLite/MySQL
- Google/Amazon Cloud Services
- Other: 3rd party NFC enabled cards

### 3.4 Development Methodology

We will be utilising **Agile** development methodologies. 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 Business Card system for this project. EPI-USE will take the part as Product Owner and we as the Binary NinjaZ will assume the role of the Development Team.

Interactions are highly valued by our team, hence we are dedicated to conducting meetings fortnightly (or weekly should the need occur) with EPI-USE to ensure we are on course with the clients expectations. This will also serve as 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 (Slack, WhatsApp) in order to facilitate communication apart from physical meetings which can be on a daily basis.

We hope to employ a collaborative and cooperative approach between us and both stakeholders for the life span of the project. we will frequently be working on the project and providing incremental deliverables to the client.

The role we expect EPI-USE to play is:

You take an active involvement and collaboration in all phases of project, aid us with the Analysis and Design to ensure correct functionality, Periodically review the product in order to ensure is in line with expectations, and to provide us with the means (NFC enabled cards) to produce an effective end product.

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