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COS301 : Architectural Design Specification and Non-Functional Requirements

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Contents

1 System Type

1.1 Interactive System

We have chosen this system type because most of our use case functions require respond and response configuration. The user(actor), will request a service which is the use case from the application(System), then the system will respond either successfully or unsuccessfully.

An example of this would be when User A wants to send card details to user B using NFC. He clicks the send button and the system will check if NFC is on, if so, the card details will be successfully sent. If not, the user will be prompted to turn the device NFC on.

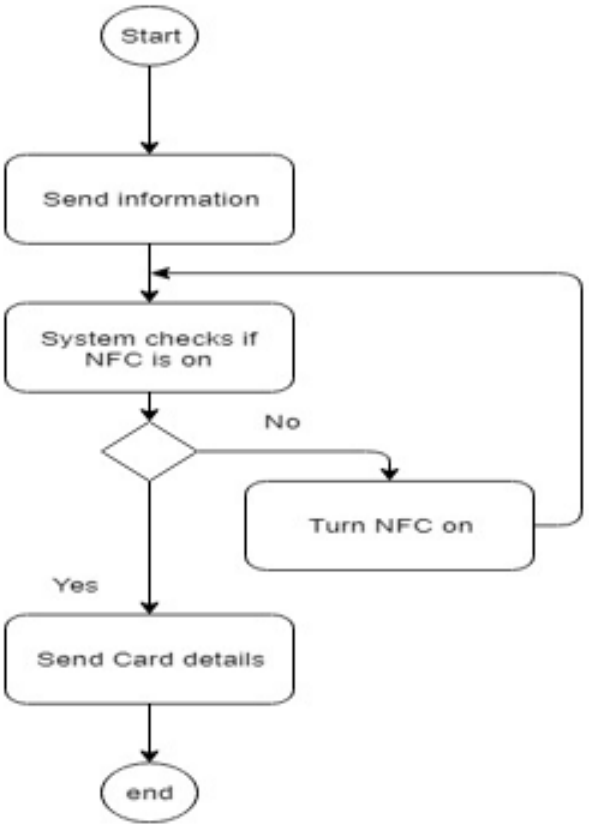

Figure 1: An Activity diagram for sending a card.

2 Architectural Style

2.1 3-Tier Architecture

- We choose the 3-tier architectural design because we can use the model for flexibility and re usability of the application. It provides us the option to be able to modify a specific layer instead of having to redo work on the whole application.

2.1.1 Presentation Layer

- GUI - What the user sees and interacts with when our application opens.

2.1.2 Logic Layer

- The logical tier controls the application functionality by performing detailed processing.

2.1.3 Database Layer

- Store user information
- Store business cards

3 Non-Functional Requirements

3.1 Security

- Authentication - Login Authentication, Single Sign On
- Session Management - Sessions are used to maintain state. In usual Application communication, on successful user/process Authentication, Session Identified (ID) is issued to Track authenticated state
- Configuration Management - Encryption(AES) to prevent unauthorized access to information.
- We will use a dialog button for confirmation and cancellation

3.2 Usability

- Using generic interface elements(icons, fonts, menus etc) to make it simple, easy and fun to use.

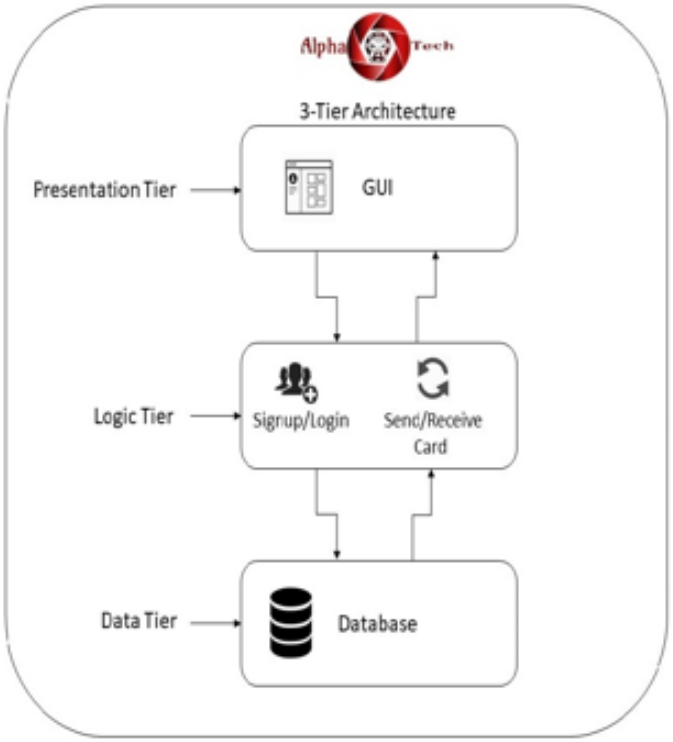

Figure 2: 3-Tier Architecture design.

- Utilizing the technical capabilities of the mobile device maps, camera, phone calls, scanning etc.
- It should anticipate users' needs and add value in new ways they don't expect.
- The visual design of the application affects the level of trust in the system and raises the degree of pleasure users get from it over time. so our look and feel need look and feel should accomplish that.

3.3 Reliability

Reliability test results should be stated in terms of measurements. Measurements will be taken during testing when we are collecting and analyzing data about the performance of the application.

- An estimate of the performance of our system currently is 75