**FUNCTIONAL SPECIFICATION DOCUMENT**

**Online Site Reporting Mobile Application**

**Version 1.5**

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**TABLE OF CONTENTS**

[1. Introduction 7](#_Toc465763545)

[1.1. Background of Request 7](#_Toc465763546)

[1.1.1. Functionality 7](#_Toc465763547)

[1.1.2. Design Constraint 7](#_Toc465763548)

[1.1.3. Consideration for Performance 7](#_Toc465763549)

[1.2. Scope of Work 7](#_Toc465763550)

[1.3. Dependent/Related Projects 9](#_Toc465763551)

[2. Business Requirement (BR) 10](#_Toc465763552)

[3. Systems Overview 11](#_Toc465763553)

[3.1. System Context 11](#_Toc465763554)

[3.2. Impacted Systems 11](#_Toc465763555)

[4. Functional Requirements (FR) 12](#_Toc465763556)

[5. Business Flow (BF) 13](#_Toc465763557)

[6. Non Functional Requirement (NFR) 24](#_Toc465763558)

[6.1. Hardware Interfaces 24](#_Toc465763559)

[6.2. Software Interfaces 24](#_Toc465763560)

[6.3. System Interfaces 24](#_Toc465763561)

[7. Assumptions 25](#_Toc465763562)

[8. Use Case 26](#_Toc465763563)

[8.1. User Authentication Module 26](#_Toc465763564)

[8.1.1. Choose Environment 26](#_Toc465763565)

[8.1.2. Login 27](#_Toc465763566)

[8.1.3. Update device token 28](#_Toc465763567)

[8.1.4. Fetch System Parameter 29](#_Toc465763568)

[8.1.5. Forgot Password 30](#_Toc465763569)

[8.1.6. Fetch Project 31](#_Toc465763570)

[8.1.7. Fetch Survey 34](#_Toc465763571)

[8.1.8. Fetch Report Status 35](#_Toc465763572)

[8.1.9. Open Map View 37](#_Toc465763573)

[8.1.10. Sort Project 38](#_Toc465763574)

[8.1.11. Filter Project 39](#_Toc465763575)

[8.1.12. Search Project 40](#_Toc465763576)

[8.1.13. Open Project Detail 41](#_Toc465763577)

[8.1.14. Open Project Attachment 42](#_Toc465763578)

[8.1.15. Remove Closed Project 43](#_Toc465763579)

[8.1.16. Request On Hold 44](#_Toc465763580)

[8.1.17. Send Message 45](#_Toc465763581)

[8.1.18. Prepare Question 47](#_Toc465763582)

[8.1.19. Display Question 48](#_Toc465763583)

[8.1.20. Fill Answer 49](#_Toc465763584)

[8.1.21. Validate Answer 50](#_Toc465763585)

[8.1.22. Jump to Error Question 51](#_Toc465763586)

[8.1.23. Post Survey 52](#_Toc465763587)

[8.1.24. Upload offline forms 53](#_Toc465763588)

[8.1.25. Contact Us 54](#_Toc465763589)

[8.1.26. Change Password 55](#_Toc465763590)

[8.1.27. Network Listener 56](#_Toc465763591)

[8.1.28. Send Location 57](#_Toc465763592)

[8.1.29. Push Message Save 57](#_Toc465763593)

[8.1.30. Display Notification Messages 58](#_Toc465763594)

[8.1.31. Display Inbox Detail Messages 59](#_Toc465763595)

[8.1.32. Edit Notification List 60](#_Toc465763596)

[8.1.33. Delete Selected Notification 61](#_Toc465763597)

[8.1.34. Mark as Read Selected Notification 62](#_Toc465763598)

[8.1.35. Notification Action 62](#_Toc465763599)

[9. Design Database 64](#_Toc465763600)

[9.1. Entity Relationship Diagram 64](#_Toc465763601)

[9.1.1. Survey 64](#_Toc465763602)

[9.1.2. Question Group 65](#_Toc465763603)

[9.1.3. Question 65](#_Toc465763604)

[9.1.4. Report 65](#_Toc465763605)

[9.1.5. Answer 66](#_Toc465763606)

[9.1.6. Project 66](#_Toc465763607)

[9.1.7. Attachment 67](#_Toc465763608)

[9.1.8. Activity 67](#_Toc465763609)

[9.1.9. On Hold Category 67](#_Toc465763610)

[9.1.10. Emergency Type 67](#_Toc465763611)

[9.1.11. Push Message 68](#_Toc465763612)

[9.1.12. Pending On Hold 68](#_Toc465763613)

[9.1.13. Pending Message 68](#_Toc465763614)

**List of Tables**

[Table 1 Dependent / Related Projects 9](#_Toc465952334)

[Table 2 Requirement Summary 10](#_Toc465952335)

[Table 3 Functional Requirements 12](#_Toc465952336)

[Table 4 Hardware Interfaces 24](#_Toc465952337)

[Table 5 Software Interfaces 24](#_Toc465952338)

[Table 6 System Interfaces 24](#_Toc465952339)

[Tabel 7 Survey Table 64](#_Toc465952340)

[Tabel 8 Question Group Table 65](#_Toc465952341)

[Tabel 9 Question Table 65](#_Toc465952342)

[Tabel 10 Report Table 65](#_Toc465952343)

[Tabel 11 Answer Table 66](#_Toc465952344)

[Tabel 12 Project Table 66](#_Toc465952345)

[Tabel 13 Attachment Table 67](#_Toc465952346)

[Tabel 14 Activity Table 67](#_Toc465952347)

[Tabel 15 On Hold Category Table 67](#_Toc465952348)

[Tabel 16 Emergency Type Table 67](#_Toc465952349)

[Tabel 17 On Hold Category Table 68](#_Toc465952350)

[Tabel 18 Pending On Hold Table 68](#_Toc465952351)

[Tabel 19 On Hold Category Table 68](#_Toc465952352)

**List of Figures**

[Figure 1 System Context 12](#_Toc466459235)

[Figure 2 Business Flow 1 – Choose Environment 14](#_Toc466459236)

[Figure 3 Business Flow 2 - Login 14](#_Toc466459237)

[Figure 4 Business Flow 3 – Update Device Token 14](#_Toc466459238)

[Figure 5 Business Flow 4 – Fetch System Parameter 14](#_Toc466459239)

[Figure 6 Business Flow 5 – Forgot Password 15](#_Toc466459240)

[Figure 7 Business Flow 6 – Fetch Project 15](#_Toc466459241)

[Figure 8 Business Flow 7 – Fetch Survey 16](#_Toc466459242)

[Figure 9 Business Flow 8 – Fetch Report Status 16](#_Toc466459243)

[Figure 10 Business Flow 9 – Open Map View 16](#_Toc466459244)

[Figure 11 Business Flow 10 – Sort Project 17](#_Toc466459245)

[Figure 12 Business Flow 11 – Filter Project 17](#_Toc466459246)

[Figure 13 Business Flow 12 – Search Project 17](#_Toc466459247)

[Figure 14 Business Flow 13 – Open project detail 17](#_Toc466459248)

[Figure 15 Business Flow 14 – Open project attachment 17](#_Toc466459249)

[Figure 16 Business Flow 15 – Remove closed project 18](#_Toc466459250)

[Figure 17 Business Flow 16 – Request on hold 18](#_Toc466459251)

[Figure 18 Business Flow 17 – Send Message 18](#_Toc466459252)

[Figure 19 Business Flow 18 – Prepare Questions 18](#_Toc466459253)

[Figure 20 Business Flow 19 – Display Questions 19](#_Toc466459254)

[Figure 21 Business Flow 20 – Fill Answer on Numeric or Text Type Question 19](#_Toc466459255)

[Figure 22 Business Flow 21 – Fill Answer on Dropdown Type Question 19](#_Toc466459256)

[Figure 23 Business Flow 22 – Take Photo 19](#_Toc466459257)

[Figure 24 Business Flow 23 – Photo Options 20](#_Toc466459258)

[Figure 25 Business Flow 24 – Fill Answer on Calendar Type Question 20](#_Toc466459259)

[Figure 26 Business Flow 25 – Fill Answer on File Type Question 20](#_Toc466459260)

[Figure 27 Business Flow 26 – Fill Answer on File Type Question 21](#_Toc466459261)

[Figure 28 Business Flow 27 – Jump to Rejected Question 21](#_Toc466459262)

[Figure 29 Business Flow 28 – Post Survey 21](#_Toc466459263)

[Figure 30 Business Flow 29 – Upload Offline Survey 21](#_Toc466459264)

[Figure 31 Business Flow 30 – Upload Offline On Hold 22](#_Toc466459265)

[Figure 32 Business Flow 31 – Upload Offline Message 22](#_Toc466459266)

[Figure 33 Business Flow 32 – Contact Us 22](#_Toc466459267)

[Figure 34 Business Flow 33 – Change Password 23](#_Toc466459268)

[Figure 35 Business Flow 34 – Network Listener 23](#_Toc466459269)

[Figure 36 Business Flow 35 – Validate GPS 23](#_Toc466459270)

[Figure 37 Business Flow 36 – Send Location Silently 23](#_Toc466459271)

[Figure 38 Business Flow 37 – Push Notification Fetch 24](#_Toc466459272)

[Figure 39 Business Flow 38 – Display Inbox 24](#_Toc466459273)

[Figure 40 Business Flow 39 – Display Detail Message 24](#_Toc466459274)

[Figure 41 Business Flow 40 – Notification Action 24](#_Toc466459275)

[Figure 42 Entity Relationsip Diagram 66](#_Toc466459276)

# Introduction

## Background of Request

### Functionality

Online Site Reporting (OSR) Mobile Application is an Android based application for helping surveyor of PT Profesional Telekomunikas Indonesia (Protelindo).

OSR will have capabilities to display ongoing and approved project, map which displays the location of each project site, in app survey report as well as request to on hold any project and report emergency message.

OSR will mostly use an advantage of GPS capabilities to capture user longitude, latitude, and datetime.

### Design Constraint

Design Constraint for OSR Mobile Application is defined as follow :

* Application will be built on Android Operating System
* Application will run on tablet and smartphone platforms
* Application device orientation is portrait only
* Application will run on minimum specification :
  + Operating System : Jelly Bean 4.2.2
  + Processor : Quad Core 1Ghz
  + RAM : 2GB
  + Resolution : 480 x 800 for Smartphone, and 1024 x 600 for Tablet

### Consideration for Performance

For performance consideration, this application is expected to:

* Run well on slow 256kbps network
* Optimize memory management
* Optimize battery consumption
* When navigate between group of question, load time is no longer than 3 seconds

## Scope of Work

Scope of Work of this project is defined as follow:

* User Authentication
  + Login (username, password)
    - Choose server environment:
      * Production (default)
      * Development
      * Quality Control (Test)
  + Forget Password (backend will send link to user email, the email then should be clicked by user in order to reset the password)
  + Change Password
* Project Management
  + Display list of Projects
    - Progress (will show on-progress projects)
    - Approved (will show approved projects)
    - All (will show both on-progress and approved projects)
  + Quick Search + Matched keyword highlight
  + Sorting (Nearest target date, nearest report date, nearest distance, site ID, client)
  + Filtering (plan survey start and end date, region, priority)
  + Map view (display site location of selected project group)
  + Shortcut to report project, on hold project, or send message on any project
* Project Information
  + Main Information (Project ID, Department, Site ID, Site Name, Latitude, Longitude, Address, Tower Type, Site Type, Tower Height, Building Height, Note, Start Date, End Date, Next Report Date, Milestone)
  + List of attachments (attachment will be opened on external browser)
  + List of Activities
* Project Reporting
  + Report Information
  + Report Status
  + List of Group Questions
    - GPS Handling (get current long, lat, and datetime)
    - Generate questions per group question
    - Swipe to navigate between group of questions
    - Validate question
    - Offline upload capability (for later upload when there is no internet connection)
* On Hold Project
  + Project Information
  + Embed minimal of 3 pictures
  + On Hold Reason field
  + Offline upload capability
* Send Message
  + Project Information
  + Choose message type
  + Choose emergency message category
  + Message reason field
  + Offline upload capability
  + Embed minimal of 3 pictures
* Setting
  + My Profile page (name and phone)
  + Setting to use wify only or us using cellular
  + Term of Service, Privacy Policy, About
  + FAQ (open in app browser)
  + Contact Us (input problem reason, button to FAQ, embed minimal of 3 pictures, no offline upload capability, output send email)
* Other
  + Push Notification
    - Inbox system for grouping upcoming push notification items
    - Action handler, tap on notification will directly open selected project
    - Silent Push notification for getting device longitude and latitude silently
  + Error Reporting with Crash Analytics
  + Tutorial with scrollable images and shows when first time use.

## Dependent/Related Projects

Table 1 Dependent / Related Projects

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Project Name** | **Dependency Description** | **Reference Documents Name** |
| N/A | N/A | N/A | N/A |

# Business Requirement (BR)

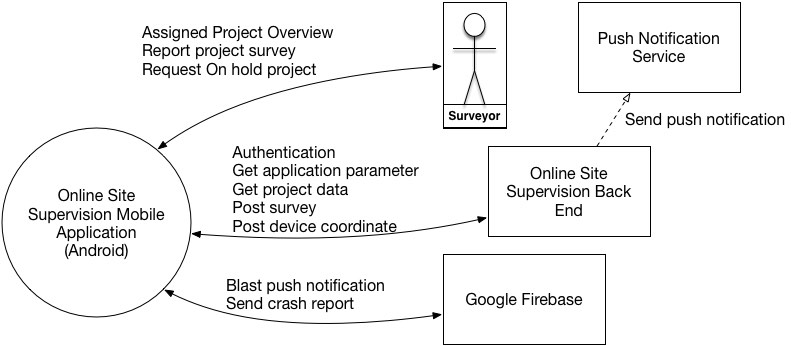
Table 2 Requirement Summary

| **BR ID** | **Description** | **Document Reff** |
| --- | --- | --- |
| BR-1 | Have an android based mobile application for online reporting on survey site | Proposal |

# Systems Overview

## System Context

Figure 1 System Context



## Impacted Systems

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID\*** | **System Name** | **Impacted Area/Functional** | **Description** | **Document Reff** |
| 1 | NA | N/A | N/A | N/A |

# Functional Requirements (FR)

Table 3 Functional Requirements

| **FR ID** | **BR Reff** | **Functional Requirement Description** | **Document Reff** |
| --- | --- | --- | --- |
| FR-1 | BR-1 | The app shall has a capability to do user authentication from backend server | Proposal |
| FR-2 | BR-1 | The app shall display list of projects based on user | Proposal |
| FR-3 | BR-1 | The app shall has a capability to submit survey, on hold request, and message on any project with offline feature | Proposal |
| FR-4 | BR-1 | The app shall has a support feature | Proposal |
| FR-5 | BR-1 | The app shall implement push notification message | Proposal |

# Business Flow (BF)

Figure 2 Business Flow 1 – Choose Environment

| **BF ID** | BF-1 |
| --- | --- |
| **Description** | Choose environment |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-1 |
| **Flow Process** |  |

Figure 3 Business Flow 2 - Login

| **BF ID** | BF-2 |
| --- | --- |
| **Description** | Login |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-1 |
| **Flow Process** |  |

Figure 4 Business Flow 3 – Update Device Token

| **BF ID** | BF-3 |
| --- | --- |
| **Description** | Update device token |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-1 |
| **Flow Process** |  |

Figure 5 Business Flow 4 – Fetch System Parameter

| **BF ID** | BF-4 |
| --- | --- |
| **Description** | Fetch system parameter |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-1 |
| **Flow Process** |  |

Figure 6 Business Flow 5 – Forgot Password

| **BF ID** | BF-5 |
| --- | --- |
| **Description** | Forgot password |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-1 |
| **Flow Process** |  |

Figure 7 Business Flow 6 – Fetch Project

| **BF ID** | BF-6 |
| --- | --- |
| **Description** | Fetch project |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 8 Business Flow 7 – Fetch Survey

| **BF ID** | BF-7 |
| --- | --- |
| **Description** | Fetch survey |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 9 Business Flow 8 – Fetch Report Status

| **BF ID** | BF-8 |
| --- | --- |
| **Description** | Fetch report status |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 10 Business Flow 9 – Open Map View

| **BF ID** | BF-9 |
| --- | --- |
| **Description** | Open Map View |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 11 Business Flow 10 – Sort Project

| **BF ID** | BF-10 |
| --- | --- |
| **Description** | Sort project |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 12 Business Flow 11 – Filter Project

| **BF ID** | BF-11 |
| --- | --- |
| **Description** | Filter project |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 13 Business Flow 12 – Search Project

| **BF ID** | BF-12 |
| --- | --- |
| **Description** | Search project |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 14 Business Flow 13 – Open project detail

| **BF ID** | BF-13 |
| --- | --- |
| **Description** | Open project detail |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 15 Business Flow 14 – Open project attachment

| **BF ID** | BF-14 |
| --- | --- |
| **Description** | Open project attachment |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 16 Business Flow 15 – Remove closed project

| **BF ID** | BF-15 |
| --- | --- |
| **Description** | Remove closed project |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-2 |
| **Flow Process** |  |

Figure 17 Business Flow 16 – Request on hold

| **BF ID** | BF-16 |
| --- | --- |
| **Description** | Request on hold |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 18 Business Flow 17 – Send Message

| **BF ID** | BF-17 |
| --- | --- |
| **Description** | Send message |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 19 Business Flow 18 – Prepare Questions

| **BF ID** | BF-18 |
| --- | --- |
| **Description** | Prepare questions |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 20 Business Flow 19 – Display Questions

| **BF ID** | BF-19 |
| --- | --- |
| **Description** | Display questions |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 21 Business Flow 20 – Fill Answer on Numeric or Text Type Question

| **BF ID** | BF-20 |
| --- | --- |
| **Description** | Fill answer on numeric or text type question |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 22 Business Flow 21 – Fill Answer on Dropdown Type Question

| **BF ID** | BF-21 |
| --- | --- |
| **Description** | Fill answer on dropdown type question |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 23 Business Flow 22 – Take Photo

| **BF ID** | BF-22 |
| --- | --- |
| **Description** | Take photo |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 24 Business Flow 23 – Photo Options

| **BF ID** | BF-23 |
| --- | --- |
| **Description** | Photo options |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 25 Business Flow 24 – Fill Answer on Calendar Type Question

| **BF ID** | BF-24 |
| --- | --- |
| **Description** | Fill answer on calendar type question |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 26 Business Flow 25 – Fill Answer on File Type Question

| **BF ID** | BF-25 |
| --- | --- |
| **Description** | Fill answer on file type question |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 27 Business Flow 26 – Fill Answer on File Type Question

| **BF ID** | BF-26 |
| --- | --- |
| **Description** | Validate answer |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 28 Business Flow 27 – Jump to Rejected Question

| **BF ID** | BF-27 |
| --- | --- |
| **Description** | Jump to rejected question |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 29 Business Flow 28 – Post Survey

| **BF ID** | BF-28 |
| --- | --- |
| **Description** | Post survey |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 30 Business Flow 29 – Upload Offline Survey

| **BF ID** | BF-29 |
| --- | --- |
| **Description** | Upload offline survey |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 31 Business Flow 30 – Upload Offline On Hold

| **BF ID** | BF-30 |
| --- | --- |
| **Description** | Upload offline on hold |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 32 Business Flow 31 – Upload Offline Message

| **BF ID** | BF-31 |
| --- | --- |
| **Description** | Upload offline message |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-3 |
| **Flow Process** |  |

Figure 33 Business Flow 32 – Contact Us

| **BF ID** | BF-32 |
| --- | --- |
| **Description** | Contact us |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-4 |
| **Flow Process** |  |

Figure 34 Business Flow 33 – Change Password

| **BF ID** | BF-33 |
| --- | --- |
| **Description** | Change password |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-4 |
| **Flow Process** |  |

Figure 35 Business Flow 34 – Network Listener

| **BF ID** | BF-34 |
| --- | --- |
| **Description** | Network listener |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-4 |
| **Flow Process** |  |

Figure 36 Business Flow 35 – Validate GPS

| **BF ID** | BF-35 |
| --- | --- |
| **Description** | Validate GPS |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-4 |
| **Flow Process** |  |

Figure 37 Business Flow 36 – Send Location Silently

| **BF ID** | BF-36 |
| --- | --- |
| **Description** | Send location silently |
| **BRReff** | BR-1 |
| **FRReff** | FR-5 |
| **Flow Process** |  |

Figure 38 Business Flow 37 – Push Notification Fetch

| **BF ID** | BF-37 |
| --- | --- |
| **Description** | Push notification fetch |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-5 |
| **Flow Process** |  |

Figure 39 Business Flow 38 – Display Inbox

| **BF ID** | BF-38 |
| --- | --- |
| **Description** | Display inbox |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-5 |
| **Flow Process** |  |

Figure 40 Business Flow 39 – Display Detail Message

| **BF ID** | BF-39 |
| --- | --- |
| **Description** | Display detail message |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-5 |
| **Flow Process** |  |

Figure 41 Business Flow 40 – Notification Action

| **BF ID** | BF-40 |
| --- | --- |
| **Description** | Notification action |
| **BR Reff** | BR-1 |
| **FR Reff** | FR-5 |
| **Flow Process** |  |

# Non Functional Requirement (NFR)

## Hardware Interfaces

Table 4 Hardware Interfaces

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NFR ID** | **BR Reff** | **Interface Name** | **Interface Description** | **Functionality Supported by this Interface** | **Document Reff** |
| 1 | BR-1 | Processor | Mobile Phone Processor Quad Core, 1Ghz or higher | Front end environtment | - |
| 2 | BR-1 | RAM | Ram Memory 2GB or higher | Frone end environtment | - |

## Software Interfaces

Table 5 Software Interfaces

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NFR ID** | **BR Reff** | **Interface Name** | **Interface Description** | **Functionality Supported by this Interface** | **Document Reff** |
| 1 | BR-1 | Android Operating System | Android Jelly Bean 4.2.2 until Android Marshmallow 6.0 | Front end operating system | - |

## System Interfaces

Table 6 System Interfaces

| **From System Name** | **To System Name** | **Protocol** | **Port(s) /**  **Type(s)** | **Description** |
| --- | --- | --- | --- | --- |
| OSR Back End & Web API | OSR Mobile Application | HTTP | 80 | Back end provides data needed for Mobile Application |
| OSR Back End & Web API | Push Notification Service | HTTP | 80 | Back end tells push notification service for blast any message with any selected device to Google Firebase Cloud Messaging |
| Push Notification Service | Firebase Cloud Messaging | HTTP | 5228, 5229, 5230 | Push notification service request FCM to blast message to any selected device |

# Assumptions

To make sure this application runs smoothly, we assume that this system meet the following requirements, such as :

* Internet connection is available
* User have to accept permission for using GPS
* User have to accept permission for using Camera
* User have to accept permission for using Push Notification
* User have to has email account on device

# Use Case

## User Authentication Module

### Choose Environment

| **UC ID** | UC-1 |
| --- | --- |
| **Description** | Use Case for choosing backend environment |
| **FR Reff** | FR-1 - The app shall has a capability to do user authentication from backend server |
| **Actor** | User |
| **Pre-Condition** | * User is on login page * User taps hidden button 5 times on upper left corner * User tap any environment options |
| **Trigger** | User taps done button |
| **Normal Scenarios** | * Application saves selected environment setting to shared preferences * Application changes back end URL end point based on selected environment |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | * Environment selection semi modal will be dismissed * Snack bar will show on lower screen informing that environment has successfully changed |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Rarely |
| **Notes** | Environment Type consist of 3 items :   * Production * Test * Development |

### Login

| **UC ID** | UC-2 |
| --- | --- |
| **Description** | Use Case for loging into application |
| **FR Reff** | FR-1 - The app shall has a capability to do user authentication from backend server |
| **Actor** | User |
| **Pre-Condition** | * User is on login page * User has filled username field * User has filled password field |
| **Trigger** | User taps login button |
| **Normal Scenarios** | * Progress dialog will show * Application sends username and password to backend server * Backend sends user profile and token as API response * User profile and token are saved to shared preferences * UC-3 will be triggered |
| **UI Validation** | * Username field must be filled * Password field must be filled |
| **Business Rules** | * GPS must be checked before system log to back end * Password must be hashed with MD5 algorithm before app post to back-end |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | * Username or password invalid * Username already used * Service unavailable, please contact your administrator” |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  login(username, password, apkVersion, deviceToken)   * username(String) : username of user * password(String) : password of user hashed by md5 algorithm * apkVersion(String) : apk version of current application * deviceToken(String) : push notification token   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * displayName(String) * token(String) : user authentication token * phoneNumber(String) * email(String) |

### Update device token

| **UC ID** | UC-3 |
| --- | --- |
| **Description** | Use Case for updating device token (push notification token) |
| **FR Reff** | FR-1 - The app shall has a capability to do user authentication from backend server |
| **Actor** | Application |
| **Pre-Condition** | User has passed UC-2 |
| **Trigger** | UC-2 |
| **Normal Scenarios** | * Application register for push notification service to Firebase Cloud Messaging (FCM) * FCM return device token (push notification token) to application * Application sends push notification token to backend * Backend sends operation status as API response * UC-4 will be triggered |
| **UI Validation** | - |
| **Business Rules** | Authentication token must valid |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  updateDeviceToken(token, deviceToken)   * token(String) : user authentication token * deviceToken(String) : push notification token   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Fetch System Parameter

| **UC ID** | UC-4 |
| --- | --- |
| **Description** | Use Case for fetching system parameter from backend |
| **FR Reff** | FR-1 - The app shall has a capability to do user authentication from backend server |
| **Actor** | Application |
| **Pre-Condition** | User has passed UC-3 |
| **Trigger** | UC-3 |
| **Normal Scenarios** | * Application sends request for getting system parameter to backend * Backend sends system parameters * Application saves incoming system parameters to database * UC-6 will be triggered |
| **UI Validation** | - |
| **Business Rules** | * Authentication token must valid * Emergency and on hold category will be saved to database while GMT will be saved to shared preference |
| **Success Result** | Progress dialog will be dismissed |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  systemParameter(token)   * Token(String) : user authentication token   and the response will be :   * emergencyType(ArrayofDictionary) * onHoldCategory(ArrayofDictionary) |

### Forgot Password

| **UC ID** | UC-5 |
| --- | --- |
| **Description** | Use Case for helping user when they fogot their password |
| **FR Reff** | FR-1 - The app shall has a capability to do user authentication from backend server |
| **Actor** | User |
| **Pre-Condition** | * User is on login page * User tap forgot password button * User has filled username field |
| **Trigger** | User taps reset password button |
| **Normal Scenarios** | * Progress dialog will show * System send username to backend server * Backend reset password and send an email to user registered email address * Backend send operation status as API response |
| **UI Validation** | * Username field must be filled |
| **Business Rules** | Username must be registered to backend server |
| **Success Result** | * Progress dialog will be dismissed * Application navigates back to login page |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  forgotPassword(username)   * Username(String) : username of user   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Fetch Project

| **UC ID** | UC-6 |
| --- | --- |
| **Description** | Use Case for fetching project data |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | Application |
| **Pre-Condition** | User has logged in to application |
| **Trigger** | User trigger any refresh events |
| **Normal Scenarios** | * Progress dialog will show * Application send request to server for getting project data * Backend send project data * Application saves project data to database * UC-7 will be triggered |
| **UI Validation** | - |
| **Business Rules** | * Authentication token must valid * Any datatime data will be in format [YY-MM-DD HH:MM:SS] with GMT + 0 * If project status is “On Hold” pause icon will be presented next to siteID on home page * If site emergency status is “1” exclamation icon will be presented next to siteID on home page * If both “On Hold” and Emergency Status is “1” exclamation icon will be presented next to siteID and pause icon next to projectID on home page |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | This use case has several entry points :   * After user logged in * Push notification * Everytime user opens home screen   API used for this use case is :  getProject(token, projectID)   * token(String) : user authentication token * projectID(String) : optional project ID, for getting specific project ID detail   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * projects(arrayOfOutputProject)   Output Project will be described as follow :   * projectID(String) * surveyCode(String) * departmentName(String) * siteID(String) * siteName(String) * siteAddress(String) * siteCity(String) * siteProvince(String) * siteType(String) * towerType(String) * towerHeight(float) * buildingHeight(float) * latitude(int) * longitude(int) * startDate(datetime) * nextReportDate(datetime) * statusDate(datetime) * status(Project Status Enum) * onhold(Boolean) * radius(int) * remark(String) * attachment(arrayOfDictionary) : [{"description”: String, “link”: String}] * activity(arrayOfDictionary) : [{“title”: String, “description”: String, “datetime”: datetime}] * projectEmergencyStatus(Emergency Status Enum) * siteEmergency(Boolean) * priority(Priority Enum) * milestoneCompletion(Boolean) * PMName(String) * PMPhone(String) * APMName(String) * APMPhone(String)   Project Status Enum will be consist of :   * In Progress : 3 * On Hold : 4 * Waiting On Hold Approval : 5 * Closed : 6 * Cancelled : 7 |
|  | Emergency Status Enum will be consist of :   * Not Emergency (Blank) : 0 * Waiting Approval : 1 * Approved : 2 * Release : 3   Priority Enum will be consist of :   * Normal: 0 * High: 1 * Critical: 2 |

### Fetch Survey

| **UC ID** | UC-7 |
| --- | --- |
| **Description** | Use Case for fetching survey metadata |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | Application |
| **Pre-Condition** | User has passed UC-6 |
| **Trigger** | UC-6 |
| **Normal Scenarios** | * Application send request to server for getting survey metadata * Backend send survey metadata * Application saves survey metadata to database * UC-8 will be triggered |
| **UI Validation** | - |
| **Business Rules** | * Authentication token must valid |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  getSurvey(token, surveyID)   * token(String) : user authentication token * surveyID(String) : optional survey ID, for getting specific survey ID detail   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * survey(arrayOfDictionary) : [{“code”: String, “groups”: [{“seqno”: Int, “code”: String, “name”: String, “questions: Output Questions”}]}]   Output Questions will be described as follow :   * seqno(Int) * questionID(Int) * name(String) * hint(String) * note(Boolean) * type(Question Type Enum) * required(Boolean) * min\_value(Int) * max\_value(Int) * list(String separated by comma) : “option 1”, “option 2”, “option 3” * resolusi(Resolusi Enum)   Question Type Enum will be consist of :   * Text : 1 * Numeric : 2 * Selection : 3 * Date : 4 * Photo : 5 * Attachment : 6   Resolusi Enum will be consist of :   * Low : 0 * Medium : 1 * High : 2 |

### Fetch Report Status

| **UC ID** | UC-8 |
| --- | --- |
| **Description** | Use Case for fetching report status |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | Application |
| **Pre-Condition** | User has passed UC-7 |
| **Trigger** | UC-7 |
| **Normal Scenarios** | * Application send request to server for getting report data * Backend send report data * Application saves report data to database * Application refresh all view with new data |
| **UI Validation** | - |
| **Business Rules** | * If the question is accepted, that question must be presented with green font color. This indicates that the question is already accepted, but user can edit the answer if necessarily. * If the question is filled, that question must be presented with blue font color. This indidcates that the question is already accepted in other device, but user can edit the answer if necessarily. |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | Service unavailable, please contact your administrator” |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case is :  getReportStatus(token, reportID)   * token(String) : user authentication token * reportID(String) : optional report ID, for getting specific report ID detail   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * reports(arrayOfDictionary) : [{“reportID”: String, “projectID”: Int, “status”: Report Status Enum, “question” Question }]   Question Reject will be described as follow :   * code(String) * remarks(String) * accept(Boolean) * filled(Boolean)   Report Status Enum will be consist of :   * Submit In Progress : 0 * Draft : 1 * Waiting Acceptance : 2 * Waiting Protelindo Acceptance : 3 * Accepted : 4 * Reject : 5 * Reject by Protelindo : 6 |

### Open Map View

| **UC ID** | UC-9 |
| --- | --- |
| **Description** | Use Case opening map view |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-8 |
| **Trigger** | User tap red circle button on lower left corner |
| **Normal Scenarios** | Application display map view |
| **UI Validation** | - |
| **Business Rules** | * Opened map view will only display items from active tab in home view, for example if in home screen tab “Progress” is active, map view will only display “Progress” items * Map annotation / marker will display Site ID * If one site has many projects, project detail will be presented as list view |
| **Success Result** | Map view shown |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | ../../../Downloads/Unknown |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Sort Project

| **UC ID** | UC-10 |
| --- | --- |
| **Description** | Use Case for sorting home page item |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-8 * User tap sort icon on upper right corner (the “AZ” icon) * User select any sort option |
| **Trigger** | User tap done button |
| **Normal Scenarios** | * Application filters home page data source * Application refresh home page * Sort option semi modal dismissed * Sort option default is set to Distance |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | Home page content is updated |
| **Minimal Result** | Home page will show with placeholder |
| **Extention** | - |
| **UI Image** | ../../../Downloads/Unknown-3 |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Filter Project

| **UC ID** | UC-11 |
| --- | --- |
| **Description** | Use Case for filtering home page item |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-8 * User tap filter icon on upper right corner (the wifi-like icon) * User select any filter combination |
| **Trigger** | User tap done button |
| **Normal Scenarios** | * Application filters home page data source * Application refresh home page * Filter option semi modal dismissed |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | Home page content is updated |
| **Minimal Result** | Home page will show with placeholder |
| **Extention** | - |
| **UI Image** | ../../../Downloads/unnamed-3.jpg |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Search Project

| **UC ID** | UC-12 |
| --- | --- |
| **Description** | Use Case for searching home page item |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-8 * User tap search icon on upper right corner (the magnifying glass icon) * User type any keyword |
| **Trigger** | User tap done button |
| **Normal Scenarios** | * Application search keyword from home page data source * Application refresh home page and highlight founded keyword |
| **UI Validation** | - |
| **Business Rules** | Search algorithm is using wildcard |
| **Success Result** | Home page content is updated |
| **Minimal Result** | Home page will show with placeholder |
| **Extention** | - |
| **UI Image** | ../../../Downloads/Unknown-4 |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Open Project Detail

| **UC ID** | UC-13 |
| --- | --- |
| **Description** | Use Case for opening detail project |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-8 * If user is in map mode tap any marker |
| **Trigger** | * If user in list mode tap any project * If user in map mode tap Open Detail button |
| **Normal Scenarios** | * Application getting selected project detail * Application navigate to detail project page |
| **UI Validation** | - |
| **Business Rules** | * PM and APM phone can be tapped for quick action to device phone * Tentatively client name will be added to the screen |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Open Project Attachment

| **UC ID** | UC-14 |
| --- | --- |
| **Description** | Use Case for opening project attachment |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * User enter project detail as described in UC-13 |
| **Trigger** | User tap any project attachment |
| **Normal Scenarios** | Application will open in-app browser, opening the file |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | Application shows in-app browser |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Remove Closed Project

| **UC ID** | UC-15 |
| --- | --- |
| **Description** | Use Case for removing closed project |
| **FR Reff** | FR-2 - The app shall display list of projects based on user |
| **Actor** | Application |
| **Pre-Condition** | User has logged in to application |
| **Trigger** | Any project data update from database |
| **Normal Scenarios** | Application will remove closed project |
| **UI Validation** | - |
| **Business Rules** | Application check any project object in database, check statusDate field, and compare it to device time, if more than 24 hours, remove the object from database |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Request On Hold

| **UC ID** | UC-16 |
| --- | --- |
| **Description** | Use Case for requesting on hold |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * User is on home page * User tap 3 dots button on every project   Or   * User enter project detail as described in UC-14 * User tap 3 dots button on upper right corner * User tap Request On Hold button * User select any on hold category * User insert maximal 3 images * User type on hold reason |
| **Trigger** | User tap send button on upper right corner (papper plane shape icon) |
| **Normal Scenarios** | Application send on hold reason to backend |
| **UI Validation** | On hold reason cannot empty |
| **Business Rules** | * Taking images only permitted via camera function inside the app only * Taking images is optional * If internet connection is not available, on hold messages will be kept on database, and application will try to send after device have an active internet connection |
| **Success Result** | Dialog window will appear |
| **Minimal Result** | - |
| **Extention** | Please fill on hold reason |
| **UI Image** |  |
| **Frequency of Usage** | Rarely |
| **Notes** | API used for this use case is :  requestOnHold(token, projectID, message, picture1, picture2, picture3, latitude1, latitude2, latitude3, longitude1, longitude2, longitude3, onHoldCategoryCode)   * token(String) : user authentication token * projectID(String) * message(String) * picture1(webForm) optional * picture2(webForm) optional * picture3(webForm) optional * latitude1(decimal) * latitude2(decimal) * latitude3(decimal) * longitude1(decimal) * longitude2(decimal) * longitude3(decimal) * category(onHoldCategory)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Send Message

| **UC ID** | UC-17 |
| --- | --- |
| **Description** | Use Case for sending message to backend |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * User is on home page * User tap 3 dots button on every project   Or   * User enter project detail as described in UC-14 * User tap 3 dots button on upper right corner * User tap Emergency Message button * User select message category * User insert maximal 3 images * User type on hold reason |
| **Trigger** | User tap send button on upper right corner (papper plane shape icon) |
| **Normal Scenarios** | Application send message to backend |
| **UI Validation** | Message reason cannot empty |
| **Business Rules** | * Taking images only permitted via camera function inside the app only * Taking images is optional * If internet connection is not available, messages will be kept on database, and application will try to send after device have an active internet connection |
| **Success Result** | Dialog window will appear |
| **Minimal Result** | - |
| **Extention** | Please fill message |
| **UI Image** | ../../../Downloads/unnamed-5.jpg |
| **Frequency of Usage** | Rarely |
| **Notes** | API used for this use case is :  submitMessage(token, projectID, type, category, message, picture1, picture2, picture3, latitude1, latitude2, latitude3, longitude1, longitude2, longitude3, onHoldCategoryCode)   * token(String) : user authentication token * projectID(String) * category(emergencyType) * message(String) * picture1(webForm) optional * picture2(webForm) optional * picture3(webForm) optional * latitude1(decimal) * latitude2(decimal) * latitude3(decimal) * longitude1(decimal) * longitude2(decimal) * longitude3(decimal)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Prepare Question

| **UC ID** | UC-18 |
| --- | --- |
| **Description** | Use Case for preparing question |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-8 * User enter project detail as described in UC-13 |
| **Trigger** | User tap Report tab |
| **Normal Scenarios** | * Application will prepare question to be displayed to user * Application will display question summary header |
| **UI Validation** | - |
| **Business Rules** | * Next and previous group of question should be prepared to create fluent user experience * Tap any circle status button will display status information |
| **Success Result** | - |
| **Minimal Result** | Question summary header presented with placeholder |
| **Extention** | - |
| **UI Image** | ../../../Downloads/unnamed-6.jpg |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Display Question

| **UC ID** | UC-19 |
| --- | --- |
| **Description** | Use Case for displaying question |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-18 |
| **Trigger** | * User tap Fill Survey button * Or, user tap any group of question |
| **Normal Scenarios** | Application will generate group of question |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | Survey summary will present |
| **Minimal Result** | - |
| **Extention** | Survey summary will present with placeholder |
| **UI Image** | ../../../Downloads/unnamed-7.jpg |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Fill Answer

| **UC ID** | UC-20 |
| --- | --- |
| **Description** | Use Case for filling question |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-19 |
| **Trigger** | User tap any type of question |
| **Normal Scenarios** | * For text and numeric type of question, will show keyboard based on type of question * For photo taking type of question, will show kamera controller * For dropdown type of question, will show semi modal with options * For calendar type of question, will show calendar * For attachment type of question, will show file explorer |
| **UI Validation** | - |
| **Business Rules** | * Taking images only permitted via camera function inside the app only * After user confirm the image, application have to embed watermark to image, information to be embedded to image are coordinate and gps date time * File explorer and calendar picker UI will bassed on device * GPS should be checked before user fill answer * Radius tolerance will be calculated before photo taking |
| **Success Result** | Survey filled with answer |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Validate Answer

| **UC ID** | UC-21 |
| --- | --- |
| **Description** | Use Case for validating question |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-19 |
| **Trigger** | User leave question page |
| **Normal Scenarios** | * Application will validate all questions * If any error occurred, application will show the number of errors |
| **UI Validation** | - |
| **Business Rules** | * Application search for mandatory question that hasn’t filled yet |
| **Success Result** | Application will back to survey summary page |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Jump to Error Question

| **UC ID** | UC-22 |
| --- | --- |
| **Description** | Use Case for jump to error question |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-18 |
| **Trigger** | User tap error number on any group of question |
| **Normal Scenarios** | Application will jump to error question |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Post Survey

| **UC ID** | UC-23 |
| --- | --- |
| **Description** | Use Case for posting survey |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-18 * User is on home page * User tap 3 dots button on every project   Or   * User enter project detail as described in UC-13 * User tap 3 dots button on upper right corner |
| **Trigger** | User tap submit report button |
| **Normal Scenarios** | * Survey will be posted to backend with submitReport API * Survey will be posted to backend with submitReportFile API * Application will fetch data from backend to capture any updated project |
| **UI Validation** | - |
| **Business Rules** | * Only validation-passed survey that could be submitted to backend * If internet connection is not available, on survey will be kept on database, and application will try to send after device have an active internet connection * Refno is used for rejected survey, please fill refno, fill “value” field only for rejected question and leaves the other blank * Application will do this use case on background thread * if there any file to upload submitReportFile API will get called, otherwise it can be skipped * Elevation field in submitReportFile API is optional, if user device has capability to calculate device elevation this field must be filled |
| **Success Result** | Project status will change to waiting for approval |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | API used for this use case are :  submitReport(token, projectID, questions, latitiude, longitude, submitDate)   * token(String) : user authentication token * projectID(String) * questions(ArrayOfDictionary) : [{“code”: QuestionCode, “value”: answer, “filled”: Boolean}] * latitude(Decimal) * longitude(Decimal) * submitDate(Datetime)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * reportID(String) * reportStatus(ReportStatus)   submitReportFile(token,reportID, questionCode, content, latitude, longitude, elevation)   * token(String) : user authentication token * reportID(String) * content(web form) * latitude(decimal) * longitude(decimal) * elevation(decimal)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) * reportID(String) * reportStatus(ReportStatus)   Report Status Enum will be consist of :   * Submit In Progress : 0 * Draft : 1 * Waiting Acceptance : 2 * Waiting Protelindo Acceptance : 3 * Accepted : 4 * Reject : 5 * Reject by Protelindo : 6 |

### Upload offline forms

| **UC ID** | UC-24 |
| --- | --- |
| **Description** | Use Case for uploading any offline forms that pending |
| **FR Reff** | FR-3 - The app shall has a capability to submit survey, on hold request, and message on any project with offline feature |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-18 |
| **Trigger** | UC-27 |
| **Normal Scenarios** | Survey, on hold request, or message will be posted to backend |
| **UI Validation** | - |
| **Business Rules** | * Application at least has 1 pending survey, or on hold request, or message * Application will do this use case on background thread |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Contact Us

| **UC ID** | UC-25 |
| --- | --- |
| **Description** | Use Case for contact to admin email |
| **FR Reff** | FR-4 - The app shall has a support feature |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * Tap hamburger button (upper left corner) * User tap contact button * User insert maximal 3 images * User type contact reason |
| **Trigger** | User tap send button on upper right corner (papper plane shape icon) |
| **Normal Scenarios** | Application send contact us message to email |
| **UI Validation** | Contact us reason cannot empty |
| **Business Rules** | * Taking images only permitted via camera function inside the app only * Taking images is optional * Device information is also embedded inside the email to inform developer about user device |
| **Success Result** | Dialog window will appear |
| **Minimal Result** | - |
| **Extention** | Please fill contact us reason |
| **UI Image** |  |
| **Frequency of Usage** | Rarely |
| **Notes** | - |

### Change Password

| **UC ID** | UC-26 |
| --- | --- |
| **Description** | Use Case for changing user password |
| **FR Reff** | FR-4 - The app shall has a support feature |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * Tap hamburger button (upper left corner) * User tap settings button * User tap change password button * User fill all 3 fields |
| **Trigger** | User tap save button on upper right corner (discete shape icon) |
| **Normal Scenarios** | Application send request to backend for changing user password |
| **UI Validation** | * Old password field cannot be empty * New password field cannot be empty * Repeat new password field cannot be empty |
| **Business Rules** | * Old password must be the same with user old password * New password and repeat new password must be the same |
| **Success Result** | Dialog window will appear |
| **Minimal Result** | - |
| **Extention** | * Please fill all fields * Old password is wrong * New password isn’t same |
| **UI Image** |  |
| **Frequency of Usage** | Rarely |
| **Notes** | API used for this use case is :  changePassword(token, newPassword)   * token(String) : user authentication token * newPassword(String)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Network Listener

| **UC ID** | UC-27 |
| --- | --- |
| **Description** | Use Case for listening to network change |
| **FR Reff** | FR-4 - The app shall has a support feature |
| **Actor** | User |
| **Pre-Condition** | User has logged in to application |
| **Trigger** | When application active on device memory |
| **Normal Scenarios** | Application listen to network change |
| **UI Validation** | - |
| **Business Rules** | When network change from offline to online, application will trigger UC-24 |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Always |
| **Notes** | - |

### Send Location

| **UC ID** | UC-28 |
| --- | --- |
| **Description** | Use Case for sending device location to backend |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | Backend |
| **Pre-Condition** | Device has logged in to application |
| **Trigger** | Silent push notification |
| **Normal Scenarios** | Application send current location to backend |
| **UI Validation** | - |
| **Business Rules** | This has to be done silently, user doen’t have to know |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Rarely |
| **Notes** | API used for this use case is :  postLocation(token, latitude, longitude, dateTime)   * token(String) : user authentication token * latitude(decimal) * longitude(dedimal) * dateTime(datetime)   and the response will be :   * statusCode(String) : “OK” / “ERROR” * statusMessage(String) |

### Push Message Save

| **UC ID** | UC-29 |
| --- | --- |
| **Description** | Use Case for saving incoming message |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | Application |
| **Pre-Condition** | User has logged in to application |
| **Trigger** | Push notification |
| **Normal Scenarios** | Application save message to database |
| **UI Validation** | - |
| **Business Rules** | UC-5 will be triggered |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Display Notification Messages

| **UC ID** | UC-30 |
| --- | --- |
| **Description** | Use Case for displaying push notification message |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | * User has logged in to application * Tap hamburger button (upper left corner) |
| **Trigger** | Tap inbox button |
| **Normal Scenarios** | * Application get all messages * Application display all messages |
| **UI Validation** | - |
| **Business Rules** | Messages will sort by date |
| **Success Result** | - |
| **Minimal Result** | List of message appear with placeholder |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Display Inbox Detail Messages

| **UC ID** | UC-31 |
| --- | --- |
| **Description** | Use Case for displaying push notification message detail |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-30 |
| **Trigger** | Tap any message |
| **Normal Scenarios** | * Application get detail message from database * Application navigate and show message detail to new page |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | ../../../Downloads/unnamed-2.jpg |
| **Frequency of Usage** | Often |
| **Notes** | - |

### Edit Notification List

| **UC ID** | UC-32 |
| --- | --- |
| **Description** | Use Case for editing notification list |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | User has passed UC-30 |
| **Trigger** | Hold tap push any notification message |
| **Normal Scenarios** | Notification list will change to edit mode |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | - |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** |  |
| **Frequency of Usage** | Rarely |
| **Notes** | - |

### Delete Selected Notification

| **UC ID** | UC-33 |
| --- | --- |
| **Description** | Use Case for deleting push notification message |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-32 * User select any notification message |
| **Trigger** | Tap bin icon |
| **Normal Scenarios** | Appplication delete selected notification message |
| **UI Validation** | Make sure user selecte at least one notification message |
| **Business Rules** | - |
| **Success Result** | * Selected notification removed * Application dismiss from edit mode |
| **Minimal Result** | Show alert that said no message was selected |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Rarely |
| **Notes** | - |

### Mark as Read Selected Notification

| **UC ID** | UC-34 |
| --- | --- |
| **Description** | Use Case for mark as read push notification message |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | * User has passed UC-32 * User select any notification message |
| **Trigger** | Tap envelope icon |
| **Normal Scenarios** | Application mark as read selected notification message |
| **UI Validation** | Make sure user selecte at least one notification message |
| **Business Rules** | - |
| **Success Result** | * Selected notification marked as read * Application dismiss from edit mode |
| **Minimal Result** | Show alert that said no message was selected |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Rarely |
| **Notes** | - |

### Notification Action

| **UC ID** | UC-35 |
| --- | --- |
| **Description** | Use Case for handling action from push notification |
| **FR Reff** | FR-5 - The app shall implement push notification message |
| **Actor** | User |
| **Pre-Condition** | Push notification arrived |
| **Trigger** | Tap push notification message |
| **Normal Scenarios** | * Application search for project ID in push notification message * Application open project detail based on project ID that found in push message |
| **UI Validation** | - |
| **Business Rules** | - |
| **Success Result** | Project detail page will show |
| **Minimal Result** | - |
| **Extention** | - |
| **UI Image** | - |
| **Frequency of Usage** | Often |
| **Notes** | - |

# Design Database

## Entity Relationship Diagram

Figure 42 Entity Relationsip Diagram



### Survey

Tabel 7 Survey Table

| **Table ID** | | T-1 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving survey information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | surveyCode | Survey Code | N | varchar | 20 | PK |

### Question Group

Tabel 8 Question Group Table

| **Table ID** | | T-2 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving group of question information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | questionGroupID | Primary Key | N | varchar | 20 | PK |
| 2 | surveyCode | Foreign Key to Survey table | N | varchar | 20 | FK |
| 3 | seqno | Group of question sequence number | Y | int |  |  |
| 4 | name | Group of question name | N | varchar | 100 |  |

### Question

Tabel 9 Question Table

| **Table ID** | | T-3 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving question information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | questionID | Primary Key | N | varchar | 20 | PK |
| 2 | questionGroupID | Foreign Key to Question Group table | N | varchar | 20 | FK |
| 3 | seqno | Question sequence number | Y | int |  |  |
| 4 | name | Question name | N | varchar | 100 |  |
| 5 | hint | Question hint | Y | varchar | 255 |  |
| 6 | note | Question remark | Y | varchar | 255 |  |
| 7 | type | Question type | N | tinyint |  |  |
| 8 | required | Determine if question is mandatory | N | boolean |  |  |
| 9 | min\_value | Minimal desired value | Y | int |  |  |
| 10 | max\_value | Maximal desired value | Y | int |  |  |
| 11 | list | Values of dropdown list | Y | text |  |  |
| 12 | resolusi | Question resolution | Y | tinyint |  |  |

### Report

Tabel 10 Report Table

| **Table ID** | | T-4 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving report information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | reportID | Primary Key (local primary key) | N | int |  | PK |
| 2 | projectID | Foreign key to Project table | N | varchar 20 |  | FK |
| 3 | serverReportID | Report ID generated from backend | Y | varchar | 20 |  |
| 4 | latitude | User latitude when send report to backend | N | double |  |  |
| 5 | longitude | User longitude when send report to backend | N | double |  |  |
| 6 | submitDate | Current date when user sends report to backend | N | datetime |  |  |
| 7 | dateAdded | Report added date | N | datetime |  |  |

### Answer

Tabel 11 Answer Table

| **Table ID** | | T-5 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving answer information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | answerID | Survey Code | N | int |  | PK |
| 2 | reportID | Foreign Key to Report Table | N | int |  | FK |
| 2 | questionID | Foreign Key to Question Table | N | varchar | 20 | FK |
| 3 | value | Question’s answer, filled with path if question type is image or file | N | varchar | 255 |  |
| 4 | remark | Question rejection remark | Y | varchar | 255 |  |
| 5 | accept | Flag for accepted question | N | boolean |  |  |
| 6 | filled | Flag for filled question | N | boolean |  |  |

### Project

Tabel 12 Project Table

| **Table ID** | | T-6 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving project information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | projectID | Primary Key | N | varchar | 20 | PK |
| 2 | surveyCode | Foreign Key to Survey table | N | varchar | 20 | FK |
| 3 | departmentName | Name of department | N | varchar | 100 |  |
| 4 | siteID | Site primary key | N | varchar | 20 |  |
| 5 | siteName | Name of site | N | varchar | 100 |  |
| 6 | siteAddress | Address of site | N | text |  |  |
| 7 | siteCity | City of site | N | varchar | 100 |  |
| 8 | siteProvince | Province of site | N | varchar | 100 |  |
| 9 | siteType | Type of site | N | tinyint |  |  |
| 10 | remark | project remark | Y | text |  |  |
| 11 | towerType | type of tower | N | typeint |  |  |
| 12 | towerHeight | height of tower | Y | float |  |  |
| 13 | buildingHeight | height of building | Y | float |  |  |
| 14 | latitude | latitude of project site | N | double |  |  |
| 15 | longitude | longitude of project site | N | double |  |  |
| 16 | startDate | project start date | N | datetime |  |  |
| 17 | nextReportDate | project next report date | N | datetime |  |  |
| 18 | statusDate | project status date | N | datetime |  |  |
| 19 | reportStatus | project report status | N | tinyint |  |  |
| 20 | isReportSubmitted | flag for submitted report | N | boolean |  |  |
| 21 | projectStatus | project status | N | tinyint |  |  |
| 22 | onhold | onhold flag | N | boolean |  |  |
| 24 | radius | site radius tolerace | N | float |  |  |
| 25 | siteEmergency | emergency status of site | N | boolean |  |  |
| 26 | priority | project priority | N | tinyint |  |  |
| 27 | milestoneCompletion | milestone completion flag | N | boolean |  |  |
| 28 | PMName | project manager name | N | varchar | 100 |  |
| 29 | PMPhone | project manager phone | N | varchar | 20 |  |
| 30 | APMName | assistance project manager name | N | varchar | 100 |  |
| 31 | APMNPhone | assistance project manager phone | N | varchar | 20 |  |

### Attachment

Tabel 13 Attachment Table

| **Table ID** | | T-7 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving survey information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | attachmentID | Primary Key | N | varchar | 10 | PK |
| 2 | projectID | Foreign Key to Project table | Y | varchar | 20 | FK |
| 3 | description | Attachment description | N | varchar | 255 |  |
| 4 | link | Attachment link | N | varchar | 255 |  |

### Activity

Tabel 14 Activity Table

| **Table ID** | | T-8 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving survey information | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | activityID | Primary Key | N | varchar | 20 | PK |
| 2 | projectID | Foreign Key to Project table | Y | varchar | 20 | FK |
| 3 | title | Activity title | N | varchar | 100 |  |
| 4 | description | Activity description | N | varchar | 255 |  |
| 5 | datetime | Activity datetime | N | datetime |  |  |

### On Hold Category

Tabel 15 On Hold Category Table

| **Table ID** | | T-9 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | On hold category master table | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | onHoldCode | On hold code | N | varchar | 20 | PK |
| 2 | onHoldValue | On hold description | N | varchar | 200 |  |

### Emergency Type

Tabel 16 Emergency Type Table

| **Table ID** | | T-10 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Emergency type master table | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | emergencyCode | Emergency code | N | varchar | 20 | PK |
| 2 | emergencyValue | Emergency type description | N | varchar | 200 |  |

### Push Message

Tabel 17 On Hold Category Table

| **Table ID** | | T-11 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving push message data | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | pushMessageID | Primary Key | N | int |  | PK |
| 2 | title | Push message title | N | varchar | 100 |  |
| 3 | body | Push message message | N | varchar | 200 |  |
| 4 | isRead | Flag for read message | N | boolean |  |  |

### Pending On Hold

Tabel 18 Pending On Hold Table

| **Table ID** | | T-12 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving pending on hold | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | pendingOnHoldID | Primary Key | N | int |  | PK |
| 2 | projectID | Foreign Key to Project table | N | varchar | 20 | FK |
| 3 | category | On hold category code | N | varchar | 20 |  |
| 4 | message | On hold message reason | N | text |  |  |
| 5 | picture1 | Path to first picture | Y | varchar | 200 |  |
| 6 | picture2 | Path to second picture | Y | varchar | 200 |  |
| 7 | picture3 | Path to third picture | Y | varchar | 200 |  |
| 8 | latitude1 | Picture1 latitude | Y | double |  |  |
| 9 | latitude2 | Picture 2 latitude | Y | double |  |  |
| 10 | latitude3 | Picture 3 latitude | Y | double |  |  |
| 11 | longitude1 | Picture 1 longitude | Y | double |  |  |
| 12 | longitude2 | Picture 2 longitude | Y | double |  |  |
| 13 | longitude3 | Picture 3 longitude | Y | double |  |  |

### Pending Message

Tabel 19 On Hold Category Table

| **Table ID** | | T-12 | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Table Description** | | Saving pending message | | | | |
| **No** | **Field Name** | **Field Description** | **Allow Null?** | **Data Type** | **Data Length** | **PK / FK** |
| 1 | pendingOnMessageD | Primary Key | N | int |  | PK |
| 2 | projectID | Foreign Key to Project table | N | varchar | 20 | FK |
| 3 | category | On hold category code | N | varchar | 20 |  |
| 4 | message | On hold message reason | N | text |  |  |
| 5 | picture1 | Path to first picture | Y | varchar | 200 |  |
| 6 | picture2 | Path to second picture | Y | varchar | 200 |  |
| 7 | picture3 | Path to third picture | Y | varchar | 200 |  |
| 8 | latitude1 | Picture1 latitude | Y | double |  |  |
| 9 | latitude2 | Picture 2 latitude | Y | double |  |  |
| 10 | latitude3 | Picture 3 latitude | Y | double |  |  |
| 11 | longitude1 | Picture 1 longitude | Y | double |  |  |
| 12 | longitude2 | Picture 2 longitude | Y | double |  |  |
| 13 | longitude3 | Picture 3 longitude | Y | double |  |  |