# Software Requirements Specification

**VeniApps System**25th January, 2015  
(Rev 1.3)

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**Team Group X**

<https://github.com/rmurray1/veniapp.git>

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January 25, 2015

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# ii. Meeting Minutes

**2015-01-25 1300 - 1600**

Present: Full team

Location: UTD Pub

Agenda: Application ideas, Team Logistics, Initial presentation

Summary:

# iii. Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Revision** | **Editor** | **Comment** |
| 2015-01-25 | 0.1 | Full team | First draft - Outline, Updates to all sections. Restructure based on feedback. |
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# 

# **1. Introduction**

## 1.1 Purpose

Veni, Vidi, Affui. I came, I saw, I arrived.

The Veterans Administration Health System -- colloquially, “The VA” -- has been in the news in the past year about the issues it has had in getting its customers, the nation’s veterans, properly set up for receiving the health care they deserve. This system, “Veni” seeks to address one aspect of that problem - the registration of patients when they arrive at a health care facility.

The system will combine a smartphone application and a cloud-hosted, server component that will allow veterans to easily check-in at VA medical facilities.

The purpose of this document is to collect, analyze, and define high-level needs and potential features of this mobile medical check-in application. This document focuses on the capabilities needed by the targeted users and other stakeholders. It will also describe the rationale for the creation of this application. The following details explore how the Veni application addresses these unique needs while using an open-source, cost effective development and deployment stack.

**1.2 About this document**

This document describes the problem domain identified through discovery by the project team (as defined in 1.7), elaborated through user stories, and the solution proposed to address the problem.

Section 1 provides an overview of the project and various aspects of its definition, such as the project team, the development process mode, a glossary of terms, and other related items.

Section 2 documents issues identified during discovery, definition, and elaboration or the problem domain, solution objectives, and solution requirements, as documented in section 3. It includes the alternatives identified to solve each issue, the weighted scoring criteria, and the decision and rationale for each chosen alternative.

Section 3 describes the understanding of the problem domain and the proposed solution (system-to-be) as a series of connected problems, goals, objectives, and requirements.

Artifacts in sections 2 and section 3 are tagged with unique identifiers to allow for tracking and traceability between them. A backward tracing link, such as a requirement which satisfies an objective, is written as “(ID)” appended to the satisfying artifact, where ID is the identifier of the traced to artifact.

Artifacts are labeled as <tag><number[.number]\*>, where <tag> identifies the artifact type and are numbered integrally from 1 for each type and sub-units for each artifact may be established with the option “.<number>” syntax. Defined tags are as follows:

PM: Process Model

S: Stakeholder

P: Problem

G: Goal

O: Opportunity

DFO: Domain Functional Objective

DNFO: Domain Non-Functional Objective

FR: Functional Requirement

NFR: Non-Functional Requirement

Issues are documented with tags of the form I<artifact> for each supported artifact type. Alternative solutions for each issue are documented with tags of the form A<artifact> with numeric identifiers which match the issue ID with sub-unit designations for each alternative.

## 1.3 Project Scope

## 1.4 Project Deliverables

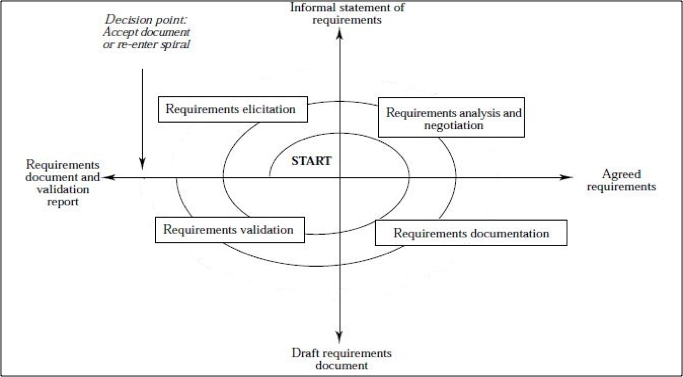
## 1.5 Project Responsibilities

|  |  |
| --- | --- |
| **Name** | **Responsibilities** |
| Brian MacKay | User Story, Team Website, Team Lead |
| Anant Kambli | User Story, Functional Requirements, Traceability |
| Raleigh Murráy | User Story, Process |
| Shahed Shuman | Preliminary Prototypes, Non-functional Requirements, Mock-up Traceability |
| Kathryn Whitmire | User Story, Introduction, Process Model, |

## 1.6 Process Specification

## 1.6.1 Process Model

The Spiral Process Model has been selected for the implementation of the Veni App application. Given the project time frame, this process will provide two cycles that involve traversing through each of the four quadrants. Both Phase 1 and 2 included development of requirements specification document.



### 1.6.1.1 Process model - Project I

#### Requirements elicitation

The team conducted interviews with identified stakeholders to elicit initial descriptions of the problem domain.

### Requirements analysis and negotiation

Scenario descriptions were analyzed for problems and goals for a system to-be which provided benefits to the stakeholders by either addressing problems or meeting goals.

### Requirements documentation

A requirements specification document following a modified WRS template (this document) was developed to describe the problem domain, the system as-is, the improved domain u

### Requirements validation

The requirements specification document was reviewed with stakeholders. Issues identified by stakeholders were recorded as described above.

Traceability tables were completed to identify additional issues related to requirements as currently specified. Identified issues were logged.

### 1.6.1.2 Process model - Project II

#### Requirements elicitation

The team conducted interviews using questionnaires to identify non-functional objectives and requirements and their priorities with the stakeholders. Data from stakeholders was used as input for NFR Framework modeling of softgoals. (AP1\_2)

### Requirements analysis and negotiation

Modeling analysis was used to establish functional requirements priorities.

### Requirements documentation

The requirements document was updated based on results from softgoals modeling and analysis and the resolution of requirements issues identified during the Project I validation phase of the process.

### Requirements validation

The requirements specification document was further reviewed with stakeholders. Issues identified by stakeholders were recorded. Traceability tables were updated and additional issues were logged.

## 1.6.2 Workflow

The group will leverage Microsoft One Drive and GitHub.com to communicate and collaboratively work on the project documentation.

Meeting minutes will be recorded in section II of the preface of the WRS document. A summary of the decisions made during the meetings will serve as a reference point during future meetings and to enable any member to get caught up if they miss a meeting.

## 1.6.3 Workflow Model

## 1.6.4 Goal Model

The softgoals described in the NFR Framework diagram utilize the labels described in Appendix A. This model identifies relationships between Non Functional requirements for further analysis.

NFR Framework Diagram

## 

## 1.7 Definitions

The following definitions are provided to establish a clear understanding of terminology used through this project requirements document:

* System or Application refers to the Software-to-be

**2. Issues with Preliminary Definition**  
This section addresses the ambiguities, incompleteness, inconsistency, and conflicts discovered in the initial definition of the requirements.

## 2.1 Domain Issues

The following are issues that were encountered during the domain understanding exploration.

**2.1.1 Issues with Process**

**Issue: IPM1**

**2.1.2 Issues with Stakeholders**

**Issue: IS1**

Description: S1

**Issue: IS2**

Description:

Decision and Rationale:

**2.1.3 Issues with Goals**

**Issue: IG1**

Description: G1

**2.1.4 Issues with Domain Functional Objectives**

**Issue: IDFO1**

confusion and additional implementation burden to resolve and communicate the interactions between controls for the same behaviors at different levels of the solution. While ADFO6.7 provides flexibility to the user it also brings a risk of complicating the solution and user interactions.

**2.1.5 Issues with Domain Non-Functional Objectives**

**Issue: IDNFO1**

Description:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Alternatives | Ease of Use  DNFO1 | Immediate Benefits !!  DNFO2 | Understandable  DNFO3 | Practical Maintainable!  DNFO4 |
|  |  |  |  |  |
|  |  |  |  |  |

Decision and Rationale:

**2.1.6 Alternatives for System-to-be**

Alternatives scored against Domain Non-Functional Objectives.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
| ASTB1: Manual, human-based process provided by clinician or caregiver | +/- | - | + | -- |
| ASTB2: Web application provided by clinician for use of patients | - | + |  |  |
| ASTB3: Smart phone application available directly to patients | + | + | + | + |

Alternatives scored against Domain Opportunities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Smart phones are common**  **O1** | **Medications are common**  **O2** | **Medication effectiveness**  **O3** | **Smartphones are smart !!**  **O4** |
| ASTB1: Manual, human-based process provided by clinician or caregiver | - | + | - | - |
| ASTB2: Web application provided by clinician for use of patients | + | + |  |  |
| ASTB3: Smart phone application available directly to patients | + | + | + | ++ |

Decision and Rationale: We choose to implement ASTB3 to make sure Dr. Chung’s requirements are met and we get a good grade!

**2.1.7 Issues with System-to-be**

**Issue: IDS1**

Description: The software components the system will interact with on the target devices should be more explicitly defined.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
| ADS1.1: Use pure android | **-** | **-** | **-** | - |
| ADS1.2: Use pure iPhone | **--** | **-** | **--** | - |
|  |  |  |  |  |
|  |  |  |  |  |

Decision and Rationale:

## 2.2 Functional Requirements Issues

The following are functional requirements issues encountered during the requirements analysis.

**Issue: IFR1**

Description: FR2 is not specific if the medication must have been previously recorded via FR1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
| AFR1.1: Allow users to provide information about any medication |  |  | - | - |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Decision and Rationale:

**Issue: IFR2**

Description: There is currently no requirement to allow the user to modify data for or delete medications recorded by FR1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
|  |  |  |  |  |

Decision and Rationale:

**Issue: IFR3**

Description: There is no clear mechanism defined for identifying the caregivers to be selected in FR1.6.1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
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Decision and Rationale:

**Issue: IFR4**

Description: There is no existing Functional Requirement which corresponds directly to screenshot PS18 in the Mock Up.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
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Decision and Rationale: This issue is resolved by the choice for IFR3 and the resulting functional requirements.

**Issue: IFR5**

Description: FR9 describes “critical-feelings” and alerts sent when the user enters them, but this term is undefined and there is no reference to such a capability in the problems, goals, or objectives.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
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## 2.3 Non-functional Requirements Issues

The following are non-functional requirements issues encountered during the requirements analysis.

**Issue: INFR1**

Description:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
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Decision and Rationale:

**Issue: INFR2**

Description:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Alternatives** | **Ease of Use**  **DNFO1** | **Immediate Benefits !!**  **DNFO2** | **Understandable**  **DNFO3** | **Practical Maintainable!**  **DNFO4** |
|  |  |  |  |  |
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# 3. Domain Understanding and Requirements Specifications

This section provides an improved understanding of the domain and its requirements, which includes a detailed description of the problems, goals, functional and nonfunctional domain requirements. See Appendix B for a Domain Model Diagram.

## 3.1 Domain Understanding

### 3.1.1 User Stories

He frequently experiences difficulty in falling

## 3.1.2 Stakeholder questionnaire

Stakeholders were interviewed by asking the following questions. (APM1.2)

Stakeholder responses were recorded as follows. Table entries are the first,second choice for the indicated question.

|  |  |  |  |
| --- | --- | --- | --- |
| Responder/Question | 1 | 2 | 3 |
|  |  |  |  |
|  |  |  |  |
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### Data summary

#### Question 1

Answer frequency

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | a | b | c | d | e |
| n(1) | 3 | 0 | 1 | 1 | 0 |
| n(2) | 1 | 1 | 1 | 1 | 1 |

Top response:

a - People often forget to take their medications

Second response (tie):

c - People are not able to adequately provide clinicians with their medication records

d - People are unclear if medication is working or causing harm

#### Question 2

Answer frequency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | a | b | c | d |
| n(1) | 2 | 0 | 0 | 3 |
| n(2) | 1 | 1 | 1 | 2 |

Top response:

d - Being reminded when it is time to take a medication

Second response:

a - Being able to easily track the results from taking medications

#### Question 3

Answer frequency

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | a | b | c | d | e |
| n(1) | 1 | 1 | 1 | 1 | 1 |
| n(2) | 2 | 0 | 1 | 0 | 2 |

Top response (tie):

a - Simple

e - Helpful

### Analysis

Desirable functionality is consistent with the problems stakeholders identified as most significant.

## 3.1.3 Problems

The following list provides a summary of the problems identified for the stakeholders (as identified in 3.1.3) described in the user stories.

P1: People often forget to take their medications (US1, US2)

## 3.1.3 Stakeholders

The following stakeholders have been identified for the project domain based on a review of the user stories, the problems discovered within them, and the resources needed to produce a solution.

S1: Users

S2: Caregivers

S3: Clinicians

S4: Project team (AS2.2)

## 3.1.4 Devices & Existing Software

The domain does not include any specific existing devices or software, but is instead related to human needs, actions, and experiences.

## 3.1.5 Goals

Based on the understanding of the problem as stated and the issues faced by the target stakeholders the following goals have been identified as desirable in a potential solution.

G1: Improve the results and experience of medication users. (P1 - P5, S1)

G2:

## 3.1.6 Opportunities

The following opportunities have been identified as being factors which should be considered in choosing a solution from identified alternatives based on the experience and skills of the project team and the stated problems and goals.

O1: A

## 3.1.7 Improved Understanding of Domain Functional Objectives

The following objectives have been identified as satisfying the listed goals from 3.1.5 and applying to the listed stakeholders from 3.1.3.

DFO1: Provide users with an easy method for tracking their medications and required doses. (G1, G4, S1)

## 3.1.8 Improved Understanding of Non-Functional Objectives of Domain

The following list identifies key non-functional objectives identified as satisfying the listed goals from 3.1.5 and applying to the listed stakeholders from 3.1.3.

DNFO1:

## 3.1.9 Decision - System-to-be

A medication consumer (user) will be able to use the **VitaMeds Tracker** smartphone application introduced as the software-to-be to track their medication frequency, results and effects.

### 3.1.9.1 Devices and Software

DS1**:** The following devices will be used to interact with the software-to-be:

### 

### 

### 3.1.9.3 Domain Model

### 

### 3.1.9.4 Use Case Diagram

### 

### 

### 

### 3.1.9.5 Prioritized Use Cases

|  |  |  |
| --- | --- | --- |
| ID | Name | Priority |
| UC1 | Display Appointments | 1 |
| UC2 |  |  |
| UC3 |  |  |
| UC4 |  |  |
|  |  |  |
|  |  |  |
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### 3.1.9.6 Fully Dressed Use Cases

|  |
| --- |
| **Use Case: Add Medication** |
| ID: UC1 |
| Brief Description: User |
| Primary actors: Medication Consumer |
| Secondary actors: None |
| Preconditions:  1. User |
| Main flow:  1. User selects the Medication option from the Main Menu  2. System presents Medication Menu  3. User |
| Postconditions:  1. Medicine |
| Alternative flows: None |

### 3.1.9.7 Use Case Sequence Diagrams

## 3.1.10 Revised User Stories in the System-to-be

### RUS1: Veteran User Story

# 3.2 Requirements Specification

## 3.2.1 Functional Requirements Specifications

FR1:

### Pending requirements for future phases

FR13:

## 3.2.2 Non-functional Requirements Specifications

# 4. Preliminary Prototype and User Manual

## 4.1 Preliminary Prototype

The following table contains the Prototype Screenshots4 (PS) indicates what the smartphone application will look like upon completion.

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### 4.2.2 Take Medication

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| --- | --- |
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# 

# 5. Requirements Creeping Rate

At the interim

# 6. Traceability

This section provides tables

.

## 6.1 User Stories to Problems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **P1** | **P2** | **P3** | **P4** | **P5** |
| **US1** |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## 6.2 Stakeholders to Goals

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **G1** | **G2** | **G3** | **G4** | **G5** |
| **S1** |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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## 6.3 Stakeholders to Domain Functional Objectives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **DFO1** | **DFO2** |  |  |  |  |
| **S1** |  |  |  |  |  |  |
| **S2** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

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## 6.4 Stakeholders to Domain Non-functional Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DNFO1** |  |  |  |
| **S1** |  |  |  |  |
| **S2** |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

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## 6.5 Problems to Goals

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **G1** | **G2** |  |  |  |
| **P1** |  |  |  |  |  |
| **P2** |  |  |  |  |  |
|  |  |  |  |  |  |
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## 6.6 Goals to Domain Functional Objectives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **DFO1** | **DFO2** |  |  |  |  |
| **G1** |  |  |  |  |  |  |
| **G2** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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## 6.7 Goals to Domain Non-functional Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DNFO1** | **DNFO2** |  |  |
| **G1** |  |  |  |  |
| **G2** |  |  |  |  |
|  |  |  |  |  |
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6.8 Functional Requirements to Domain Functional Objectives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **DFO1** | **DFO2** |  |  |  |  |
| **FR1** |  |  |  |  |  |  |
| **FR2** |  |  |  |  |  |  |
| **FR3** |  |  |  |  |  |  |
| **FR4** |  |  |  |  |  |  |
| **FR5** |  |  |  |  |  |  |
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## 6.9 Functional Requirements to Domain Non-functional Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DNFO1** | **DNFO2** |  |  |
| **FR1** |  |  |  |  |
| **FR2** |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## 6.10 Functional Requirements to External Software

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DS2.1** | **DS2.2** |  |  |
| **FR1** |  |  |  |  |
| **FR2** |  |  |  |  |
| **FR3** |  |  |  |  |
| **FR4** |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
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## 6.11 Non-Functional Requirements to Domain Non-functional Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **DNFO1** | **DNFO2** | **DNFO3** | **DNFO4** |
| **NFR1** |  |  |  |  |
| **NFR2** |  |  |  |  |
| **NFR3** |  |  |  |  |
| **NFR4** |  |  |  |  |
| **NFR5** |  |  |  |  |

## 6.11 Preliminary Prototype to Functional Requirements

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **FR1** | **FR2** | **FR3** | **FR4** | **FR5** | **FR6** | **FR7** | **FR8** | **FR9** | **FR10** |
| **PS1** | X |  |  |  |  |  |  |  |  |  |
| **PS2** | X |  |  |  |  |  |  |  |  |  |

## 6.12 Preliminary Prototype to Non-Functional Requirements

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **NFR1** | **NFR2** | **NFR3** | **NFR4** | **NFR5** | **NFR6** | **NFR7** | **NFR8** | **NFR9** | **NFR 10** | **NFR 11** | **NFR 12** | **NFR 13** | **NFR 14** |
| **PS1** | X | X |  |  | X |  |  | X |  |  |  |  |  |  |
| **PS2** | X |  |  |  | X |  |  |  |  |  |  |  |  |  |
| **PS12** |  |  |  |  | X |  |  |  |  |  |  |  |  |  |

## 6.13 Non Functional Requirements to Functional Requirements

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **FR1** | **FR2** | **FR3** | **FR4** | **FR5** |  |  |  |  |  |  |  |  |
| **NFR1** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR2** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR3** | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR4** |  | X | X |  |  |  |  |  |  |  |  |  |  |
| **NFR5** | X | X |  |  |  |  |  |  |  | X | X | X |  |
| **NFR6** |  |  |  |  |  |  |  |  | X |  |  |  |  |
| **NFR7** |  |  |  |  |  |  |  |  |  |  | X |  |  |
| **NFR8** | X |  |  |  |  |  |  |  |  | X |  |  |  |
| **NFR9** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR10** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR11** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NFR12** |  |  |  |  |  |  |  |  |  |  | X |  |  |

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## 6.14 Use Case to Functional Requirements

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **FR1** | **FR2** | **FR3** | **FR4** | **FR5** | **FR6** | **FR7** | **FR8** | **FR9** | **FR 10** | **FR 11** | **FR12** | **FR13** |
| **UC1** | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **UC2** | X | X |  |  |  |  |  |  |  |  |  |  |  |
| **UC3** |  |  |  | X |  |  |  |  |  |  |  |  |  |
| **UC4** | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **UC5** |  |  |  |  |  |  |  |  |  | X | X | X |  |
| **UC6** |  | X | X |  |  | X |  |  | X |  |  |  |  |
| **UC7** |  |  |  |  |  |  |  |  |  |  | X |  |  |
| **UC8** | X |  |  |  |  |  |  |  |  | X |  |  |  |
| **UC9** |  |  |  |  |  |  |  |  |  |  |  | X |  |
| **UC10** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **UC11** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **UC12** |  |  |  |  |  |  |  |  |  |  | X |  |  |
| **UC13** |  |  |  |  |  |  |  |  |  |  |  |  |  |

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# Appendix A - Non Functional Requirement Labels

# Appendix B - References

# Appendix C - Competitive Advantages