|  |  |
| --- | --- |
|  | **MINISTRY OF EDUCATION AND TRAINING** |

**FPT UNIVERSITY**

|  |  |
| --- | --- |
| Project Document | |
| ***Vehicle Helping on Road Application*** | |
|  | |
| **Road Knight** | |
| **Group members** | Lưu Vịnh – VinhLSE63551  Nguyễn Trung Hiếu – HieuNTSE63066  Hoàng Yến Anh – AnhHYSE130145 |
| **Supervisor** | Mr. Ngô Đăng Hà An |

– Ho Chi Minh City, ***January 16, 2020*** –

**Table of Content**

Table of Contents

[1. User Requirement Specification 3](#_Toc30196653)

[1.1. Administrator Requirement 3](#_Toc30196654)

[1.2. Mechanic Requirement 3](#_Toc30196655)

[1.3. Customer Requirement 3](#_Toc30196656)

[2. System Requirement Specification 3](#_Toc30196657)

[2.1. External Interface Requirement 3](#_Toc30196658)

[2.1.1. User Interface 4](#_Toc30196659)

[2.1.2. Hardware Interface: 4](#_Toc30196660)

[2.1.3. Software Interface 4](#_Toc30196661)

[2.1.4. Communication Protocol 4](#_Toc30196662)

[2.2. System Overview Use Case 3](#_Toc30196663)

[3. Software System Attribute 3](#_Toc30196664)

[3.1. Usability 3](#_Toc30196665)

[3.1.1. Interface 4](#_Toc30196666)

[3.1.2 Mechanics 4](#_Toc30196667)

[3.1.3 Customer 4](#_Toc30196668)

[3.2. Reliability 3](#_Toc30196669)

[3.3. Availability 3](#_Toc30196670)

[3.4. Security 3](#_Toc30196671)

[3.5. Maintainability 3](#_Toc30196672)

[3.6. Portability 3](#_Toc30196673)

[3.7. Performance 3](#_Toc30196674)

[3.7.1. Front end 3](#_Toc30196675)

[3.7.2. Backend 3](#_Toc30196676)

**Report No. 3: Software Requirement Specification**

# 1. User Requirement Specification

## 1.1. Administrator Requirement

Administrators (admin) are people who manage the whole system flow.

Admin can use following functions:

* Login
* Reset forgotten password
* Change password
* View user’s profile
* Edit user’s profile (including edit information and change avatar)
* Logout
* Disable server
* View log information
* Edit log fixing status
* Create manager
* View mechanic profile
* Edit mechanic profile
* ….

## 1.2. Mechanic Requirement

Mechanics are people who ….

Mechanics can use following functions:

* Login
* Register
* Reset forgotten password
* …

## 1.3. Customer Requirement

Employees are people who …

Employees can use following functions:

* Login
* Register
* Reset forgotten password
* Change password
* View user’s profile
* Edit user’s profile (including edit information and change avatar)
* Logout
* ….

# 2. System Requirement Specification

## 2.1. External Interface Requirement

### 2.1.1. User Interface

* General requirement for graphics user interface is the GUI should be simple, clear, intuitive, and reminiscent.
* The interface design is an iterate process includes: design, sketching, prototyping, user assessment.

### 2.1.2. Hardware Interface:

* Enterprise Server Install: Minimum 4GB available disk space, 2GB RAM (4GB recommended).
* Minimum 1.4 GHz Processor Speed (2.0 GHz or faster recommended).
* Enterprise Client Install: minimum 1GB available disk space.
* Smartphone supports Android Operating System (Android 4.15 and above).
* PC or Mac which supports Browsers (Chromium required):

+ Screen (16:9): 1024×768 or more.

### 2.1.3. Software Interface

Smartphone with Android Operation System from version 5.0

Laptop/PC:

* PC (Windows 10 OS)
* Mac(macOS 10.12 Sierra)
* Google Chrome v79 (Official Build) (64-bit)

### 2.1.4. Communication Protocol

## 2.2. System Overview Use Case

(Use case paste here)

*Figure . System overview use case*

# 3. Software System Attribute

## 3.1. Usability

### 3.1.1. Interface

* *Login screen* is easily to use with form with right side and middle screen.
* For customer:
  + *Dashboard*: buttons to select the action have large size and the text is easy to see, easy to understand. Had a map in half bottom of the screen if this device is mobile. Had a map in 2/3 right side of the screen if this device is not mobile.
  + *Profile*: display full information with personalized photos and contact.
  + *Search engine*: search item in main component with fast speed in ideal condition of internet and fluent protocol pipeline of client-server-client relationship.
* For shop/repairer:
  + *Dashboard*: a table for view request of customer in center. Some button to accept/ reject in in-line with row’s request of the table..
  + *Profile*: display full information with personalized photos and contact.
  + *Request view:* view information and location of customer into map.

### 3.1.2 Mechanics

* Mechanic can focus on managing application, application instance, log status. Confirm will repair or contact with customer.
* Mechanic can control app in view easily with request’ customer.

### 3.1.3 Customer

* Customer can only edit profile and see log, get incoming log appear notification.
* Customer can view info on all main components to get to understand the right assignments.

## 3.2. Reliability

* Customer’s vehicles, profile, API, application, application instance, server will not be public.

## 3.3. Availability

* Connection fail / error
* Server lost / Cannot connected
* Invalid input
* Invalid roles
* Front-end / UI missing layout
* Push notification not working
* Browsers policies/socket fail
* Authentication failed
* Client/server connection fail

## 3.4. Security

* User cannot enter unassigned area and use other’s specific power.
* Only logged user can enter resource from record log system.
* Authentication in client and server side is secured and guaranteed.
* Server can defense against unauthorized intrusion, other protocol attack.
* Company’s hardware and software resources are protected in secret and secured

## 3.5. Maintainability

* Source code have full information and easy to understand comments.
* System has document, SRS, SDD.

## 3.6. Portability

* Web’s font-end use React JS Library.
* Programing for Android device.
* API is on Java Spring-boot, Restful API, request and response in JSON so API can accept other programing or any request on Restful API standard.
* Server Database is on SQL Server.
* System currently accepts all applications on Java programing language.

## 3.7. Performance

### 3.7.1. Front end

* Expect low response time in reload, loading: < 2 second
* Expect get data, forward data, edit data information: ≤ 5 second.
* Expect auto reload main page / dashboard: every 10 minutes.
* Expect log recording push notification: ≤ 3 minutes since a log is recorded.

### 3.7.2. Backend

* Expect server response time: maximum 5 seconds.
* Expect API response time: from 1 to 10 seconds.