**Report No.2: Project Management Plan (PMP)**

**2.1. Problem Definition**

2.1.1. Name of this Capstone Project

* Official name: Scrap collector
* Vietnamese name: Thu mua phế liệu
* Abbreviation: SCHS

2.1.2. Problem Abstract

As current Vietnamese scrap collectors have to waste a lot of time to go around and find who has scrap to sell. This traditional way is ineffective, for example, the collectors don’t know exactly where to go, so they just go around and ask loudly for scrap, which takes their time, their force and harms to their health.

This project is concern about implementing information technologies and mapping direction algorithms into scrap collectors’ daily work. We call it Scrap Collector Helper System (SCHS). SCHS provides the homeowner an easy way to post the scrap they want to sell with detail information and the recommended price. Besides that, SCHS also provides the collector a feature to find out near-by scrap, book scrap and contact with the homeowner. Moreover, SCHS helps the collector to save time and force by providing the optimized route to collect all booked scrap. Finally, SCHS gives homeowner chances to review the collector and those collector with good review will have priority in their work.

2.1.3. Project Overview

2.1.3.1. The Current Situation

Below are the problems encountered in this project:

2.1.3.2. The Proposed System

2.1.3.3. Boundaries of the System:

The system can:

* Allow Admin to manage user accounts .
* Allow Admin to manage list category of scrap.
* Allow Admin to manage scrap posted by homeowner.
* Allow Homeowner to post scrap for sale.
* Allow Homeowner to negotiate scrap price.
* Allow Homeowner to contact the collector.
* Allow Homeowner to review the collector.
* Allow Collector to find near-by scrap.
* Allow Collector to negotiate scrap price.
* Allow Collector to schedule a pickup.
* Allow Collector to contact the homeowner.

The system cannot:

* Help collector make payment online.

2.1.3.4. Development Environment

2.1.3.4.1 Hardware requirements

For server

|  |  |  |
| --- | --- | --- |
| **Hardware** | **Minimum Requirement** | **Recommended** |
| **Internet Connection** | Cable, Wi-Fi (8 Mbps) | Cable, Wi-Fi (50 Mbps or more) |
| **Operation System** | XP, Vista, 7, 10, Window Server 2008 | 10, Window server 2008 |
| **Computer Processor** | Intel® Xeon ® 1.4GHz | Intel® Xeon ® Quad Core (12M Cache, 2.50 GHz) |
| **Computer memory** | 4GB RAM | 32 GB RAM or more |
| **Storage space** | 1GB | 8GB or more |

Table 1 - Hardware Requirements for Server

For PC

|  |  |  |
| --- | --- | --- |
| **PC** | **Minimum Requirements** | **Recommended** |
| **Internet Connection** | Cable, Wi-Fi (4 Mbps) | Cable, Wi-Fi (8 Mbps) |
| **Operating System** | Window 7 | Window 7 or more. |
| **Computer Processor** | Intel® Core i3 1.4GHz | Intel® Core i5 2.50GHz |
| **Computer Memory** | 1GB RAM | 2GB RAM or more |
| **Web Browser** | Chromes (v42 or higher) | Chrome latest stable version |

Table 2 - Hardware requirement for PC

2.1.3.4.1 Software Requirements

|  |  |  |
| --- | --- | --- |
| **Software** | **Name / Version** | **Description** |
| **Operation System** | Windows Server 2014 | Operating system and platform for development |
| **Environment** | Java EE 8.0, Node v10, npm v6, react-native v0.61 | Specification for developing web application |
| **Modeling tool** | StarUML | Used to design diagram |
| **IDE** | Visual Studio Code 1.27.2, A5M2 2.12.1 (SQL) | Programming tools |
| **DBMS** |  | Used to create & manage the database for system |
| **Source control** | GitHub, GitDesktop | Used for source control |
| **Web browser** | Chrome 69 or above | Testing browser |

Table 3 - Software Requirements

**2.2. Project organization**

2.2.1. System Process Model

This project is developed using Scrum model, a part of an agile framework for Software development project. The reasons why our team choose Scrum model are:

* All the tasks in project are assigned vertically, which mean that a member has to do all steps from design, code, test and implement that part, so Scrum is considered as the most suitable model for a small project like SCHS.
* Product owner can easily change requirement or extend scope. The team will adapt to change better.
* During the time of project, there are many technologies that needed to be learnt. So with the Scrum model, all team members can learn and use new technologies in parallel in order to meet deadline.



Figure 1 - Scrum Framework

2.2.2. Roles and Responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Full name** | **Role in Group** | **Responsibilities** |
| **1** | Lại Đức Hùng | Product Owner | * Specify user requirement * Control the development process * Give out technique and business analysis support |
| **2** | Nguyễn Duy Đạt | Scrum Master | * Managing process * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing * Arrange Meeting * Risk Management |
| **3** | Tiết Lê Bảo Khánh | Scrum team member | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **4** | Nguyễn Anh Trung | Scrum team member | * Designing database * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |
| **5** | Nguyễn Trần Hoàng Nhân | Scrum team member | * Clarifying requirements * Prepare documents * GUI Design * Create test plan * Coding * Testing |

Table 4 - Roles and responsibilities

2.2.3. Tools and Techniques

|  |  |
| --- | --- |
| Tool/Technique | Name |
| Front-end | HTML, CSS, JavaScript, jQuery, React, AngularJS |
| Back-end | JavaEE, SpringBoot framework, JPA, Hibernate |
| IDE |  |
| DBMS |  |
| Source Control | GitHub, GitDesktop |
| Modelling tool | StarUML |

Table 5 - Tools and techniques

**2.3. Project management plan**

2.3.1. Tasks:

2.3.1.n Task-n:

* Description
* Deliverables
* Resources Needed
* Dependencies and Constraints
* Risks

2.3.2. Task Sheet: Assignments and Timetable

2.3.3. All Meeting Minutes

*<Put all your-team’s meeting minutes here as an appendix >*

**2.4. Convention Rules**

**2.5. Other material (if any)**