

**MINISTRY OF**

**EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

**Accommodation Sharing**

|  |  |
| --- | --- |
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| **Capstone Project code** | ASP |

- Ho Chi Minh City, **September 11th*, 2018*** –

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# Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| Name | Definition |
| ASP | Accommodation Sharing |

# A. Introduction

## Project Information

* Project Name: **Accommodation Sharing Platform**
* Project Code: **ASP**
* Project Type: **Mobile Application**
* Start Date: **September 11th, 2018**
* End Date: **N/A**

## Introduction

Nowadays, finding an accommodation is really a difficult and exhausting process, especially for province people who are working in the city recently. Searching for an accommodation information is so difficult, choosing a good and safe accommodation at reasonable cost is more difficult, not to mention scams, and other bad situations. When searching for an accommodation around the internet, the informations are not usually accurately. As a matter of fact, the Accommodation Sharing Platform with a simple interface, easy to use, users do not have to spend much time to post or search for an accommodation.

## Current Situation

Currently there are many mobile applications that help people to find an accommodation. However, they only support for suggesting places that is best match for users. When users who have already rented an accommodation, looking for roommates, they have to search for all the users who requested for room/house to stay, but not the ones who are also in the same situation, so that they can discuss to move in together.

## Problem Definition

We have research on some current mobile applications and websites in Vietnam such as: Ohana, phongtro123.com, thuephongtro.com… Some of them have some limits:

* Not support suggesting for RoomMaster (people who are looking for roommates) in the same area move in together.
* Not support finding nearby RoomMaster.
* Not support suggesting best match for those who looking for a room/house to stay.

## Proposed Solution

Our proposed solution is to build a system named “ASP”. User can add information about their requests in system. The system processes the requests and matches the RoomMaster with the Guest appropriately. Besides that, 2 RoomMaster can be suggested to move in if they are in the same area.

ASP system includes a mobile application for RoomMaster and Guest and a web application for administrator and householder.

### Feature functions

* Mobile application
* User can register a new account to find an accommodation or post for shared room.
* User can manage their own information.
* RoomMaster can create and manage their own post.
* System matching RoomMaster with utilities and suggest appropriate room for guest.
* Guest can view information of room of lodger.
* RoomMaster and Guests can negotiate with message feature to send text or call.
* Mobile application (for house-owner)
* Manage rooms.
* Web application (for admin)
* Manage users.
* Manage posts.
* Manage rooms.

### Advantages and Disadvantages

* Advantages:
* Guests can easily find the place they want.
* Accommodation will be verified by staff.
* House-owner can manage their room
* Disadvantages:
* Trust issues is top priority problem.

## Functional Requirements

Function requirement of the system are listed at below:

* Mobile application (for unauthorized user)
* Login form.
* Register.
* Mobile application (for authorized user)
* Negotiate.
* View and manage information.
* Notification.
* Logout.
* Mobile application (for RoomMaster)
* View suggested partner list.
* Manage post.
* View partner list.
* View post.
* Mobile application (for guest)
* View suggest RoomMaster posts.
* Manage information.
* Manage utilities.
* Web application (for admin)
* View and manage user.
* View and manage rooms.
* View and manage posts.

## Role and Responsibility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Full name** | **Role** | **Position** | **Contact** |
| 1 | Nguyễn Huy Hùng | Project Manager | Supervisor | Hungnh@fpt.edu.vn |
| 2 | Nguyễn Quang Nhật | Scrum Master | Leader | Baonqse61774@fpt.edu.vn |
|  | Nguyễn Đỗ Minh Đức | Developer | Member | Ducndmse61767@fpt.edu.vn |
| 3 | Vương Minh Thông | Developer | Member | Hungndse61819@fpt.edu.vn |
| 5 | Hồ Công Trình | Developer | Member | Vuttse60983@fpt.edu.vn |

Table 1: Roles and Responsibilities

# B. Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

* Official name: Accommodation Sharing
* Vietnamese name: Ứng dụng hỗ trợ tìm người ở ghép
* Abbreviation: ASP

### Problem Abstract

First, Vietnam is currently in the integration and development process, so developed countries are always focus on this potential market. Foreign companies invest a lot in Vietnam and it always have number of employee working onsite.

Second, young generation used to move on to the big city for studying and working . Beside that, traveling is one of the most popular in their mind right now, so that we providing the best accommodation for living, short term travelling and studying.

From above, we have thought about an idea of an application that can help those who travel, live and study in Vietnam have the opportunity to easily find suitable accommodation.

### Project Overview

#### Current Situation

Below are some problems that we encountered in this project:

* **Business logic:** Some scopes of this project are not clear in early stage of development. For example, roommaster and guest share the same interface because users can be different roles in different situations.
* **Scheduler of team members:** Team members can have conflicts in meeting schedule because of sick, study and work schedule, etc.
* **Framework study:** Team members have a problem when applying the play framework into project. The team needs an amount of time to get familiar new techniques.
* **Lack of UI and UX design skill:** Our team members all study IS major, and no one has studied UI, UX design. Therefore, that some UI may misunderstand or hard to use with normal user.

#### The Proposed System

The system contains a web application for admin and a mobile application for rommaster, guest, house-owner.

##### Mobile Application

**- House-owner:**

* House-owner can create rooms and system can upload their room for roommaster create a post if they want.
* House-owner can add roommaster and other members to their room.

**- RoomMaster:**

* RoomMaster can create new post for guest to know which one they should contact.
* RoomMaster can manage their own information, post they have made and negotiate with buyer.

**- Guest:**

* Guest can create utilities and system can match their utilities with location roommaster go to make a suggestion.
* Guest can manage their own information, their utilities.

##### Web Application

**- Admin:**

* Admin manages user informations, rooms, posts.

#### Boundaries of the System

This section supposes that users of the system have stable internet connection while using.

Language of application is Vietnamese.

* **The system can:**
* Allow roommaster search for partner.
* Allow guest search for rommaster.
* Matching post and utilities then suggest to guest.
* Matching 2 accommodation if in the same area.
* Send notification to users.
* **The system cannot:**
* The application can not run in another platform except IOS.
* The application can not scrap data from all e-commerce website.

#### Future Plan

The current system only support for IOS, we recommend some features for future plan:

* Mobile application will be available on Android OS.
* Application can scrap data from more e-commerce website.

#### Development Environment

##### Hardware requirements

**For Server**

|  |  |  |
| --- | --- | --- |
| Windows | Minimum Requirements | Recommend Requirements |
| OS | Window Server 2008 | Window Server 2012 |
| Internet Connection | Cable, Wifi (8 Mbps) | Cable, Wifi (16 Mbps) |
| Processor | Intel® Xeon ® 1.4GHz | Intel® Xeon ® Quad-Core (12M Cache, 2.50 GHz) |
| RAM | 1GB | 2GB |
| I/O Speed | 120MB/s | 350MB/s |

Table 2: Hardware Requirements for Server

**For Mobile**

|  |  |  |
| --- | --- | --- |
| Mobile | Minimum Requirements | Recommend Requirements |
| OS | IOS 10.2 | IOS 11.4 |
| Internet Connection | 2 Mbps | 4 Mbps |
| Memory | N/A | N/A |

Table 3: Hardware Requirement for Mobile

##### Software requirements

|  |  |  |
| --- | --- | --- |
| Software | Name/Version | Description |
| Environment | Windows 7 or above | Window 10 |
| Modeling Tool | StarUML v2.0 |  |
| IDE | Intellij Idea, X-Code 9.0 |  |
| DBMS | Microsoft SQL Server 2014 |  |
| Source Control | Github |  |
| Web Browser | Chrome |  |

Table 4: Software Requirements

## Project Organization

### Software Process Model

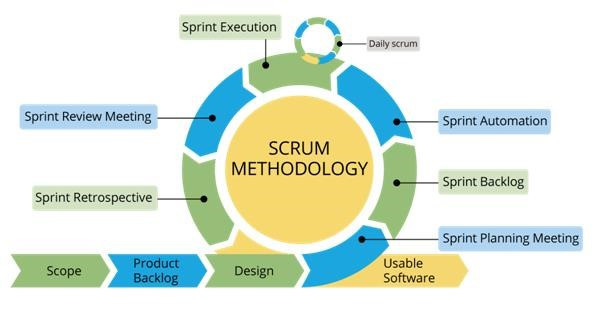


Figure 1: Scrum Methodology

For more information: https://www.belatrixsf.com/

This project is developed under Scrum model. We apply Scrum model to capable with current situation of our team. We choose this model due to following reasons:

* **Greater flexibility:** Though traditional methodologies require the customer to provide detail idea requirements, scrum software developers are more flexible because of their iterative style of work.
* **Quick responding to changing needs:** Since scrum software development goes through multiple rollout cycles, it has a better chance of providing exactly what the customers need at any given point in time. These cycles are designed not only to add new features but also to make adjustments to what has already been deployed.
* **Continuous feedback and easy to track:** It allow continuous feedbacks in bill to shape the final design.

### Roles and Responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Full name** | **Role** | **Responsibilities** |
| 1 | Nguyễn Huy Hùng | Project Manager | - Specify user requirement  - Control development process  - Give out technique and business analysis support  - Review document and product |
| 2 | Nguyễn Quang Nhật | Team Leader, BA, Developer | - Managing process  - Planning project  - Distribute Tasks  - Designing database  - Clarifying requirements  - Prepare document  - Create test plan  - Coding  - Testing  - Deploy product |
| 3 | Nguyễn Đỗ Minh Đức | Team Member, BA, Developer, Tester | - Designing database  - Clarifying requirements  - Prepare document  - Create test plan  - Coding  - Testing |
| 4 | Vương Minh Thông | Team Member, BA, Developer, Tester | - Designing database  - Clarifying requirements  - Prepare document  - GUI design  - Create test plan  - Coding  - Testing |
| 5 | Hồ Công Trình | Team Member, BA, Developer, Tester | Designing database  - Clarifying requirements  - Prepare document  - GUI design  - Create test plan  - Coding  - Testing |

Table 5: Roles and Responsibilities

### Tools and Techniques

|  |  |  |
| --- | --- | --- |
|  | **Tools** | **Techniques** |
| Front-end | Sketch, X-Code 9.0 |  |
| Back-end | Intellij |  |
| Web server | IIS 10 |  |
| Application | X-Code 9.0 |  |
| DBMS | SQL server 2014 |  |
| Source control | Github |  |
| Modeling tool | StarUML v2.0 |  |
| Document tool | Microsoft Word 2013 |  |

Table 6: Tools and Techniques

## Project Management Plan

### Product Backlog

All product backlogs could be found here:

### Sprint Backlog

All print backlogs could be found here:

### Meeting Minutes

All meeting documents could be found here:

## Coding Convention

We use followings naming convention from the reference to capable with the current situation in our team:

* Naming Convention:
* Follows camelcase syntax for naming the class, interface, method and variable.
* Method names should be verbs.
* Class names should be nouns, in mixed case with first letter of each internal word capitalized.
* Constant names should be all uppercase with words separated by underscore.
* Comment:
* Using /\* \*/ for block comments.
* Using // for line comments.
* Follow Field Naming Conventions
* Other fields start with a lowercase letter.
* Public static final fields (constants) are ALL\_CAPS\_WITH\_UNDERSCORES.

Using Java coding convention from:

<http://www.oracle.com/technetwork/java/codeconvtoc-136057.html>

# C. Software Requirement Specification

## User Requirement Specification

### Unauthorized User Requirement

Unauthorized user is a person who doesn’t access to the system. Unauthorized user can use some functions in the system, to use all functions, they must login. These are one function they can use:

* Register
* Login

### Authorized User Requirement

Authorized user is a person after they login in the system and they will separate into Houseowner, Roommaster, Member depend on what they want to do in our application. Authorized user can do some functions, such as:

* Manage profile
* View notification
* Logout

### HouseOwner Requirement

HouseOwner is authorized user which want to post their room in order to roommaster can create a finding roommate post.

HouseOwner can do following functions:

* Manage room
* Add room member
* Remove room member

### RoomMaster Requirement

RoomMaster is authorized user which want to try to looking for roommate and make deal with them.

RoomMaster can do following functions:

* Manage finding roommate post
* View suggested partner list
* View partner list

### Member Requirement

Member is authorized user which want to try to looking for room and make deal with roommaster.

Member can do following functions:

* Search
* Manage partner post
* View post list
* View suggested post list
* Negotiatess

### Admin Requirement

Admin is a completely different role form another. Admin only can manage information and tracking is system work efficiently or not. Admin can do following functions.

* Search
* Manage room
* Manage finding room post
* Manage finding roommate post
* Manage user
* Logout

## System Requirement Specification

### External Interface Requirement

#### User Interface

* The user interface use Vietnamese.
* Use the consistent palette of colors between the text and the background.
* General requirement for graphical user interface of application on the mobile device is the GUI should be simple, reminiscent.

#### Hardware Interface.

* Smartphone.

#### Software Interface

* Mobile application: IOS operating system (IOS 10 or above).

#### Communication Protocol

* Using Http protocol.

### System Overview Use Case

Figure 2: System Overview Use Case (1)

Figure 3: System Overview Use Case (2)