## Problem Definition

### Name of this Capstone Project

* Official name: Football Field Reservation System
* Vietnamese name: Hệ thống đặt chỗ đá bóng
* Abbreviation: FFRS

### Problem Abstract

* There are certain limits in schedule free time with your friends at specific football fields near you. For football players, they want their football team to play but not enough people to split into two team or want to play with other teams, do not know the football field around them which available or not. As for field owners, they want to not waste free day, free time of football fields.
* The system provided a mobile application that support find competitor, manage football field. The application helps football teams connect together, field owners manage their football fields.

### Project Overview

#### Current diagnostic diseases

Below are the problems encountered in this project:

* New technique: some team members are new to the techniques used in the project. The team need an amount of time to get familiar with those techniques.
* Fix scope: the scope of the project is not simple to determine. There are some factors that may affect and the team have to decide scope correctly.
* Absence of team members: team members can get sick or unexpected problems.

#### The Proposed System

The system will have three sub-systems:

* A mobile application for users to perform find matches, create matches, join matches.
* An API application to serve API for mobile application and web application
* A web application for admin manage field owner and for field owner manage their football field.

##### Mobile Application:

* For football team:

+ Manage profile

+ Create matches

+ Cancel matches

+ Find matches

+ Join matches

* For guest

+ Become football team

##### Web Application

* For admin:

+ Manage field owner account

+ Solve report

##### API Application

The server system takes responsibility to respond all the requests and also manages and processes data.

* Provide APIs for Mobile Application, Web Application
* Perform data processing

#### Boundaries of the System

The system does:

* Allow football team find matches
* Allow football team join matches
* Allow football team create a match
* Allow football team to cancel matches
* Suggest competitor with same level or unfair
* Schedule time of football field
* Allow field owner manage their field
* Notify field owner when field is booked
* Notify football teams when challenge is accepted
* Allow admin manage field owner
* Allow admin solve report

#### Future plans

Current system is concentrated on core business flow. Therefore, some supporting features are restricted adapted for the development team. These features may be expanded in the future:

* Improve suggest competitor more correctly.
* Evaluate a team level more correctly.

#### Development Environment

##### Hardware requirement

* **For server:**

|  |  |  |
| --- | --- | --- |
| **Linux** | **Minimum Requirements** | **Recommended** |
| Internet Connection | Cable (4 Mbps) | Cable (8 Mbps) |
| Operating System | Ubuntu 12.04 LTS | Ubuntu 16.04 LTS |
| Computer Processor | Intel® Core i3 1.4GHz | Intel® Core i5 2.50GHz |
| *Table 1: Hardware requirement for Server* | | |

* **For mobile:**

|  |  |  |
| --- | --- | --- |
| **Linux** | **Minimum Requirements** | **Recommended** |
| Internet Connection | Wi-Fi or 3G (4 Mbps) | Cable (8 Mbps) |
| Operating System | Android 5 | Android 7 or above |
| Device | Sony Z5 | Sony Z5 or later |
| *Table 3: Hardware requirement for Mobile* | | |