USER MANUAL

Team Name: FHIR I/O

Project Name: EMS Patient Data

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GitHub link: https://github.gatech.edu/gt-hit-fall2017/EMS-Patient-Data

Revision Sheet

Release No.	Date	Revision Description
Rev. 0	11/28/17	User's Manual Created
Rev. 1		
Rev. 2		

1. GENERAL INFORMATION

1.1 System Overview

The EMS-Patient-Data Suite is an application that utilizes an intuitive user interface that makes the first responders who cater to emergency calls and high-risk transportations get quick access to patient data including pick-up location, conditions, treatments and EMS responses. imputing and editing records fast and efficient. This program provides Patient lookup and search by cross matching address, patient name and/or other potential identifiers. A single dashboard covering all patient information collating multiple providers, hospitals, physician and different illnesses is provided. That allows users to gather necessary information and store/update it electronically to make quick medical decisions, and exterminate the need for using records.

This program uses a client/server based model. The client is the user who takes the emergency calls and the user who take care the patient in the emergency vehicles. The client program will communicate with a FHIR server that get all the information for each potential patient. The information saved in the database is about patients who receive services from EMS. It includes some of their personal information (i.e. name, address, etc.), illness history, notes about their case, and any medications they have or are using.

1.2 Acronyms and Abbreviations

EMS – Emergency Medical Services. Provides services to patients who have medical emergencies.

FHIR - Fast Healthcare Interoperability Resources, which is a standard for exchanging healthcare information electronically. In this application, the following resource is used:

http://fhirtesting.hdap.gatech.edu/hapi-fhir-jpaserver-example/baseDstu3

Observations – a central element in healthcare, used to support diagnosis, monitor progress, determine baselines and patterns and even capture demographic characteristics. Most observations are simple name/value pair assertions with some metadata, but some observations group other observations together logically, or even are multi-component observations.

2. SYSTEM SUMMARY

2.1 System Configuration

Each user uses their own computer running Windows OS/Linux. On those computers is the client application that will connect to a FHIR Server database.

2.2 User Access Levels

There are two different types of users. Super Users are users who have authority to create organization to access the system. Organizational Users refers to staffs/ employees working in a specific organization who have authority to access the records in their organization. The Super Users are still Organizational users employees, but are part of the administration of the organization.

3. GETTING STARTED

3.1 Setting up the Application

There are two ways to setting up the application.

The first way starts by installing Docker Compose. This will begin the installation of Docker. Please follow this guide:https://docs.docker.com/compose/install/#prerequisites

-To run the services, simply cd to the ./EMS-Patient-Data and run:

docker-compose up –build

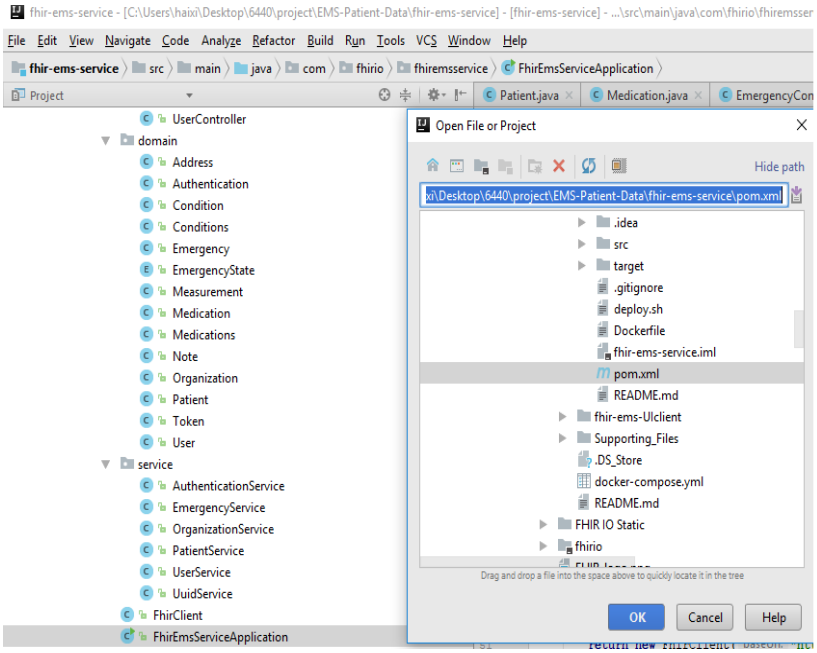
-Go to http://localhost:8080/index.html

-To stop the service,

docker-compose down

The second way is using Java IDE, such as Eclipse or IntelliJ, importing the Maven project. Using IntelliJ as example:

1. On the main menu, select **File | Open**.
2. In the dialog that opens, select the **pom.xml** of the project (./fhir-ems-service/pom.xml). Click **OK**.



1. On the first page of the **Import Project** wizard, in the **Import Project from External model** select **Maven** and click **Next**. (This page is not displayed if you selected the **pom.xml**.)
2. Specify Maven settings or use the default selection.
   The default settings are usually sufficient for a project. However, you can select the following (frequently used) options:
   - **Import Maven projects automatically** - if you select this option, the project is imported automatically every time you make changes to your POM file and you don't need to control manually when to import the changes. However, note that it might take some time to re-import the project.

Click **Next**.

1. IntelliJ IDEA displays the found projects and you can select the ones you need to import.
   Click **Next**.
2. Specify the project's SDK and click **Next**.
3. Specify a name and the location of the application.

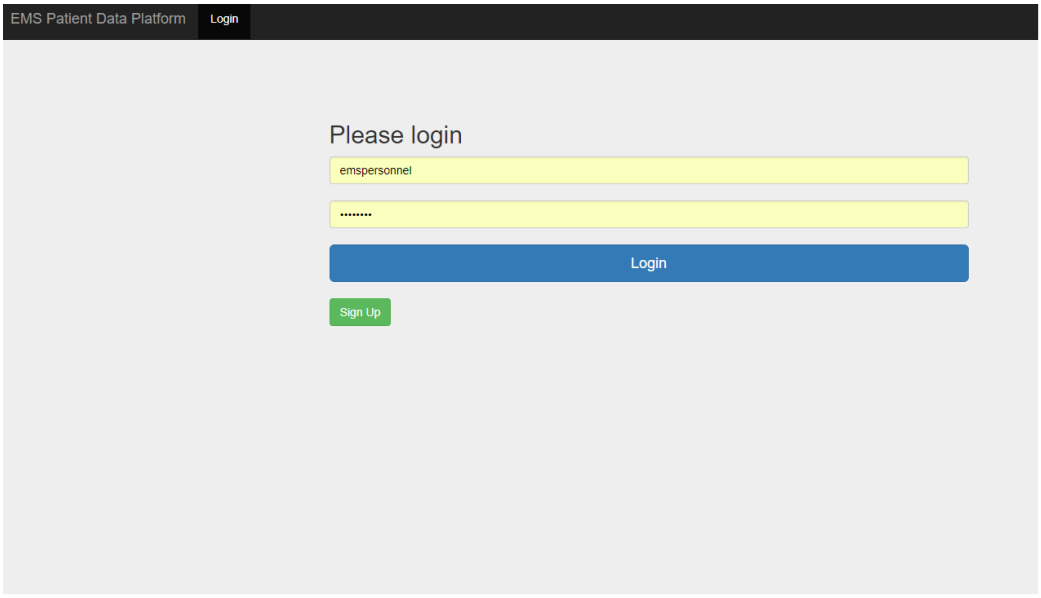
Click **Finish**

1. Run *FhirEmsServiceApplication.java* (.\fhir-ems-service\src\main\java\com\fhirio\fhiremsservice)

to set up the server.

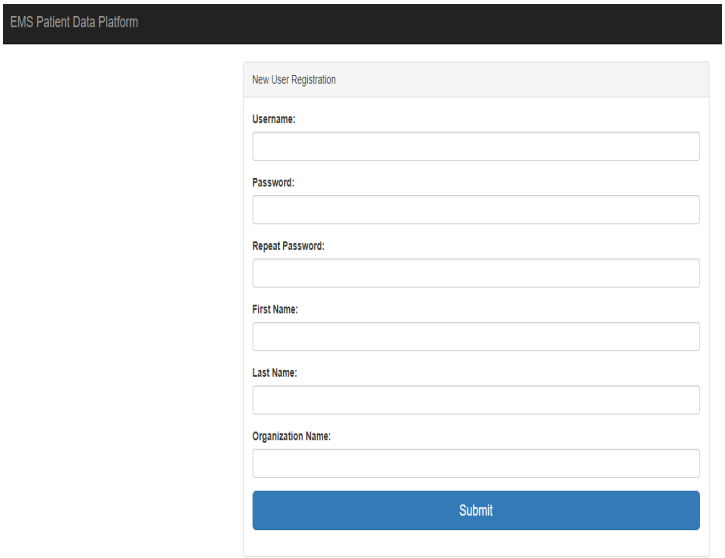
3.2 Logging On

After the server is set up, go to http://localhost:8080, check the index.html page



3.3 Creating New Super User

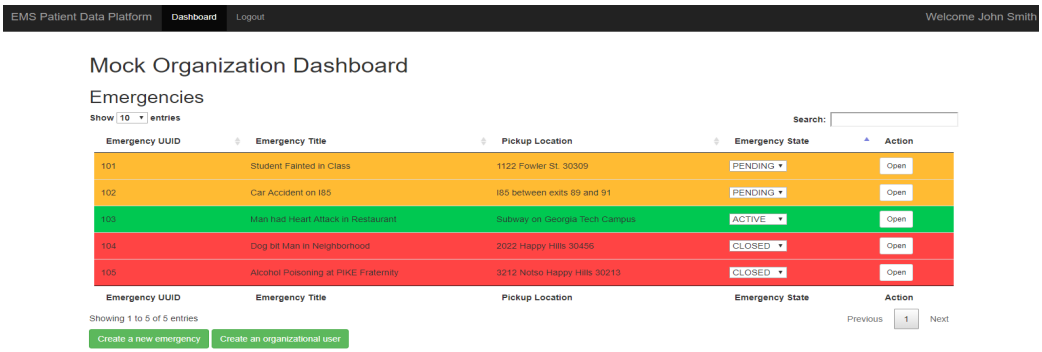
To create an new Super User, press the green 'Sign up' button on the Login page, and fill in the following required information:



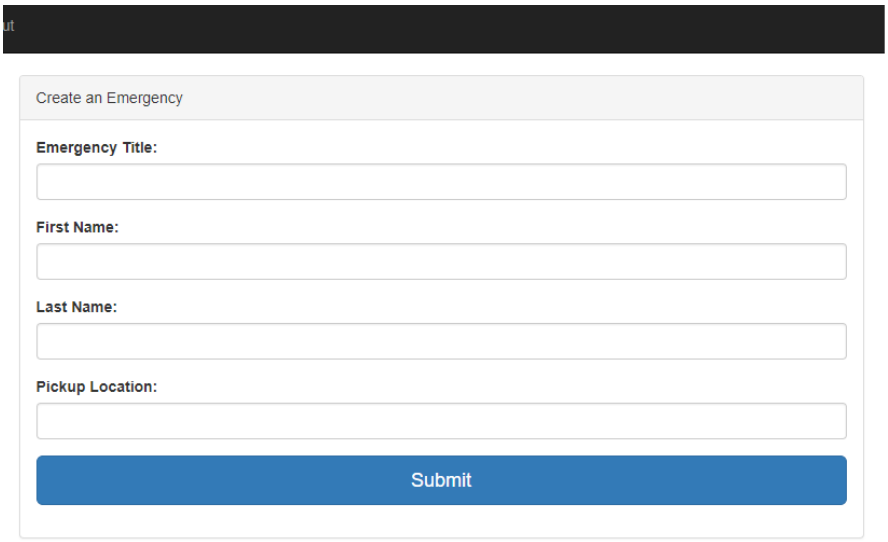
A specific organization Uuid will be provided for the new super user by the system automatically.

3.4 Creating New Emergency

The user can create a new emergency by press the on the "Create a new emergency' button below the Emergency Dashboard after login:



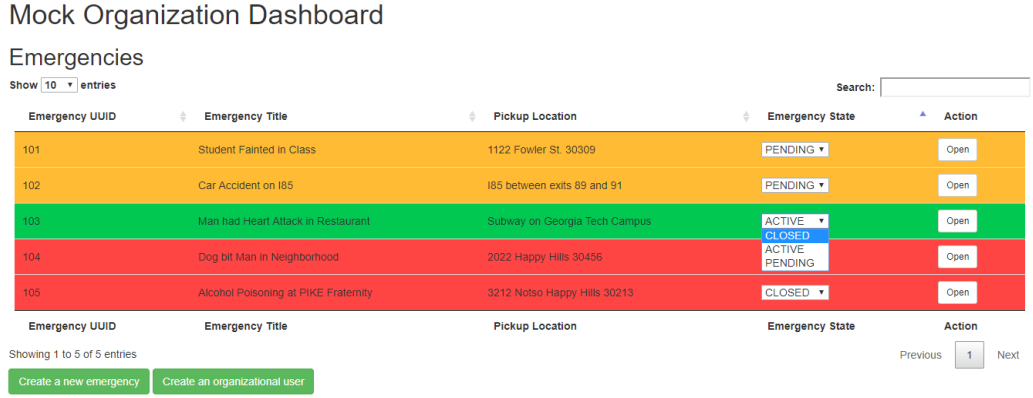
Then a new window will jump out for user to fill in the required information to create a new emergency:



The new emergency will be saved to the database and assigned with a Uuid. Then marked as a "Pending" emergency waiting in the queue for processing.

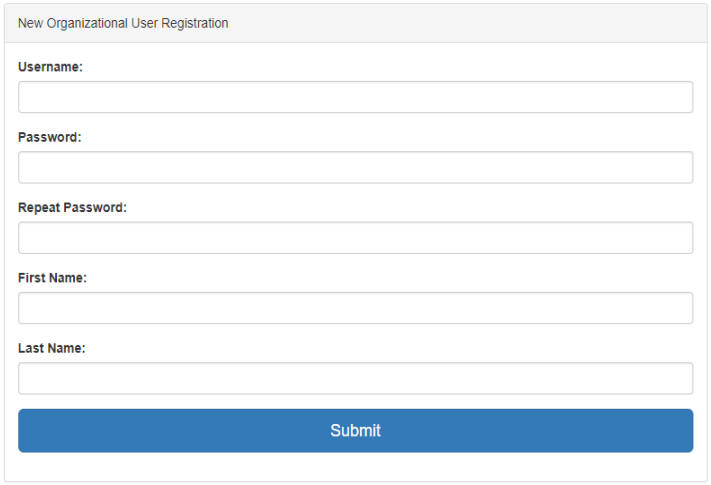
3.5 Updating the Status of an Emergency

The status of an emergency can be "Pending" -marked in Orange color, "Closed" – marked in Red color, and "Active" marked as Green color. The user can change the state of the emergency into any of these three statuses, for example, close an active emergency by select "close" in the dropdown menu of the "Emergency status" column in the dashboard. Then the color of the emergency row will change to the corresponding status. (See the dropdown menu in the following picture for Emergency with Uuid 103)



3.6 Creating an New Organizational User

Based on the two types of users described above, a Super User can enroll Organizational Users into the system. Under the Emergency Dashboard, press the “Create an organizational user”, a new window will pop up for the super using to fill in the required info of an organizational user. Different from creating a Super User, the Organizational User does not need to fill the ‘organization name’. The Organizational Uuid for the new user is set default to the Super user’s.

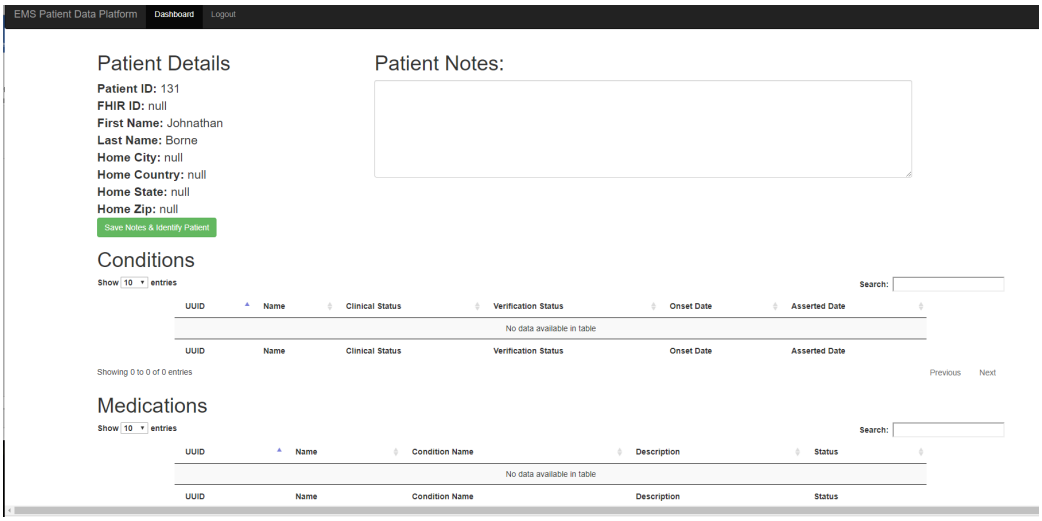


3.7 Viewing Possible Patients

The possible patients of the emergency will be get from the FHIR server by a matched name or patient Uuid. To view the possible patients, click on the “Open” button on the “Action” column of a selected emergency in the Emergency Dashboard, the list of the potential patients will show up:

3.8 Viewing Patient Dashboard

To view the detailed record of a patient who is in emergency, click on the “View Patient Details” button in the “Action” column in “Potential Patients” list, the patient’s profile, medications, and conditions info will show up.



3.8.1 Add/Update Patient Notes

The patient notes can be added to the database by filling in the blank form under “Patient Notes”. Such notes can be an emergency response or vital signs of the patient. Click on “Save notes & identify patient” button in this page, a window’s alert box will be popup indicating the patient notes has be updated or added to the database for further use.

3.9 Exit System

Click on Logout in the top menu.