HL7 FHIR

HL7 International

FHIR Intermediate Course

ASSIGNMENTS SCENARIO

Assignments

Language: English

V1.0

Course Overview

Module I: Implementation Guides

Most Relevant FHIR Implementation Guides: Argonaut & IPS
Argonaut Development and Roadmap
Argonaut Data Query IG: Scope, Use Cases
Argonaut Provider Directory IG: Scope, Use Cases
IPS FHIR IG: Scope, Use Cases

Module II: FHIR Clients

General Guidelines for FHIR Clients
FHIR Clients in JavaScript / C#

Module III: FHIR Facades

Why Use FHIR Server Facade: Your System on FHIR
Specific FHIR Servers (FHIR Facade)
Facade Use Case / Scenarios
Facade Architecture / Patterns
Where to Put the FHIR Facade
System Integration / Integration Engine / Bus / Messaging
Facade in C# / Java / Node.JS [1 - Elective]

Module IV: FHIR Applications

SMART on FHIR
CDS Hooks
Integration with SMART on FHIR / CDS Hooks [1 - Elective]

Assignments Scenario

Scenario Disclaimer

Names, characters, businesses, places, events, locales, and incidents are either the products of the course authors' imagination or used in a fictitious manner. Any resemblance to actual persons, living or dead, or actual events or organizations is purely coincidental.

Throughout this course, we will be solving an imaginary specific company's problem using the technologies introduced in each unit. This will allow you to understand a possible application for each tool. And the intention is just to demonstrate how the tools can be used. You are not advised to use any code created/provided in this course in production for live systems because they are just simple examples which may not match the standards/security and/or testing requirements for your systems.

The scenario will give us an overall scope, but this course is not intended to create a full, working, complete solution.

Scenario Introduction

MySportsTeam® is the dream of two young Australian entrepreneurs living in Silicon Valley: Jonathan Brukner and Andrew Phyllys. It is an app designed to give sports managers, coaches and especially team members a great experience.

The app covers all the sports team's workflow, giving each member a full view of the team schedule, allowing exchange of messages between team members and coaches, and ensuring all the team's travel and logistic needs are fulfilled on time.

The AWS cloud-based app was adopted in the first year by 1,305 professional sports teams, universities and even high schools in the U.S. They are using MySportsTeam for team communications and management.

After the first year, one specific and previously overlooked need became clear: the teams' **health-related issues**, from athletes' initial screenings to their current healthcare status, none of which were included in the initial scope of MySportsTeam.

The first paper read by MySportsTeam's founders was published in Australia by Jonathan's dad, who is a member of the Australasian College of Sports Physicians, and is recommended reading to understand some parts of our scenario: SportsScreeningPaper.pdf
The second paper was published in the British Journal of Sports Medicine, and talks about "systems, processes and strategies to continuously monitor and manage athlete health and performance": https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3963533/

Of course, both papers are recommended reading to understand the context for this scenario.

Some goals were defined with two principles for the first version:
- No duplicate data entry.
- Access for the medical crew and team members to the information they are allowed to see.

So the app should:

a) Automate and standardize the transfer of athlete healthcare screening information. This is information that sometimes is entered at the provider site by contracted physicians and clinics before the questionnaire and physical exam are reviewed by the team's medical crew.
b) Allow the team medical crew to review member healthcare information as needed, and without duplicate data entry: If a healthcare provider has information about a team member, the information should appear in the app.
c) Provide a way to locate healthcare services under contract near the match venue when a member healthcare problem arises and the team is not playing at home.
d) Provide each team member with access to his/her available healthcare information.

To fulfill these goals, the dev team planned one new feature for the member-oriented app, called **MyHealth**, where the athlete can review relevant healthcare-related information, and three new features for the team medical crew: **TeamHealth::Screening** can import and allow the crew to review the screening for new team members, **TeamHealth::Review** can get the same information the members will see in their app + Procedures/Encounters and Labs, and **TeamHealth::Discovery** will allow the crew to locate healthcare providers for team members when they are not playing at home.

MySportsTeam's product manager, Patricia Allwys (Pat), discovered FHIR and the Argonaut project by chance recently when looking through a HealthTech magazine while she was waiting for a medical checkup.
After some research with team managers and physicians, Pat discovered that most teams had contracts with hospitals and clinics using Argonaut-enabled EHRs, so "it will be very easy to connect them to the app and retrieve information for the patients and crew," according to her.

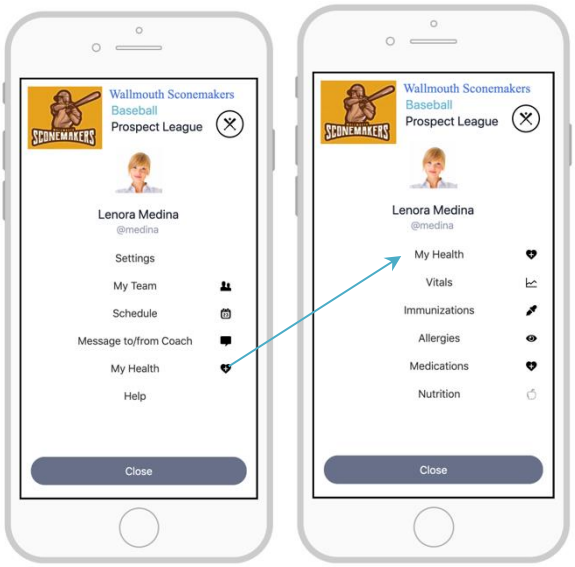
Pat has hired you as the "chief integration developer" ("chief," but you are working alone) for MySportsTeam / Health modules, and your responsibility is to research, select and use whichever FHIR common API services are available, and implement the solution.

A month ago, MySportsTeam signed its first contract outside of the U.S., with three university soccer teams in the UK. Pat found out that Argonaut is not used by hospitals and clinics in the UK, but they are willing to use something called the FHIR IPS (International Patient Summary).

We will try to help you as much as we can, so don't worry.

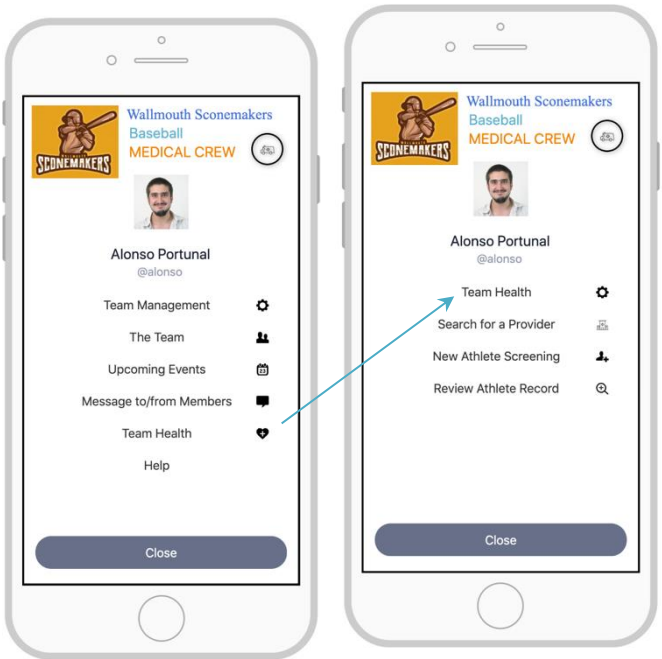
MySportsTeam::MyHealth

This is the main menu and **MyHealth** menu for **Team Members** in MySportsTeam.
The minimum viable product for MyHealth has been defined to include these items for the member to review from the app: Vitals, Immunizations, Allergies, Medication and Nutrition.



MySportsTeam::TeamHealth

And this is the main menu for Medical Crew Members in MySportsTeam:



Wrapping up

These concludes the presentation of our scenario. We will go into deeper detail about the app needs for each functionality as we advance in our course units.