

Team Name: Baby Sharks

Team Members

- Hyun Yong Jin
- Wei Li
- Mark Qi
- Yuzhuo Sun
- Pei Zhang

Project Name: Universal Health Data Collector

GitHub Link: <https://github.gatech.edu/gt-cs6440-hit-fall2019/Universal-Health-Data-Collector.git>

Application Manual

This application manual contains all essential information for the users to make full use of the health system application. This manual includes a description of the system functions and capabilities, step by step procedures for system access and use.

1. Application Overview

Universal Health Data Collector is an application that designed to gather all health data from multiple sources into a dashboard for patient and provider. With this application, a patient can easily access personal healthcare profile with holistic health assessment with conditions, observation etc., which allows patient to proactively diagnose, plan and implement. And the application will also enable provider to track and monitor all patients' health condition over the time and provide better diagnosis and recommendation to patients.

2. Step by step procedures to launch application

2.1 Go to login page here: <https://apps.hdap.gatech.edu/newuhdc1frontend/>

It will require the username and password to login to the page. In this application, we currently generated below 4 registered patients and 2 providers. For example, patient Roman can use the username "roman" and password "1234" to access his personal healthcare database.

<Log-in credentials for Universal Health Data Collector> Category

Category	Username	Password
Patient	mark	1234
Patient	vijay	1234
Patient	roman	1234
Patient	babyshark	1234
Provider	bob	1234
Provider	steve	1234



2.2 If you are patient, then login with your patient username and password. You will be directed to patient detail page. In this page, there are four main sections.

- Patient personal information

Patient personal information will include patient name, patient id, date of birth, gender, phone number and address.

Hello, Roman Jackson, Welcome to Healthcare System!

Patient Information (data source)

Name: Roman Jackson
 PatientID: 3
 DateofBirth: 2018-10-29 00:00:00.0
 Gender: male
 Phone Number:
 Address:

- Patient Provider

In this section, each patient will see their providers' name and category. For example, Bob has two providers Steven (radiologist) and Bob(primary physician).

Provider		
#	Provider Name	Category
2	Steven	radiologist
1	Bob Ross	primary physician

- Patient observation

Patient observation data is from FHIR system. In application, it will display each patient observation. Observation is used to support diagnosis, monitor progress, determine baseline and patterns to capture demographic characteristics. In this application, we will display following patient observations:

- Identifier: Business Identifier for observation

- categoryCode: Classification of type of observation
- subjectReference: Who and/or what the observation is about
- statusCode: registered | preliminary | final | amended +
- code: Type of component observation (code / type)
- valueQuantity: Actual result
- interpretation: High, low, normal, etc.

Observation						
ExternalIdentifier	CategoryCode	SubjectReference	StatusCode	Code	ValueQuantity	Interpretation
355485		Patient/355430	final	3141-9		
355478		Patient/355430	final	9279-1		
355476		Patient/355430	final	8310-5		
355472		Patient/355430	final	8867-4		

- Patient condition

Patient condition data is from FHIR system. Condition could be a point in time diagnosis in context of an encounter, it could be an item on the practitioner Problem List, or it could be a concern that does not exist on the practitioner Problem List. Often times, a condition is about a clinician's assessment and assertion of a particular aspect of a patient's state of health. It can be used to record information about a disease/illness identified from application of clinical reasoning over the pathologic and pathophysiologic findings (diagnosis), or identification of health issues/situations that a practitioner considers harmful, potentially harmful and may be investigated and managed (problem), or other health issue/situation that may require ongoing monitoring and/or management (health issue/concern). In this application, it will display following patient observations:

- Identifier: External Ids for this condition
- CategoryCode: problem-list-item | encounter-diagnosis
- Code: Identification of the condition, problem or diagnosis
- CodeDisplay: the condition, problem or diagnosis
- SeverityCode: Subjective severity of condition
- ClinicalStatusCode: active | recurrence | relapse | inactive | remission | resolved
- VerificationStatusCode: unconfirmed | provisional | differential | confirmed | refuted | entered-in-error
- OnsetDateTime: Estimated or actual date, date-time, or age
- Evidence: Supporting evidence
- + Rule: evidence SHALL have code or details

Condition								
Identifier	CategoryCode	Code	CodeDisplay	SeverityCode	ClinicalStatusCode	VerificationStatusCode	OnsetDateTime	evidence
355443	14657009	35489007	depression	6736007	active	confirmed		
355450	14657009	194818000	angina	6736007	active	confirmed		Chest Pain

2.3 If you are provider, then login with your provider username and password. You will be directed to provider detail page. In this page, you will see all your patients' information (patient name, dateofbirth, gender, phone and email). By clicking the patient name, you will link to patient detail page.

Hello, Welcome to Provider portal!				
Patients List				
Patient Name	Date of Birth	Gender	Phone	Email
Captain Jack Sparrow	2008-10-10 00:00:00.0	male		
Vijay Ananda	1974-02-24 00:00:00.0	male		
Roman Jackson	2018-10-29 00:00:00.0	male		

After clicking patient name, you will see patient information as below.

Hello, Captain Jack Sparrow, Welcome to Healthcare System!							
<div>Search</div> <div>Search</div>							
Patient Information (data source)							
Name: Captain Jack Sparrow PatientID: 1 DateofBirth: 2008-10-10 00:00:00.0 Gender: male Phone Number: Address:							
Provider							
#	Provider Name			Category			
1	Bob Ross			primary physician			
Observation							
ExternalIdentifier	CategoryCode	SubjectReference	StatusCode	Code	ValueQuantity	Interpretation	
Condition							
Identifier	CategoryCode	Code	CodeDisplay	SeverityCode	ClinicalStatusCode	VerificationStatusCode	OnsetDateTime
2630506		143511000119105	Perihepatitis due to Chlamydia				

3. Special Instructions for Error Correction

In current system, we only have 4 registered patients and 2 providers. If you are not registered patient, you will get the below error message. In this case, you will need to click "Go Back Log-in Page" and provide the registered username and password.

Please put correct ID and Password

Go Back Log-in Page

4. Reference

<https://www.hl7.org/fhir/condition.html>
<https://www.hl7.org/fhir/observation.html>

<https://www.hl7.org/fhir/patient.html>