SMART-on-FHIR app to pull PDMP
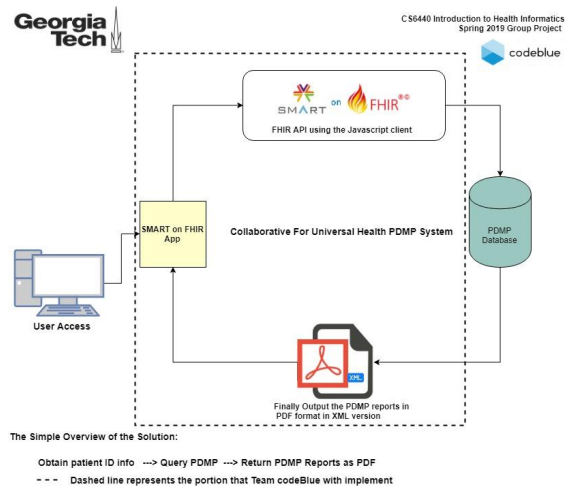
Video Project Deliverable 2
Link to Video: https://youtu.be/5sjpDfPZWyQ

Team Code Blue • 2019.03.10

I, Tony Leung, and Adam Sligar will be presenting team Code Blue's project deliverable 2. We will begin by presenting the architectural diagram for the SMART-on-FHIR app.

Architectural Diagram

This is the architectural diagram drawn using draw.io. The components enclosed by the dotted lines represents the SMART-on-FHIR app that team Code Blue will implement. The SMART-on-FHIR app launches from the context of an EHR integration. The app then communicates and makes a request to the FHIR test server MedicationDispense Search APIs, which is represented by the PDMP Database. The FHIR server pulls data from their systems and allows the data to be displayed or exported as PDF or XML. Our application won't be directly integrated with an EHR, so we won't be including the OpenID connect integration.

Languages and Tools

- JavaScript

- Angular

- Material UI

- Docker

- Jenkins

- Health Data Analytics Platform (HDAP)

We will be building the SMART-on-FHIR app using JavaScript, Angular, and Material UI. Angular and Material UI are frontend frameworks for building web-based applications. Docker and Jenkins will be used to support our development process. We will be using HDAP to obtain synthetic patient data which we will then use for development, testing, and demonstration purposes.

Screen Wireframe

Initial State

Search Results State
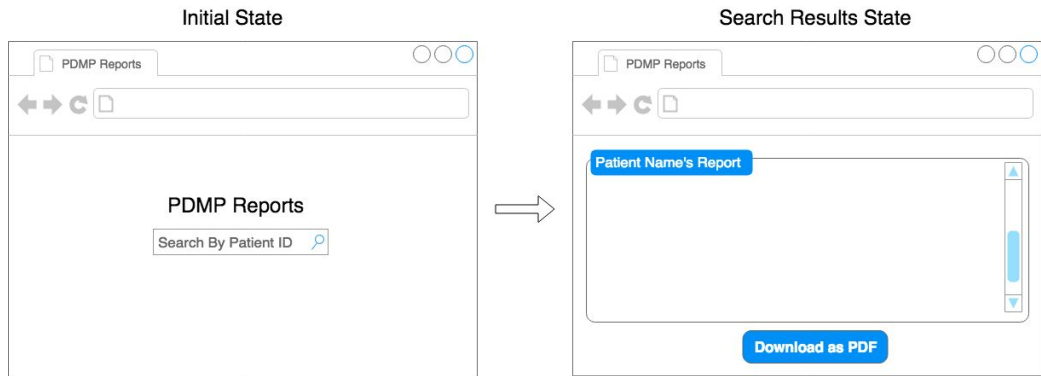
The wireframe shows the app will have a basic workflow. A user can search for a patient by ID, and then they will be shown the patient's PDMP results and have the option to download the PDF file.

Discussion

- Researched how to make a basic SMART-on-FHIR app. http://docs.smarthealthit.org/tutorials/

- Researched how to pull PDMP data using FHIR. http://hl7.org/fhir/us/meds/2018May/pdmp.html

- Will we be provided with an external sandbox? Most likely not since legality sounds unclear.

Discussion. We first researched how to make a basic SMART-on-FHIR app using the resources provided on smarthealthit.org. This gave us the foundational knowledge of what needs to be done in order to build a SMART web application. We also studied the Prescription Drug Monitoring Program (PDMP) FHIR Implementation Guide provided on hl7.org in order to understand how the SMART-on-FHIR app can access a patient's controlled substance prescription history from state PDMP systems. Our external mentors may also provide us with a sandbox environment for testing some client integrations, but this is starting to seem unlikely since the legality of it is unclear. Otherwise, we will just use the HDAP sandbox.

Gantt Chart Revision
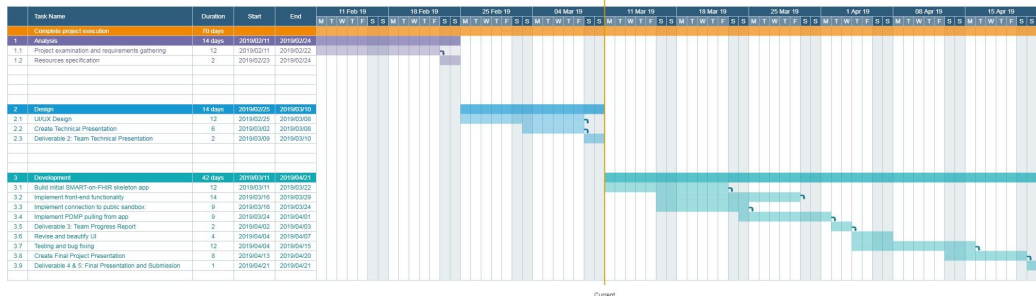
Link to Gantt Chart: https://bit.ly/2CcWE6O

Our updated gantt chart shows revisions to the last two phases. Due to the Deliverable 2 time extension, the "Design" phase has been extended until March 10th. This gave us time to further communicate with our external mentors and communicate our plan for the application. The "Development" phase has been shortened by two weeks as a consequence, which also removes the overlap with the design phase, but we feel confident that we will still meet our goals.

Conclusion

Laura Pike

Adam Sligar

Imran Yousuf

Jing Huang

Tony Leung

Team Code Blue • 2019.03.10

Our SMART-on-FHIR application will be a basic JavaScript Single Page Application that communicates directly with the test FHIR servers and can pull PDMP information for patients.