SMART-on-FHIR app to pull PDMP

Video Project Deliverable 3
Link to Video: Youtube Link

Team Code Blue • 2019.03.31

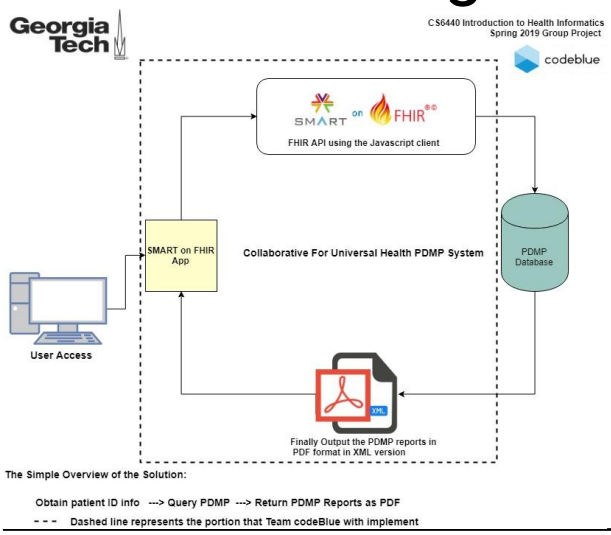
I, Imran Yousuf and Alison Jing Huang, and will be presenting team Code Blue's project deliverable 3. We will begin by presenting the tools we have used thus offer and a brief overview of architectural diagram for the SMART-on-FHIR app.

Languages and Tools

- JavaScript
- Angular
- Material UI
- Docker
- Jenkins
- Health Data Analytics Platform (HDAP)

We have built a SMART-on-FHIR app using JavaScript, Angular, and Material UI. Angular and Material UI are frontend frameworks for building web-based applications. We have also created working pipeline with jenkins and used docker to containerize our app. In the future will be using HDAP to obtain synthetic patient data.

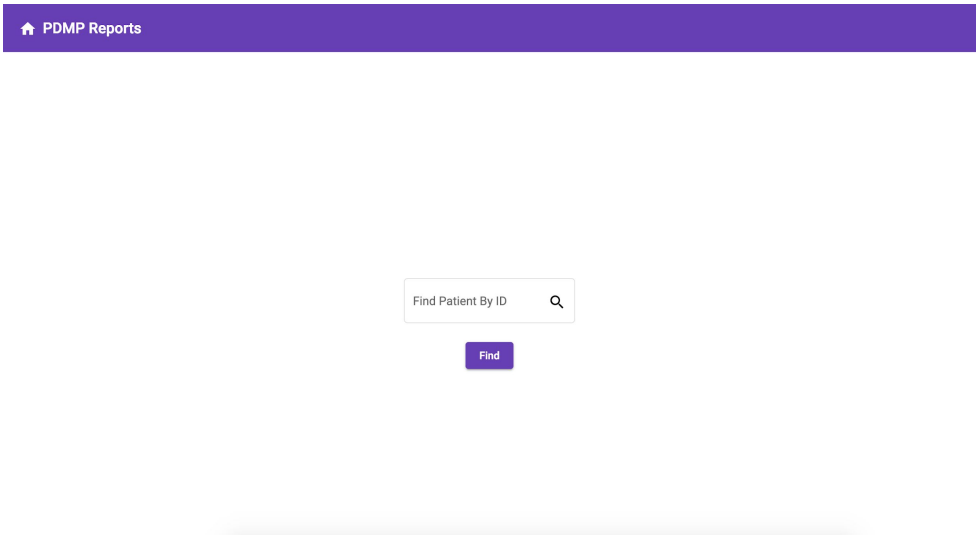
Architectural Diagram



As you can see in the architectural diagram The components enclosed by the dotted lines represents the SMART-on-FHIR app that team Code Blue is implementing. 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. Our application won't be directly integrated with an EHR, so we won't be including the OpenID connect integration.

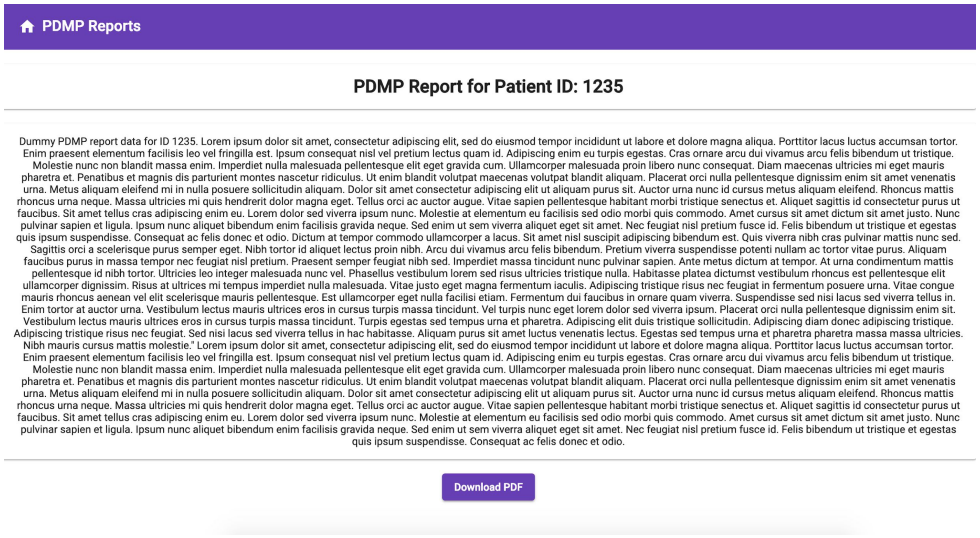
#Mention parts are done

SCREEN ONE



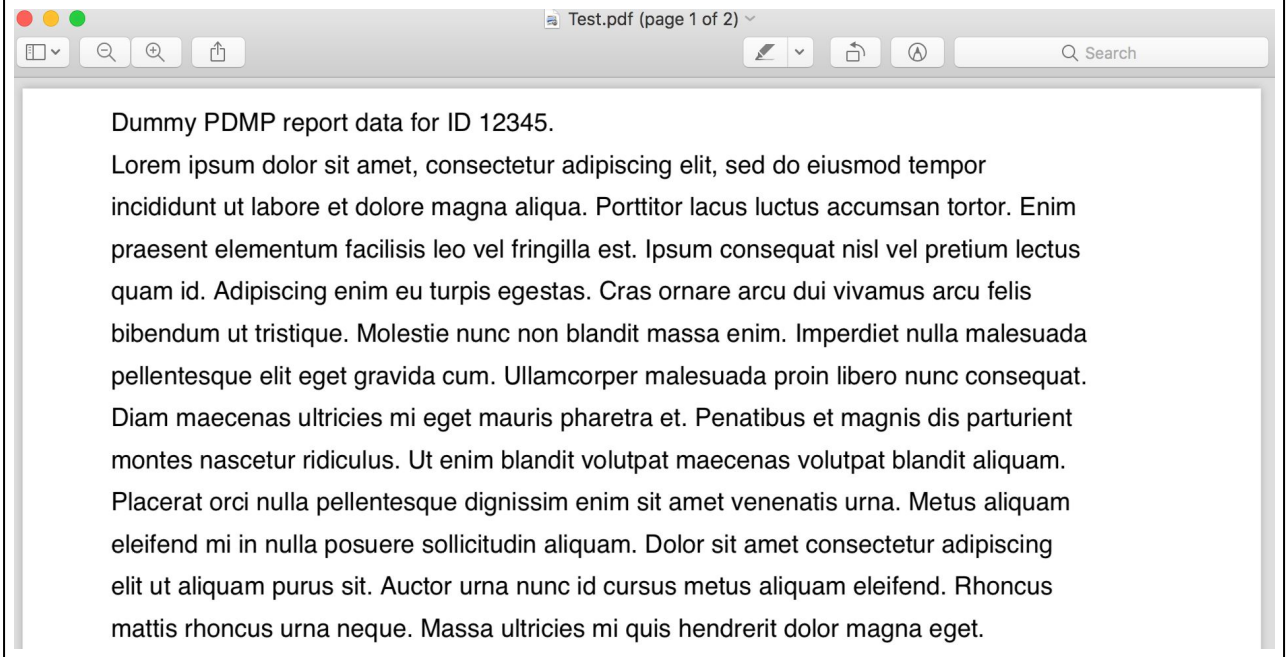
Alison: As mentioned by Imran in the previous slide, the current layout of PDMP Reports does not require user authentication due to the fact it does not require the OpenID connect integration, thus making our SMART-on-FHIR app more user friendly. When in need of searching for a specific patient ID, simply move the mouse cursor to the search box, and enter the ID number followed by clicking “Find”, the app will then connect with the FHIR server and pulls corresponding information from the PDMP database and display on the webpage that is ready to be downloaded in PDF format.

SCREEN TWO



Alison: Here a list of patient's information has been retrieved and displayed on the screen. Right now we are using a lorem ipsum text for development and testing purpose. Once we have finished the final implementation of FHIR API server integration into our code, it will show some patient information pulled from the PDMP database in conjunction with FHIR server communications.The report would contain important prescription information such as the Date Displayed, Quantity, Strength, Days, Drug Name, Dispenser, City, Prescriber, the Patient Name and Date of Birth, etc.

Then to export the report, simply click "Download PDF" button, the report will be saved in a local computer.



Alison: The downloaded pdf report is illustrated here. Imran will give you a quick live demo next to go thru the entire process.

LIVE

https://cs6440-s19-prj015.apps.hdap.gatech.edu/

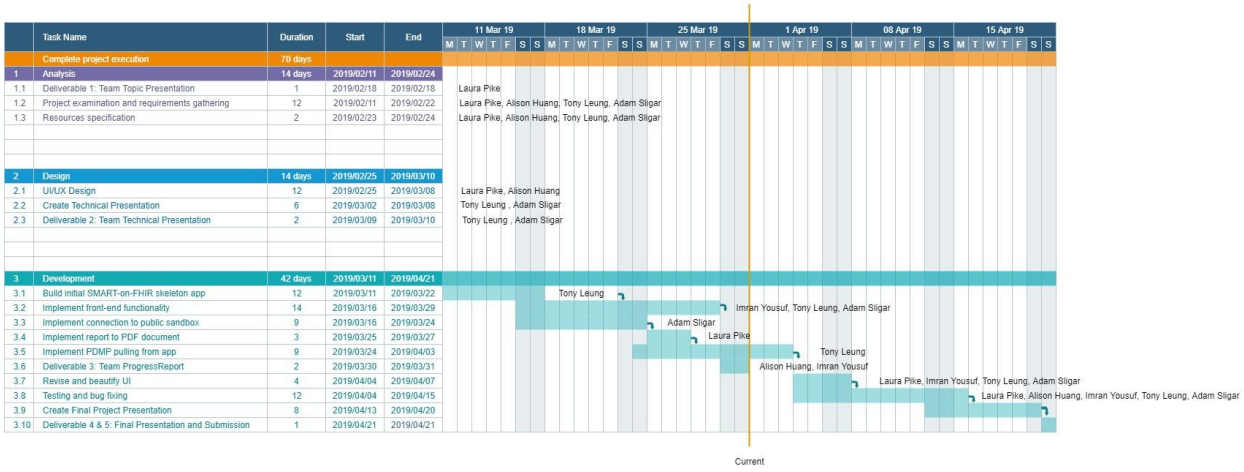
So we have containerized our app and anytime there is a pull request and a merge to master a new version of the app is built and is deployed to the server. Here is a live demo of your app running on the server!

Discussion

- We have jenkins pipeline ready that builds the app and deploys to the server
- Final conversion of SMART on FHIR Integration will be included in Deliverable 4
- The project completion date is April 21st, 2019

Alison: As we have mentioned prior, the jenkins pipeline has been established to build the app and deploy to the server. Final conversion of SMART on FHIR Integration will be included in the next deliverable, and the project completion date is April 21st, 2019

Gantt Chart Revision



	Task Name	Duration	Start	End	Assigned
	Complete project execution	70 days			
1	Analysis	14 days	2019/02/11	2019/02/24	
1.1	Deliverable 1: Team Topic Presentation	1	2019/02/18	2019/02/18	Laura Pike
1.2	Project examination and requirements gathering	12	2019/02/11	2019/02/22	Laura Pike, Alison Huang, Tony Leung, Adam Sligar
1.3	Resources specification	2	2019/02/23	2019/02/24	Laura Pike, Alison Huang, Tony Leung, Adam Sligar
2	Design	14 days	2019/02/25	2019/03/10	
2.1	UI/UX Design	12	2019/02/25	2019/03/08	Laura Pike, Alison Huang
2.2	Create Technical Presentation	6	2019/03/02	2019/03/08	Tony Leung , Adam Sligar
2.3	Deliverable 2: Team Technical Presentation	2	2019/03/09	2019/03/10	Tony Leung , Adam Sligar
3	Development	42 days	2019/03/11	2019/04/21	
3.1	Build initial SMART-on-FHIR skeleton app	12	2019/03/11	2019/03/22	Tony Leung
3.2	Implement front-end functionality	14	2019/03/16	2019/03/29	Imran Yousuf, Tony Leung, Adam Sligar
3.3	Implement connection to public sandbox	9	2019/03/16	2019/03/24	Adam Sligar
3.4	Implement report to PDF document	3	2019/03/25	2019/03/27	Laura Pike
3.5	Implement PDMP pulling from app	9	2019/03/24	2019/04/03	Tony Leung
3.6	Deliverable 3: Team ProgressReport	2	2019/03/30	2019/03/31	Alison Huang, Imran Yousuf
3.7	Revise and beautify UI	4	2019/04/04	2019/04/07	Laura Pike, Imran Yousuf, Tony Leung, Adam Sligar
3.8	Testing and bug fixing	12	2019/04/04	2019/04/15	Laura Pike, Alison Huang, Imran Yousuf, Tony Leung, Adam Sligar
3.9	Create Final Project Presentation	8	2019/04/13	2019/04/20	
3.10	Deliverable 4 & 5: Final Presentation and Submission	1	2019/04/21	2019/04/21	

Link to Gantt Chart

Alison: At this time we have completed up to 3.1 thru 3.3 and 3.6 of the development phase, notably successfully implemented connection to the public sandbox and Jenkin file, and enabled the feature of report to PDF document functionality in our code. Task 3.5 implement PDMP pull from app has not been completed (for this deliverable) but we anticipate the completion of this task this coming week.The remaining stages to be finished are to revise, beautify the UI, as well as test and fix bugs. After that we have to create a final project presentation and the final deliverables for submission.

Conclusion

Laura Pike
Adam Sligar
Imran Yousuf
Alison Jing Huang
Tony Leung

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Allison: This concludes our deliverable 3 presentation for Team CodeBlue. Thank you!