Project Introduction

Sprint#5 – Practicum Final Submission

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Mentors: Dr. Julien Thomas, Abhishek Khowala

1 INTRODUCTION

Our primary project requirements and use case was provided by Dr. Julien Thomas, who has been our external mentor and clarification on the implementation provided by Abhishek Khowala, who has been our internal mentor. It was indicated that precious physicians time is often spent trying to glean, interpret, analyze through the vast of patients data from EMR/EHR systems along with the ever increasing administrative duties and thus a critical need for fast presentation and interpretation of chief primary complaints of patient is vital to make quick correct decisions in order to provide the most appropriate care.

2 OUR SOLUTION

Based on the patient MedCard requirements and use-case provided by Dr. Julien (external mentor), we created an application that organizes only the data appropriate for a particular specialty based on chief complaints for patients with strokes and displaying the medical codes, conditions, vital signs, labs. As per Dr. Julien's initial ask of Mobile app, we created a mobile app and screen shots are attached in the end and source code is under the below repo.

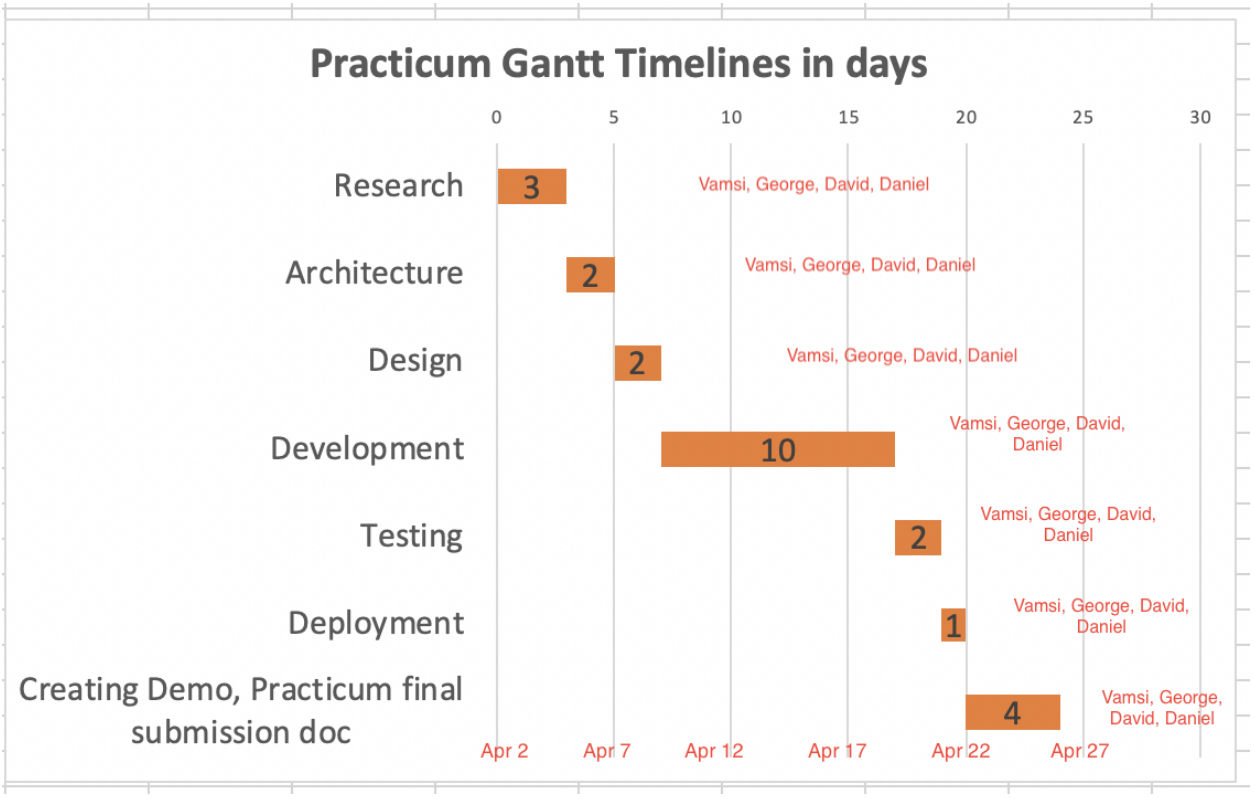
Mobile App: https://github.gatech.edu/dstrube3/mHealthTap

We presented the demo of this mobile app with local datastore to both Dr. Julien Thomas and Abhishek Khowala and based on their feedback, our mobile application was good. We indicated that it is using the local data store for storing/retrieving the patient Med Cards and not retrieving from FHIR server. At that time, we mentioned that we may not have enough time to build the Mobile app FHIR integration for the stroke patient from scratch. We asked what was more important to them whether Mobile app with local datastore or Web App with FHIR data. They indicated the integration with FHIR data to get the stroke patient is more important to them. Based on this requirement, we build the WEB application and integration with SMART-on-FHIR to retrieve and display the stroke patient chief complaints and critical data. Our solution utilizes Smart on FHIR, Node.JS and Angular to build the application. It's hosted on Amazon S3 for high performance and high availability. We also built a HAPI FHIR server on Azure for testing data ingestion and extraction functionality. We also used postman to test the FHIR APIs response for various resources. Below is the repo for the source code.

Web App: https://github.gatech.edu/dstrube3/med_cards

3 PROJECT GANTT CHART

Our Project phases include Research, Architecture, Design, Development, Testing (Functional and Performance) and Deployment. Following is the Gantt Chart depicting the phases and timelines.



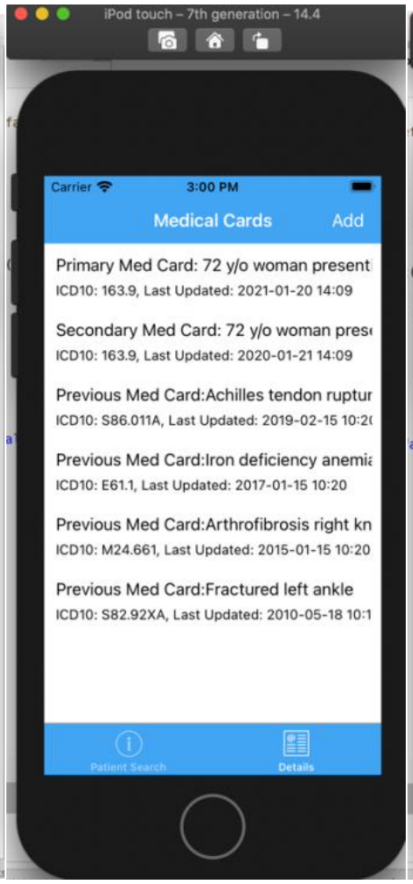
4 APPENDIX

Below are the screenshots of the Mobile app which was demoed to Abhishek Khowala and Dr. Julien Thomas. It shows the invalid login when the username/password combination is incorrect and able to authenticate and login with proper username/password. It shows the history of the Patient in terms of Med Cards with summary on the primary screen and details (medical codes, conditions, vital signs, labs) on the secondary screen.

Figure 1: iOS Login screen

Figure 2: Authentication error

Figure 3: Successful login



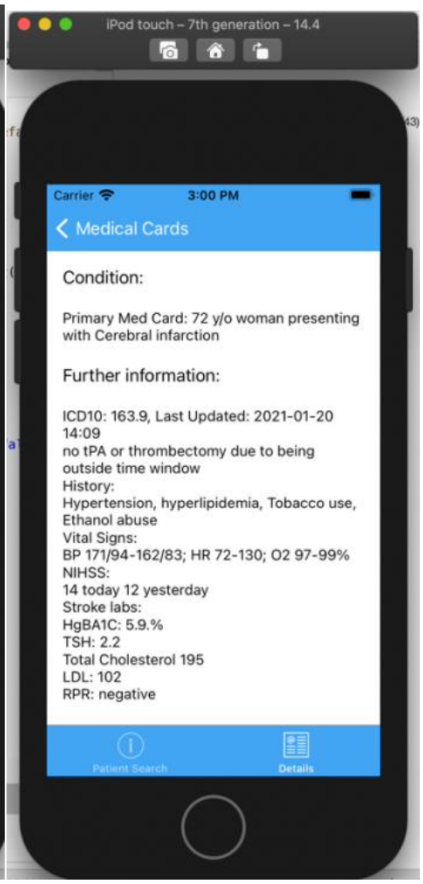


Figure 4: Patient screen **Figure 5: Medical Cards list** **Figure 6: Medical Card detail**