Design Document

1 PROJECT SUMMARY

The project is to deploy an Angular based web-application hosted on GitHub Pages to provide the patient of a medical provider useful information regarding their visit in regards to an acute condition.

The login information to access this portal will be provided to the patient by the medical provider and the credentials are only valid for a short amount of time, such as a week. This is because the web application is only meant for use in an acute visit, although this information could also be saved in different ways such as by email, and on the provider's EHR system.

Useful medical information provided to the patient includes:

1. Standard medical information such as full name, date of birth, gender, height, weight, current medications, and allergies.
2. The results of any lab tests which may have been run.
3. Name and information of the medical workers who were involved with the diagnosis or treatment of the patient.
4. Any notes left by the doctor(s) about the visit and more generalized information about the diagnosed condition.

Other useful information provided to the patient includes:

1. The response to any questions asked by the patient about their visit.
2. Provider information such as relevant locations, phone numbers, email addresses, and hours of operation.

2 TOOLS AND TECHNOLOGY

2.1 NodeJS

Open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser

2.2 Angular

TypeScript-based open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations.

2.3 Bootstrap

Free and open source front end development framework built on HTML, CSS, and JavaScript (JS) to facilitate the development of responsive, mobile-first sites and apps. Creates core classes to be used for consistent styling.

2.4 SMART on FHIR JavaScript Library

JavaScript library for connecting SMART apps to FHIR servers. It works both in browsers (IE 10+) and on the server (Node 10+).

2.5 GitHub Pages

Static site hosting service that takes HTML, CSS, and JavaScript files straight from a repository on GitHub, optionally runs the files through a build process, and publishes a website. Using the **angular-cli-ghpages** node package to deploy.

2.6 Balsamiq Cloud

Web-based user interface design tool for creating wireframes.

2.7 ProjectLibre

Free and open-source project management software system intended ultimately as a standalone replacement for Microsoft Project.

3 DATA SOURCES

3.1 Patient - FHIR v4.0.1 (link)

Demographics and other administrative information about an individual or animal receiving care or other health-related services.

3.2 Observation - FHIR v4.0.1 (link)

Measurements and simple assertions made about a patient, device or other subject.

3.3 MedicationRequest - FHIR v4.0.1 (link)

An order or request for both supply of the medication and the instructions for administration of the medication to a patient.

3.4 Authentication / User Data

Database endpoint for the medical provider that is storing information accessed by the user with the provider-given login information. Providers information in regards to Authentication, Lab Results, Asked Questions, and Care Teams.
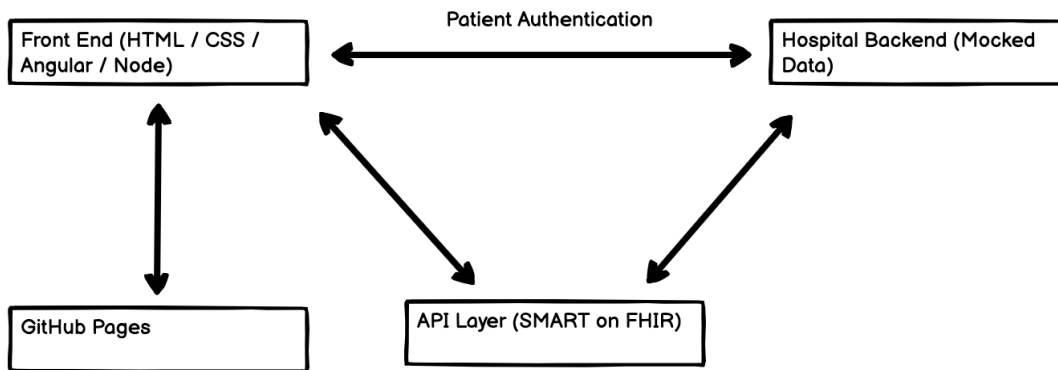
4 DIAGRAMS

Figure 1— System Architect

5 Screens

2.1 Home

INPATIENT SUMMARY   Home   Care Team   Lab Results   Patient Education   Ask a Question   Contact Information

Welcome, Charita Adams !

Language	Address	Phone Number
Chinese	**261 Zboncak Row Apt 6, Brookline, Massachusetts, 02215**	**555-325-5612**

Date of Birth	Gender
2001-09-14	**female**

Height	Weight
161.70 cm	**56.04 kg**

Medication Requests

Acetaminophen 325 MG Oral Tablet
Yaz 28 Day Pack
Trinessa 28 Day Pack

2.2 Care Team

Care Team

Your professional care team are ready to meet your needs.

Biography

Name: Colette Green
Title: Physician Assistant
Specialty: Physiatrists

Dr. Green was born and raised in central Arkansas. She graduated with honors from Xavier University in New Orleans before returning to University of Arkansas Medical School to attend medical School. She completed her physiatrist internship and residency at UMS- Blair E. Batson Children's Hospital.

Biography

Name: Richard Keller
Title: General Doctor
Specialty: Pulmonologists

Richard Keller received his training at LeBonheur Children's Medical Center, University of Tennessee, Memphis. He has been serving the Mississippi Gulf Coast for the past two decades. He has served as the Chief of Pediatrics at Merit Health, Biloxi and Ocean Springs Hospital. Keller is board-certified and a Fellow of the American Academy of Pediatrics.

2.3 Lab Results

Home   Care Team   Lab Results   Patient Education   Ask a Question   Contact Information

Lab Results

Files

3/15/2021
asthma-chart Download
Oxygen levels of patient after patient suffered a mild asthma attack.

2.4 Patient Education

INPATIENT SUMMARY   Home   Care Team   Lab Results   Patient Education   Ask a Question   Contact Information

Patient Education

Includes doctors' notes about specific visit.

Doctors' Notes

- Ensure inhaler is nearby.
- Be cognisant of asthma attack symptoms. Ex. wheezing, coughing, and tightness of chest.

Reason for Visit

Asthma Attack - More Information (WebMD)

2.5.1 Ask a Question 1

INPATIENT SUMMARY   Home   Care Team   Lab Results   Patient Education   Ask a Question   Contact Information

Ask a question to your Medical Team

Have a question regarding your stay?
Our professional care team is happy to help.
We will promptly get back to you.

Topic

Email address

Question

Submit

2.5.2 Ask a Question 2

Home   Care Team   Lab Results   Patient Education   Ask a Question   Contact Information

Ask a question to your Medical Team

Have a question regarding your stay?
Our professional care team is happy to help.
We will promptly get back to you.

Thank you. Your question has been submitted.
We will reach out to you in a few business days.

2.6 Contact Information

Contact Information

Contact by Phone

Front desk: +1 505 867 5309

In Case of an Emergency, please dial 911.

Contact by Email

Email: BlackMesaMedical@site.com

Have a question or need a little support? Email our friendly staff.

Hours of Operation

Monday 07:00 AM - 10:00 PM
Tuesday 07:00 AM - 10:00 PM
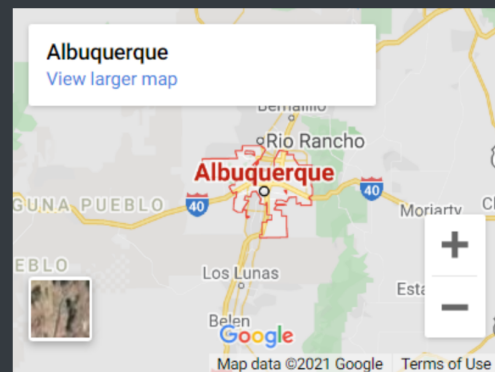Wednesday 07:00 AM - 10:00 PM
Thursday 07:00 AM - 10:00 PM
Friday 07:00 AM - 10:00 PM
Saturday 07:00 AM - 10:00 PM
Sunday 07:00 AM - 10:00 PM

Address

**310 Black Mesa Dr.
Raccoon City, NM, 87107**

Albuquerque
View larger map

Rio Rancho
Albuquerque
GUNA PUEBLO
Moriarty
EBLO
Los Lunas
Esta
Belen
Google
Map data ©2021 Google   Terms of Use

2.7 Not Registered

INPATIENT SUMMARY

You are not authenticated.

Please login to this website via the Smart App Launcher using one of the three approved PatientIDs.

Charita Adams, Geoffrey Abbott, Omar AbernathyAcute

2.8 404

INPATIENT SUMMARY

Invalid URL

Please use the header navigation bar for all valid URLs ...

2.9 Launch / Login

INPATIENT SUMMARY

App is Loading ...

Verifying connection to FHIR Server ...

6 REFERENCES

1. 8.1 Resource Patient - Content. (n.d.). Retrieved March 21, 2021, from http://www.hl7.org/fhir/patient.html
2. 10.1 Resource Observation - Content. (n.d). Retrieved March 21, 2021, from https://www.hl7.org/fhir/observation.html#10.1.1
3. 11.1 Resource MedicationRequest - Content. (n.d.). Retrieved March 21, 2021, from https://www.hl7.org/fhir/medicationrequest.html