Test Plan

CS6440 : Emergency Department Triage

Prepared by:

Team NewHat

Objectives

The overall goal of this testing plan is to test the functionality of our software against FHIR based data and demonstration-generated database records. While there will be some business logic validation, we assume that the software will be used by professionals who will implement the correct settings on select screens.

Strategy

The strategy for this testing plan can be broken up into two separate methods. The first method of testing will be completely manual and will test end-to-end against the front-end application. The second method will be automated test which will run against the back-end application. The goal is to test the database through both of these methods as well, eliminating a third level of testing for this assignment.

Requirements

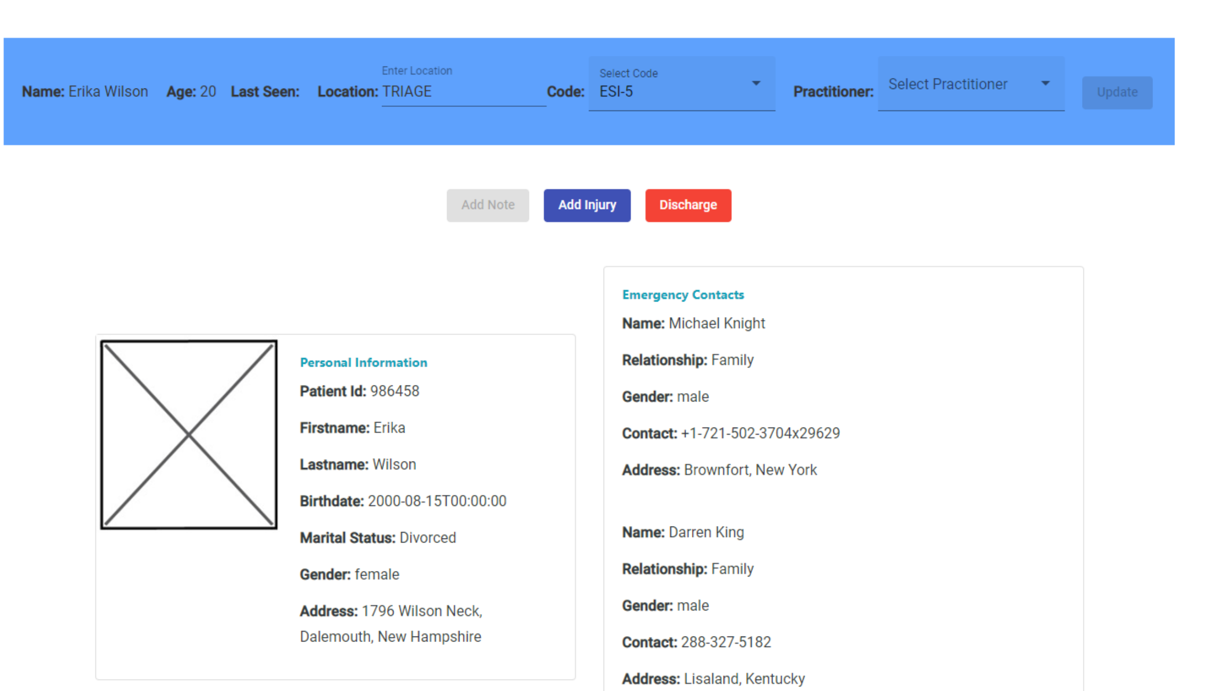
Since a local deployment requires a development environment, you must fully setup your local development environment before starting testing. This environment includes the front-end, back-end, and containerized database components.

Method #1

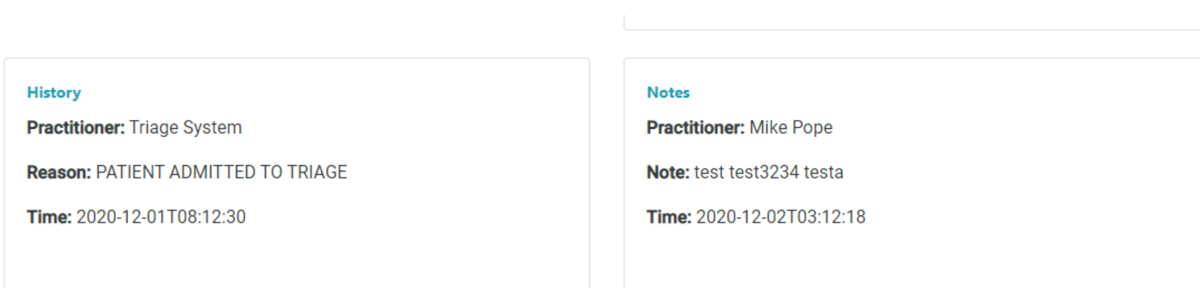
The first test method is manual and therefore involves the script below.

- Navigate to the root of the application via a web browser, this should be served **localhost:4200**.
- Ensure that the page loads correctly, showing the buttons “Patient List”, “Staff”, and “Add Patient.”
- Navigate to **localhost:5000/generate** in a new tab and after a few seconds you should get the message “LOADED DEMO DATA” which indicates that the demo data has been processed and added to the DB/FHIR.
- Go back to the first tab and select “Patient List.” Once loading is complete, you should see a list of colored patient rows populate.
- Select one of the rows colored blue at random, clicking on the “Details” button to the right.

- You should now see the following information populate as shown in the picture below. Some of the information is randomized so just ensure that each bolded property has information to the right of it.



- On the top colored bar to the right, expand the drop down and select one of the names from the list. Once you have selected a name, click the now-enabled "Update" button.
- You should notice immediately after this change that the "Add Note" button down below has been enabled, you can now click said button.
- In the following popup, please type 2-3 words of random text.
- On the top colored menu bar, you should now see the "Last Seen" column be populated with a timestamp representing when you added the note.
- Scrolling down on this page, you should now see your note listed on the right box underneath the patient information.



- This note should also have an author set to the same name of the practitioner you selected.

- Scrolling back up to the top of the page, select the “Add Injury” button and ensure that the “Body Injury” option is selected at the top. Populate each of these fields and dropdowns with a random value on this page and then select “Add Body Injury” at the bottom.
- Scroll down to the bottom of the page once more, you will see a row in the table under “Body Injuries” at the bottom.
- Repeat the same steps as before, this time selecting the “System Injuries” option at the top of the popup.
- You will now see both tables having a single row populated.

System Injuries

System	Time ↑	Value
Procedure estimate	2020-12-01T21:38:0	Class 1

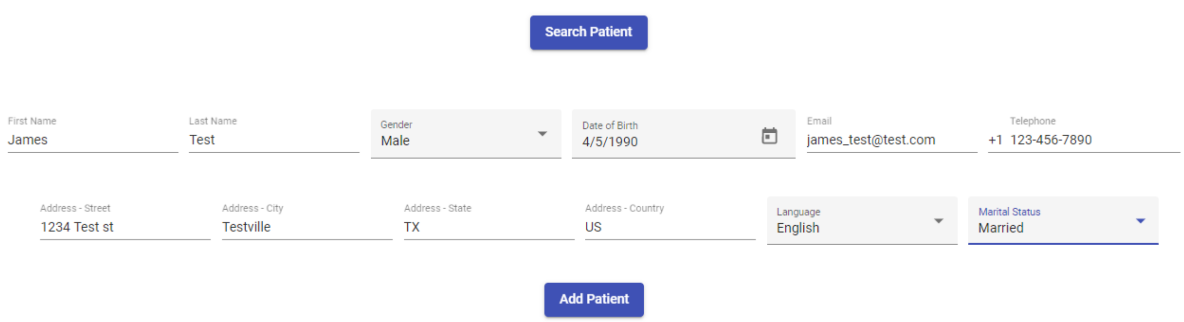
Body Injuries

Body Part	Time ↑	Injury	Severity
Scalp	2020-12-01T	Avulsion	5

- Scroll back up to the top of the page. On the top menu, select the “Code” dropdown and change the value to something different. Then click the “Update” button on the right.
- The colored top menu should now change its color as a result.
- Also on the top menu, change the text field “Location” to a random word then click “Update” on the right once more.
- Near the very top, click the “Patient List” button once more.
- You should be able to locate the line you changed, notice the “Location”, “Seen By”, “ESI”, “Code”, “Display”, and “Last Seen” fields to ensure that they have changed.
- Return to the same row you changed by clicking “Details” to the right on said row.
- Select the red “Discharge” button.
- You should now see that your row is gone.
- Now write down the name of another one of the rows, the name can be found in the first column of the table.
- Near the top, now select the “Staff” button.
- Ensure that the page loads and all information is populated such as the table on the next page.

Profession Type ↑	Name	Specialty	Email	Contact
Doctor	Raymond Perez	Emergency	johnsonemily@hotmail.co	+1-601-783-6379x374
Doctor	Mike Pope	Emergency	michaeldiaz@gmail.com	(325)368-4221
Doctor	Tamara Gates	Emergency	collinsdavid@morales.co	5261708131
Doctor	Luis Soto	Emergency	michelle02@stewart-payn	+1-717-588-6920x44084
Doctor	Veronica Brown	Emergency	tylerjackson@gmail.com	367-411-7046
Doctor	James Ford	Emergency	margaretobrien@gmail.co	427-625-5747x0659
Doctor	Patricia Patel	Emergency	aimee43@yahoo.com	(443)748-4125
Doctor	Gregory Collins	Emergency	paul26@faulkner-smith.co	(772)340-5782x033
Doctor	Allison Day	Emergency	susanrodriguez@hernand	743.254.5192x55466
Doctor	Justin Garcia	Emergency	johnstonvalerie@gmail.co	001-712-834-9788x42771

- Now near the top, select the “Add Patient” button.
- Select “Search Patient”
- Type in the first and last name you wrote down from the list into their respective fields.
- Ensure that a row is returned, select “Details” on said row as well.
- Copy over the Patient ID, go to Add Patient, go to Search Patient and search by said ID.
- Ensure that the row is returned once more.
- Now at the top, select the blue “Add Patient” button.
- Fill out each field with valid information, you can use the picture below as a reference.



- Then, at the bottom, click “Add Patient.”
- Ensure that you are redirected to the patient details page with your entered information now populating it. The default ESI code should be 5 with the default location being “TRIAGE.”
- This concludes the manual testing portion, write down any exceptions and share them with the group.

Method #2

The second method is automated test, therefore, they must be ran via command line or an IDE. These tests are only for the back-end application and are located in the **{ROOTDIR}/app/back-end/test** directory. The files here can be ran individually or as a group to test the functionality of the back-end automatically.