

Web Based Neurological Assessment

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PROBLEM

Patients with neurological disorders struggle to arrive to on-site practices for medical examinations and checkups with their medical provider. The examinations performed by the medical providers also require physical presence for completion.

An answer to this problem resides in the current prowess of technology and the ability to perform video calls online and perform tasks with results stored in a central database tied to that user for future viewing and examination. All in all, a software solution that aims to provide a unique and tailored experience where a user can view the necessary information they need to see and perform the tasks they are assigned by their providers. The providers can view the results of the examinations they've assigned patients along with their medical records while additionally being able to schedule appointments and participate in video calls.

The question remains in the "How?", and this project aims to answer that.

NeuroTask (placeholder name) aims to bridge the gap between the patient and provider through means of a virtual platform that allows for a seamless and unique experience for users.

SUMMARY

Considering that this is the first iteration of the project, our teams objective was to set up the basis and foundation for the project for future teams to build upon.

As one of the programmers in the team, I was mostly tasked in developing the design and frontend of the web app along with some functionality which are:

- Setting up Firebase along with Jordan Bravo.
- Setting up and creating various components and modules such as:
 - Sidebar navigation (Figure 1).
 - Homepage and dashboard (Figure 2).
 - Contacts page.
 - Dashboard module and router module
 - Submenu component
- Created various Figma design concepts as the basis on what the UI/UX would look like.
- Documentation on the various components that I have worked on.

Besides developing the frontend of the project, I worked on some of the functionality for various pages using typescript.

- Functionality for sidebar navigation (Figure 1).
- Submenus for Contacts listing (Figure 1).
- Routelinks and safeguard routes for navigating between different pages.
- Routing for sidebar navigation.
- Routing for homepage.
- Routing for contacts page.

REQUIREMENTS

The requirements for this iteration was to design a simple but coherent UI/UX frontend along with core services.

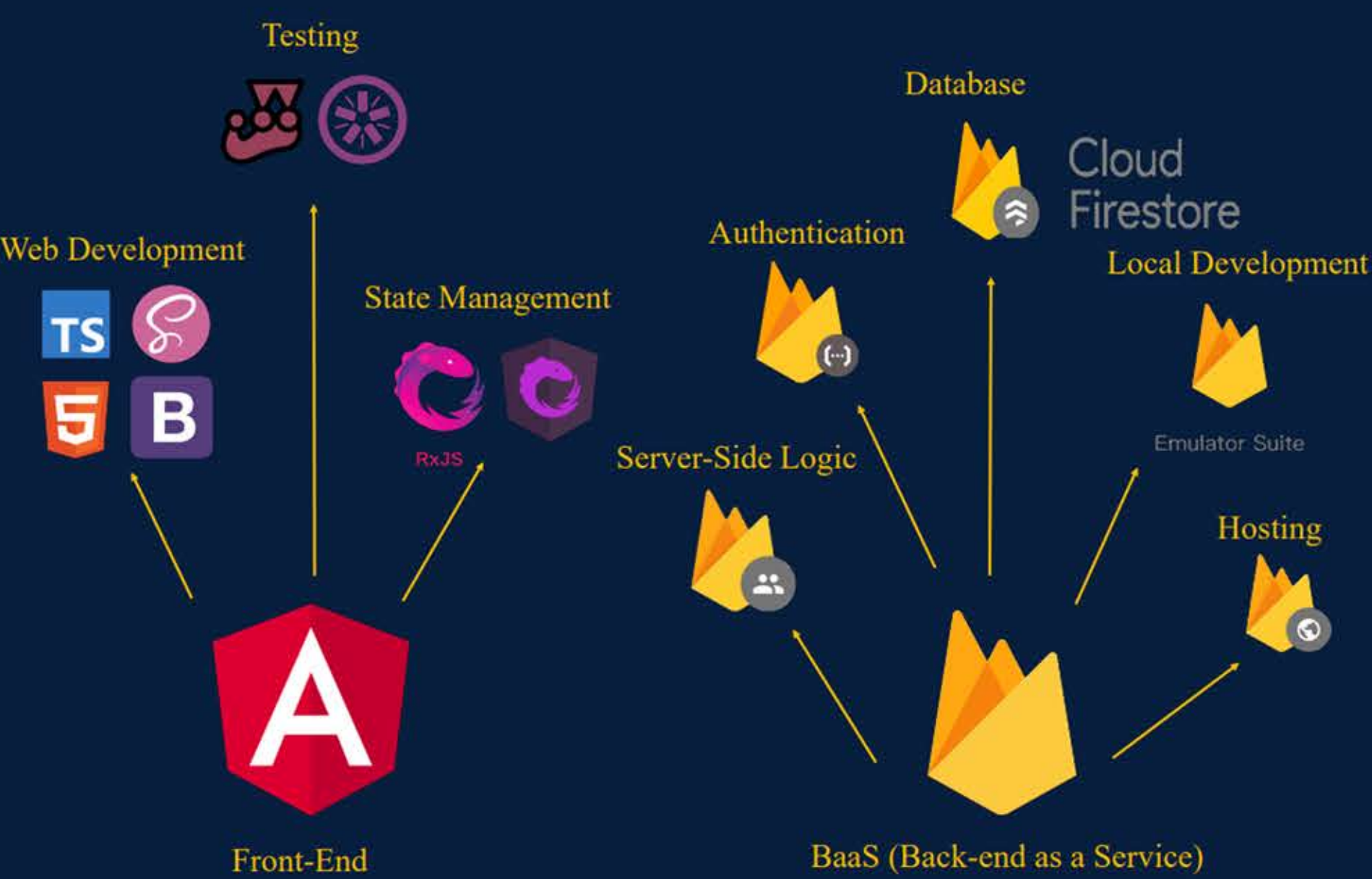
Priority for this was:

- A homepage after user sucessfully logins.
- Sidebar navigation for user's to easily navigate through the webbapp.
- Submenus within sidebar navigation for an easier flow of transitioning between different web pages.
- A dashboard design akin to other medical/patient portals.
- Simple user interface design for the contacts page.

On the technical side of things, we required a simple architecture for future teams to pick up on and continue the work from previous semesters. This led to the use of Angular with its heavily opinionated structure, allowing teams to pick up and get running without having to worry about how the previous team worked and how they structured code.

We chose firebase due to its simplicity compared to other cloud providers and BaaS competitors, cost effectiveness, robust documentation, integration with multiple systems, Firestore's database, Google Cloud Function, and other various server-side functions. Firebase also has a simple services when hosting web apps with easy integration of other 3rd party tools, making it an excellent choice.

IMPLEMENTATION



Deployment Diagram

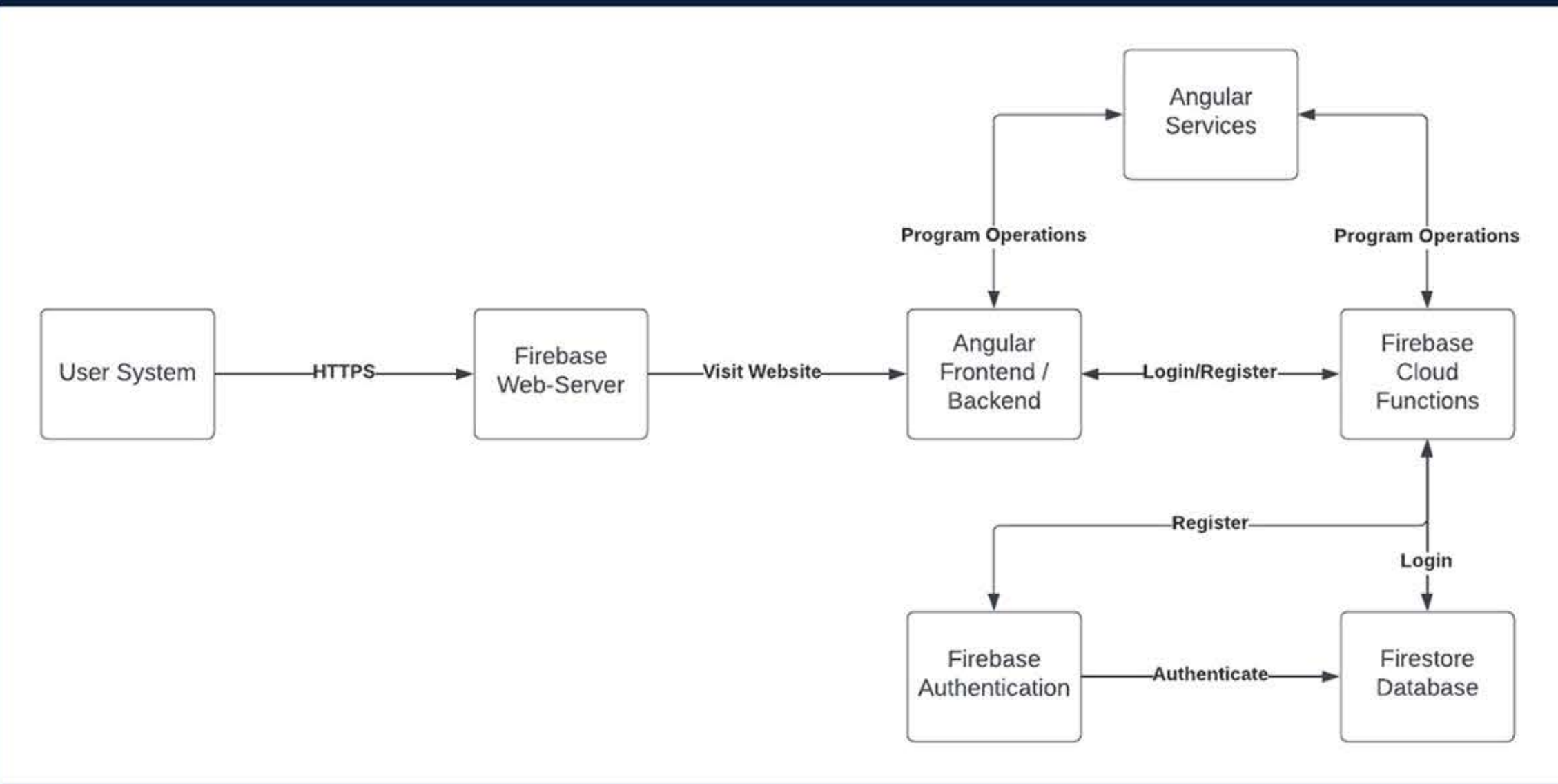


Figure 3: The current iteration of this project's arhitectural structure

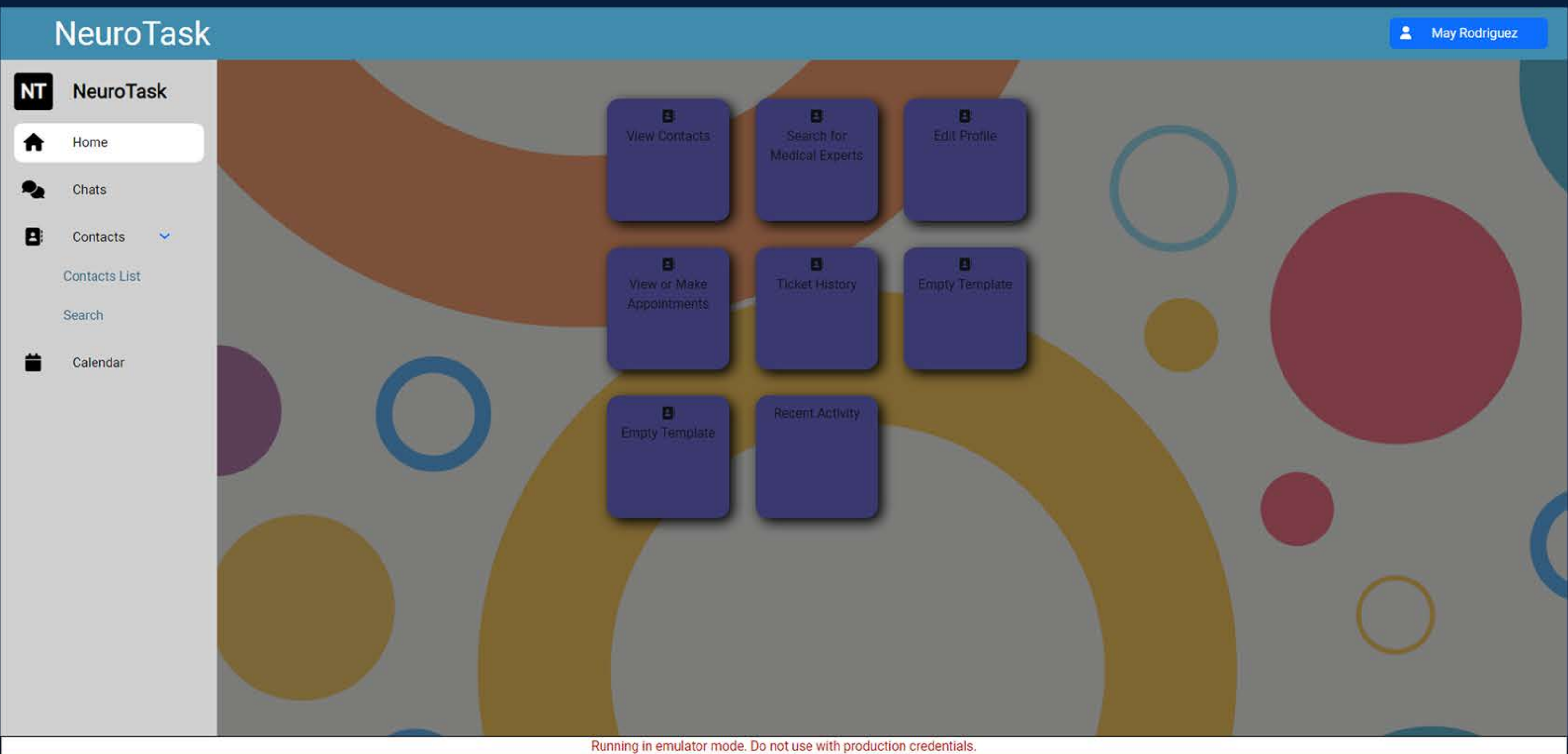


Figure 1: Sidebar navigation when opened

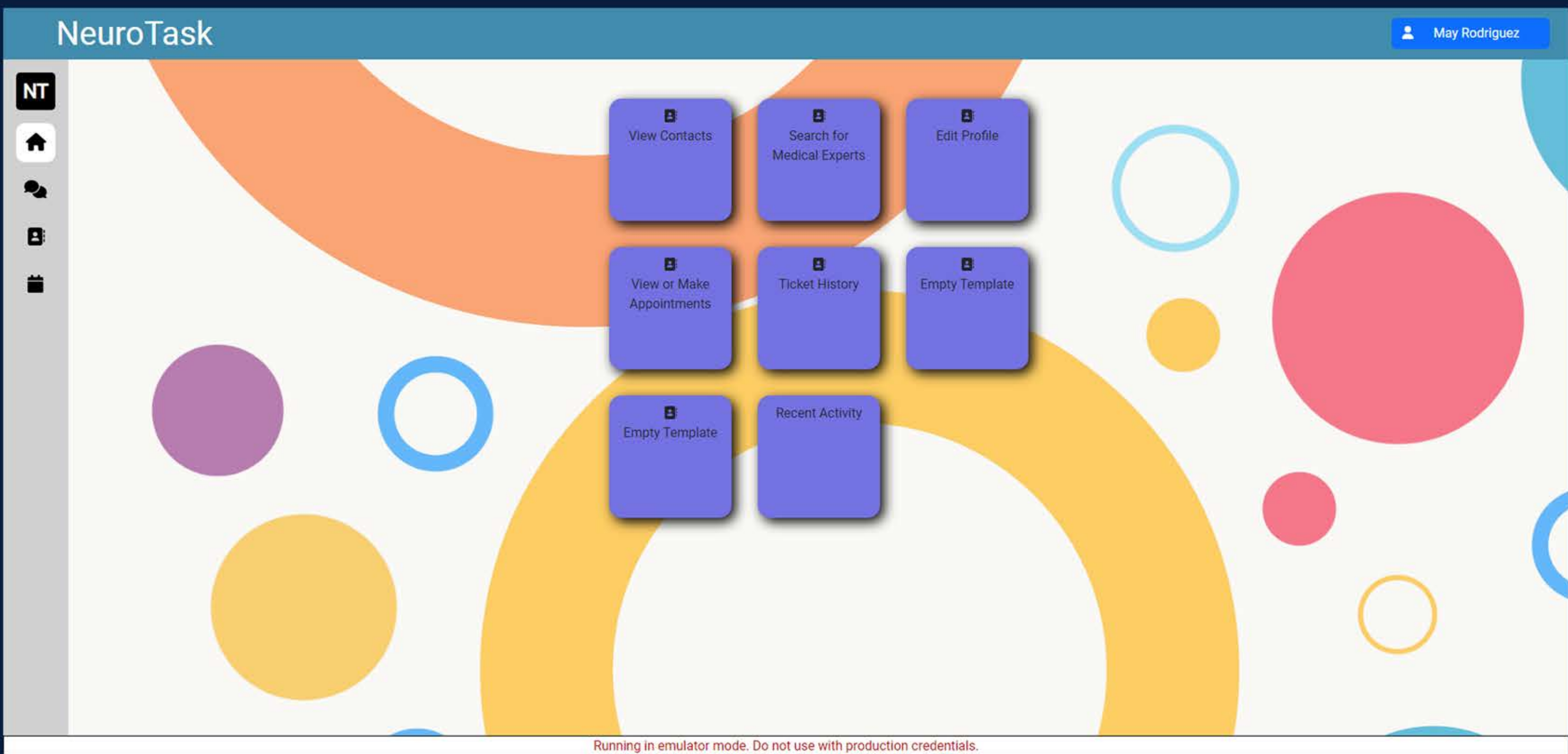


Figure 2: Homepage after user login

ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by Dr. Christian Poellabauer. I thank the team for their diligent work and patience throughout this semester while working on this project, Dr. Poellabaeur for his assistance and mentoring, and Dr. Sadjadi for providing us a platform to showcase our work and skills as we look to enter the professional field.