

## Motivation

Clinical trials and research studies are a great opportunity for people to access alternate forms of treatment when they do not benefit from conventional or readily available treatment options. However, not many of these patients are able to actually take part in these studies. This is mostly due to there being no direct path or connection between the researchers, the patients, and the healthcare providers. This lack of connection makes it difficult for patients to learn about possible studies that they could qualify for. This in turn also ends up making it difficult for practitioners to find patients to take part in their studies.

## Our Solution

Our team decided to solve this problem by developing REACH, a web application. This app is accessible by both patients and clinicians. REACH uses existing repositories of active research studies, allowing patients to have better access to studies which are actively recruiting. Patients are matched to studies they are eligible for based on general information the patient or their clinician provides to REACH. As a result, it makes it easier for practitioners to find potential participants for their studies.



## Our Team

Supervised By: Dr. Terence Ho & Dr. Ciaran Scallan



Aamina Hussain  
Software Engineering



Alan Scott  
Software Engineering



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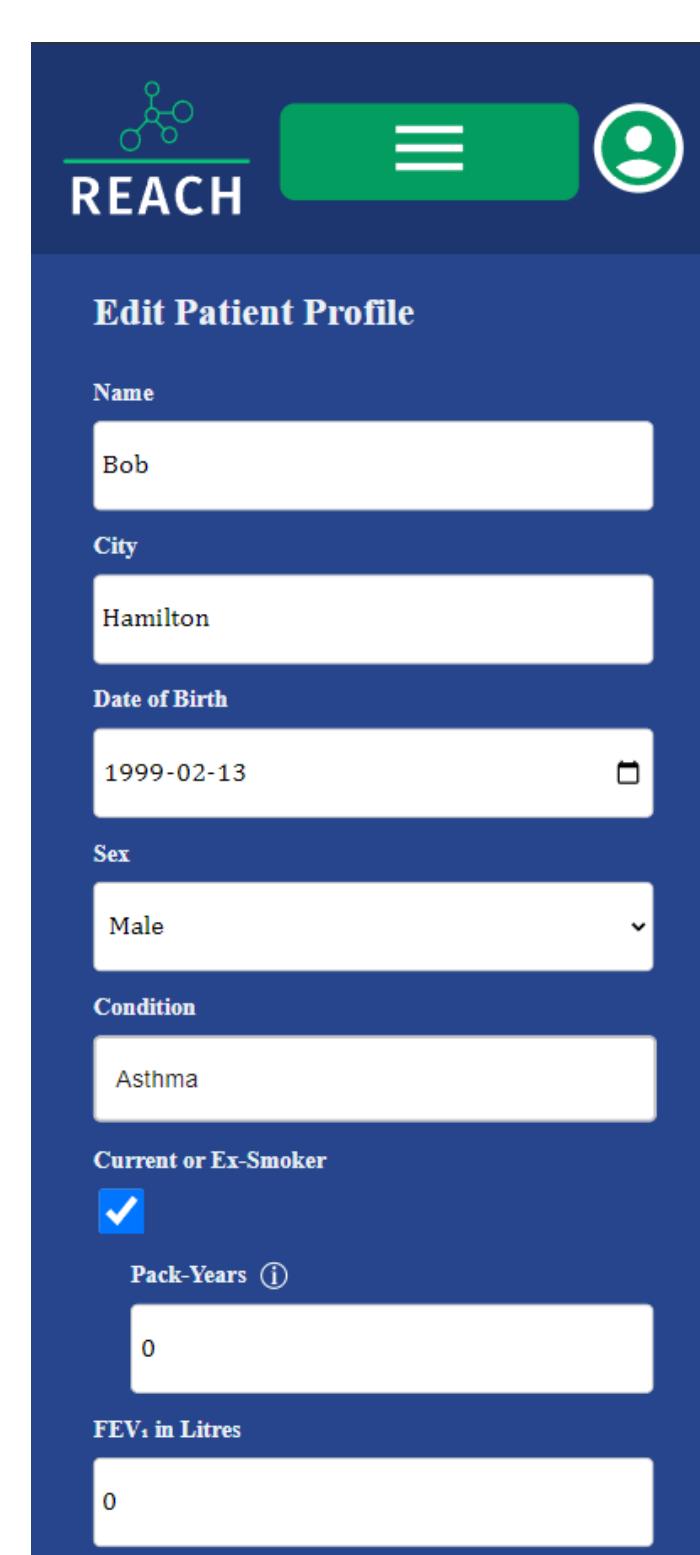


David Moroniti  
Software Engineering & Management



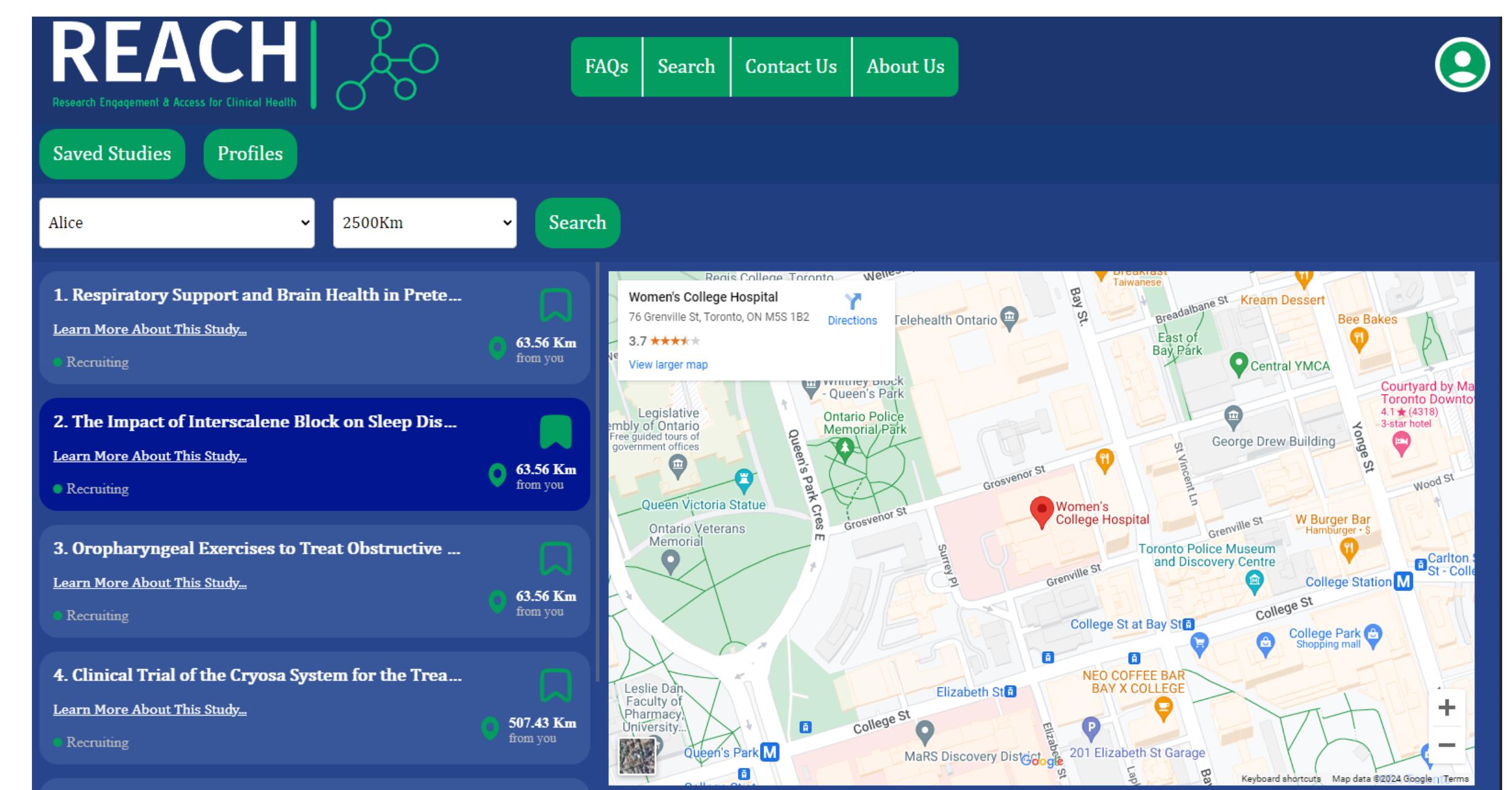
Deep Raj  
Software Engineering

## Features



Some of our key features ARE, **patient profile creation** and **profile-based searching for research studies**.

- Clinicians can build profiles for their patients, storing details like the patient's condition and other relevant information. For instance, a clinician could indicate that a patient has asthma and relies on a daily inhaler.
- Saved profiles enable searches for studies tailored to the patient's condition within a user-specified distance.
- Patients can also utilize the website without a clinician, accessing a simplified profile page with fewer advanced fields.



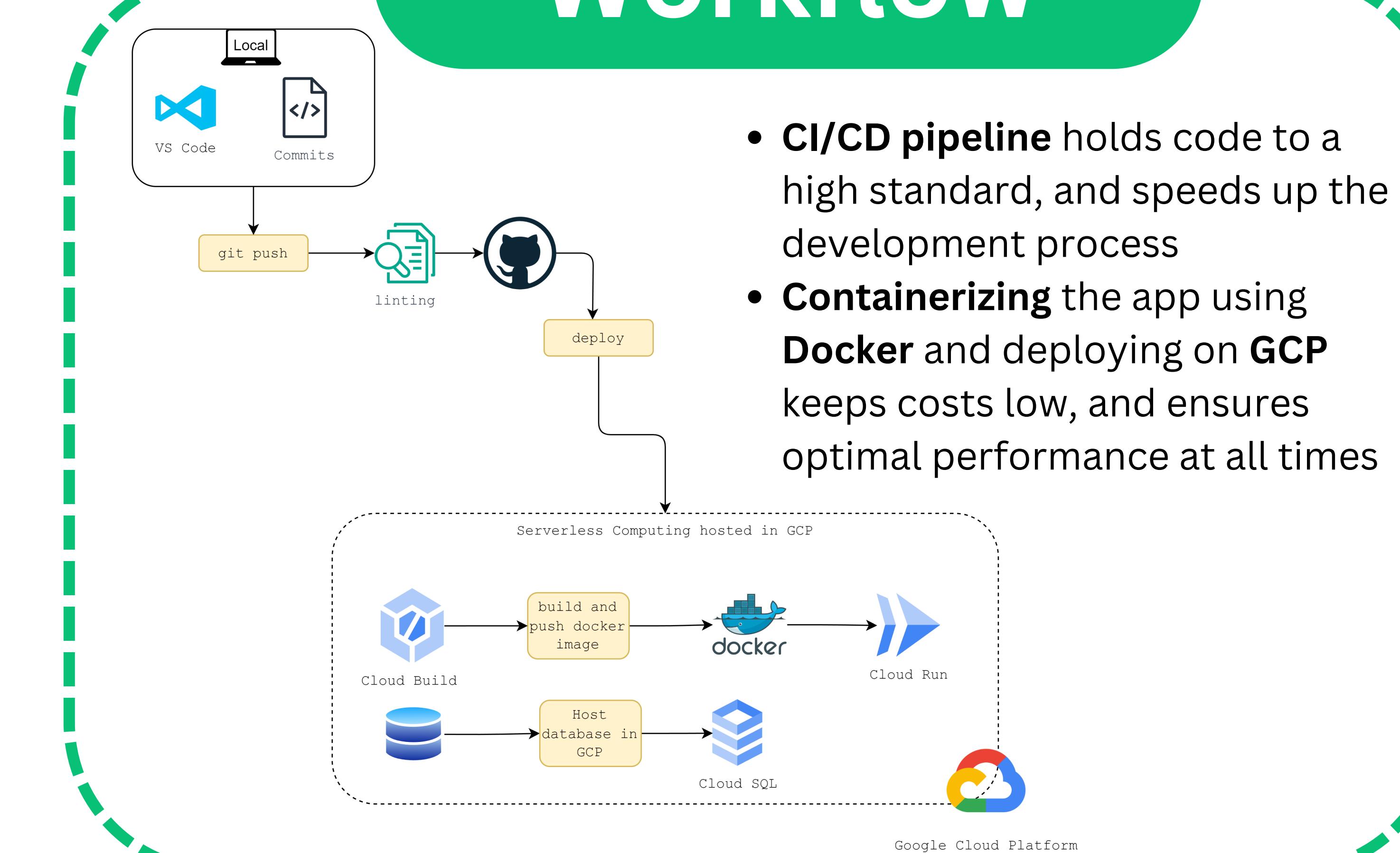
## Key Highlights

- **Look & Feel** - Simple design and layout of pages, as well as simple and consistent color patterns used throughout.
- **Ease of Use** - Simple workflow as soon as the user registers an account; prompts & cues to guide the user through the app; redundancy to help with users who do not use the app frequently.
- **Scalability/Efficiency** - The app is deployed on google cloud and will scale up or down depending on the amount of traffic the app is facing. This is also a direct consequence of our 'micro-services' architecture.
- **Effectiveness** - Clinicians & patients can easily and accurately find relevant clinical trials/studies.

## Tech Stack



## Workflow



## Architecture

- **Django (Backend)**
  - Easy to learn
  - Built-in security features
  - Made to support complex web-apps with many users
- **React (Frontend)**
  - User interface
  - Reusable code (via components)
- **Cloud Technologies**
  - Build, run, deploy
  - Serverless
  - Secure

