Drug Adherence Monitor

Mohamed Afifi

ELEVATOR PITCH

- In the current climate of the Pandemic era it is critical to reduce the burden on hospitals. Research shows that 50% of patients are non-adherent to their medicartions. The result of getting subtherapeutic doses causes a decline in the pateint's condition to their detriment and they in many cases require hospitlisaion.
- The purpose of this app is to keep as many people of out hospital for as long as possible.
- Increasing medication adherence is much cheaper alternative than hospitalisaion. It is also less invasive for the patient.

CONCEPT

Description

- The Medication Adherence Monitor App serves a number of purposes. It aides patient compliance to their medication by acting as a reminder via an SMS reminder functionality using twilio
- It caters for drug-drug interactions.
- It relays the adherence history of the patient back to their doctor.
- It allows for a seamless communication between the patient their healthcare team by acting as a conduit for the patient's medication history.

Motivation for development?

- The benefit of adherence is that patient will not have their medication dosage unnecessarily increased due to non-compliance because the doctor is thinks that they are taking the correct dose and then increasing it believing to be ineffective – when it was actually not taken at the correct dose at the correct time.

User story

- If the patient sees a different doctor they will always have their medication history.

PROCESS

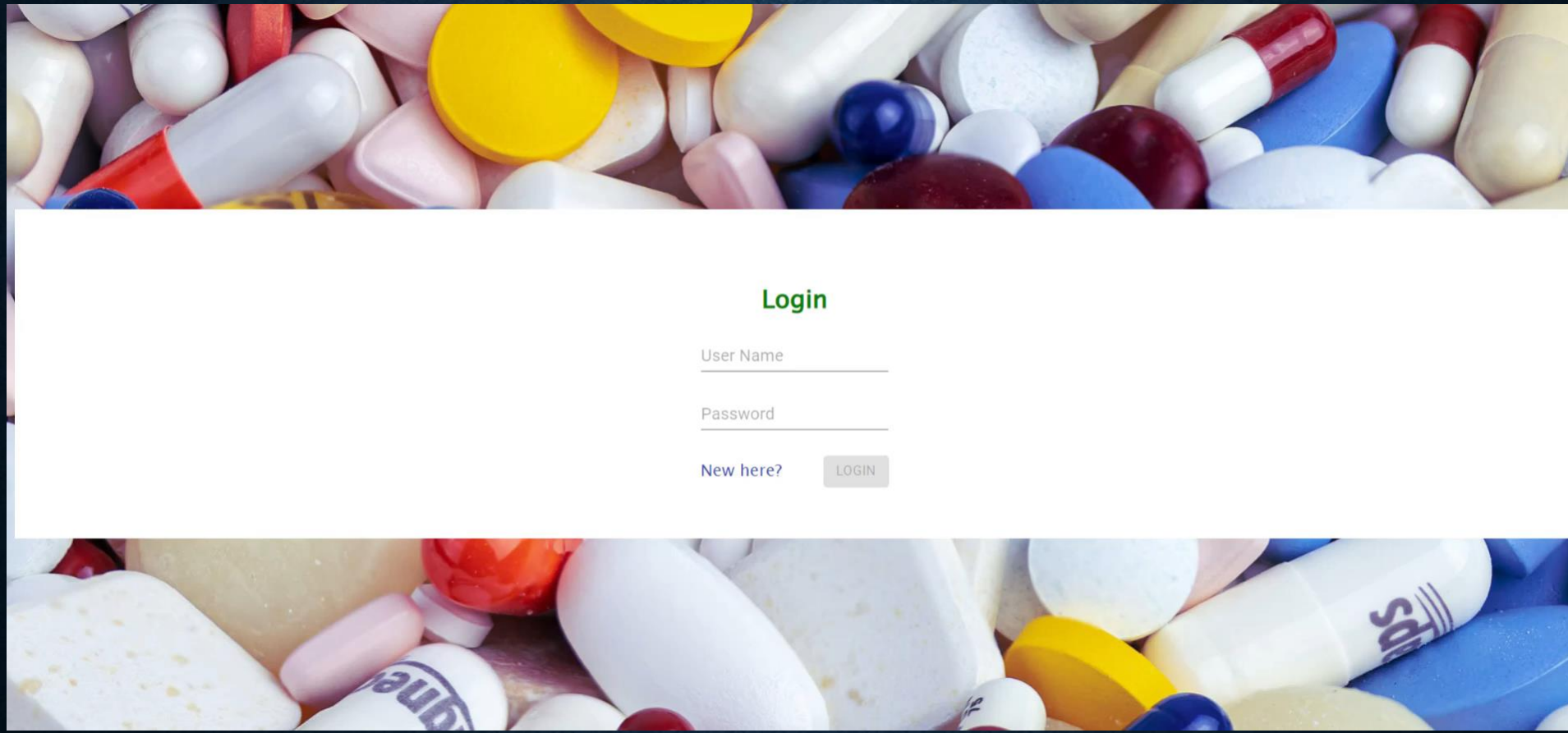
- Technologies used

  Mongoose, MongoDB, Express, Node.JS, React
- Challenges
  - Heroku deployment
  - Integrating with Australian Medicines Handbook and electronic Therapeutic guidelines databases
  - Connecting to twilio
- Successes
  - Created a good starting base

HTTPS://DRUG-ADHERENCE-MONITOR.HEROKUAPP.COM/

DEMO

https://drug-adherence-monitor.herokuapp.com/


Login
User Name
Password
New here?
LOGIN

DIRECTIONS FOR FUTURE DEVELOPMENT

The future direction includes machine learning to learn of the patient's habits and deliver alternative recommendations to their doctor. For example, if a patient is on multiple medications has poor adherence due to polypharmacy (taking more than 5 medications daily) and this could be the main reason they are skipping doses - the app would suggest combination drugs – to reduce the amount of doses instead of taking two separate tablets only one tablet will be taken.

Additionally adding the functionality of a Drug Burden Index (DBI) calculator which calculates the anticholinergic (sedative) effects of drugs that increase risk of falls in elderly patients who are on multiple medications and are already at a high risk of falls.

LINKS

- Deployed
  - https://drug-adherence-monitor.herokuapp.com/
- GitHub repo
  - https://github.com/DrMoE77/Drug-Adherence-Monitor

QUESTIONS?