

SENG 2021 - Weekly Cri Sesh - Deliverable 2

Members

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Part 1: Software Architecture

1. What external data sources will your system be accessing?

- Wikipedia - information, ingredients, effects of drugs, diseases
- WebMD - information, ingredients, effects of drugs, diseases
- Google Maps - location of nearby pharmacies
- Content API for Shopping (google) - prices of drugs (medicines)

2. Software components:

Front end allows user to navigate and search for the information that they need, which is displayed to the user on the web browser

Back end that collects information from APIs and passes requested information to the frontend and stores information in the database.

3. Relating choices to components:

Front-end: HTML, CSS, Javascript, Flask

Back-end: Python, postgresSQL

4. The choice of an implementation/technology or framework:

HTML and Javascript will be used to build the structure of the website, and CSS will be used for styling. Flask will be used to connect the webpage to the backend, allowing information to be passed from the backend and displayed on the frontend.

The backend will be made using python which draws from our external API's and also interacts with our database.

5. The choice of a platform:

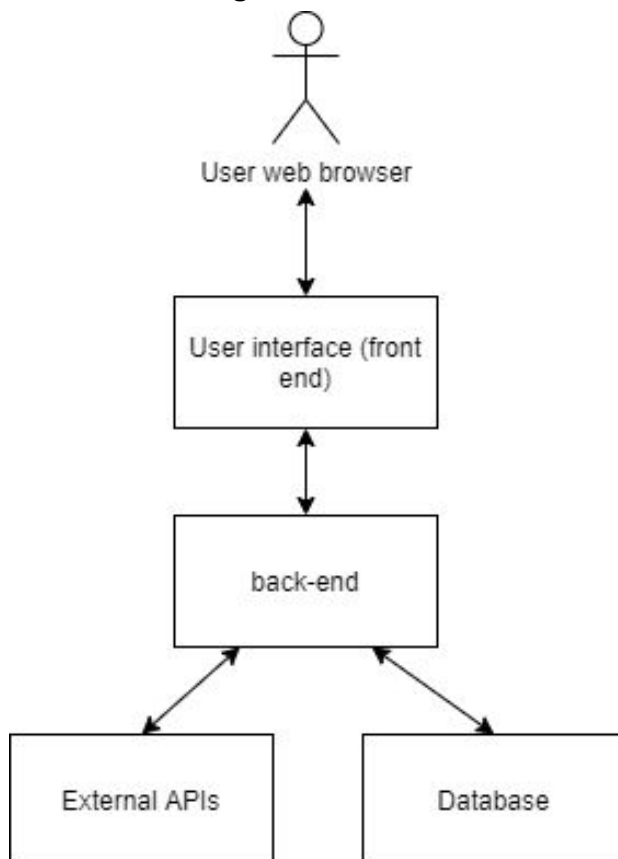
Website accessed by a web browser. Internet required. It will be functional on all operating systems with a common web browser such as Google Chrome, Mozilla Firefox, etc.

6. Make a summary of the key benefits/achievements of your architectural choices

- We have a variety of external API's that we can access so that different types of information can be used for all our purposes.

- Wikipedia provides very comprehensive information about drugs/diseases.
- WebMD can be used to verify information from Wikipedia as it is more reliable.
- Google Maps provides accurate information about local pharmacies, customised depending on the user's location.
- Google Content API for Shopping provides extensive information about prices of drugs, allowing for better price comparisons.
- HTML, CSS and Javascript allow us to customise the appearance and functionality of our website so that its clear and more easily accessible for users
- Python is a simple language for us to use which can interact with the database and also interact with the frontend using flask. It also allows us to use our external API's as information sources to our website
- PostgreSQL is a popular and simple DBMS that can be integrated with our python code.
- Our application being a website means it can be used on any OS.

Architecture Diagram



Part 2: Initial Software Design

Deliverable 1 Updates (Based on Marker Feedback)

- 1) There is no application for users to find a clear consistent message regarding diseases/ treatment from news sources causing people to be over/under cautious.
- 2) There are no effective applications where users can enter drugs they use and find their effects and ingredients.
- 3) There are no widely used applications where patients can shop for medication and find cheaper alternatives they are unaware of.
- 4) There is no widely used application where patients can track their medications or be notified of when to take them.
- 5) There is no effective application for individuals who are not up to date or aware of their current medical histories leading to health issues when diagnosing.

User Story 1: (HL1)

THEN: I will be presented with the first page of 10 results containing that term within 2 seconds of pressing search, sorted by number of sources by default.

User Story 10: (HL5)

THEN: I can see an overview of my history, within 2 seconds of pressing the 'medical history' button.

User Story 11: (HL5)

THEN: I can add my pre-existing conditions, which are then stored within 2 seconds of entering data.

User Story 12: (HL5)

THEN: I can add my new medications, which are then stored within 2 seconds after entering data.

User Story 13: (HL5)

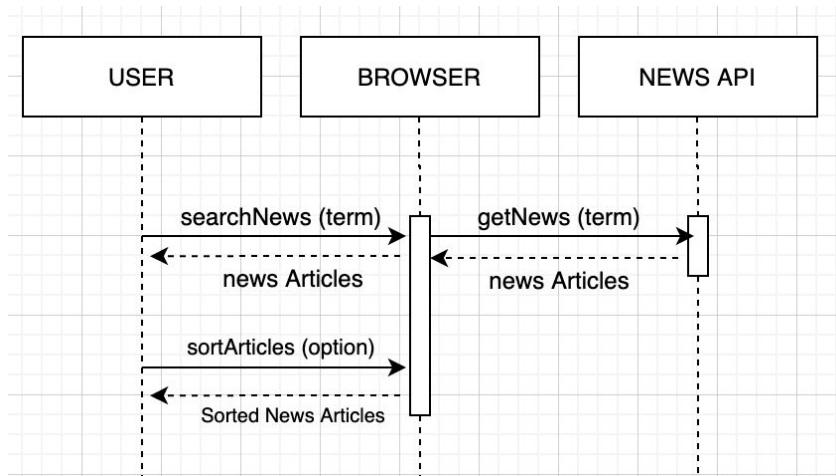
THEN: I will receive a notification to see the doctor, within 2 seconds of entering symptoms.

Sequence / Interaction Diagrams

US1 & US2

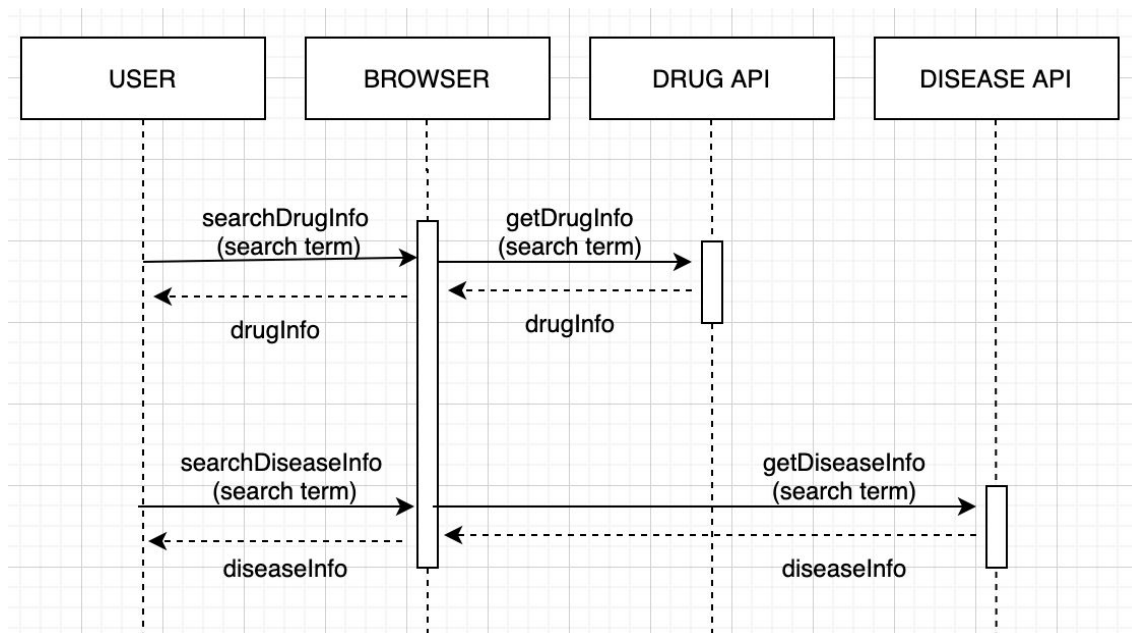
Feature 1: A news section on your dashboard that shows all news articles in sections of 10 based on a search term.

Feature 2: A drop down menu on the news section, allowing users to sort articles by date, number of references, viewer numbers, etc.



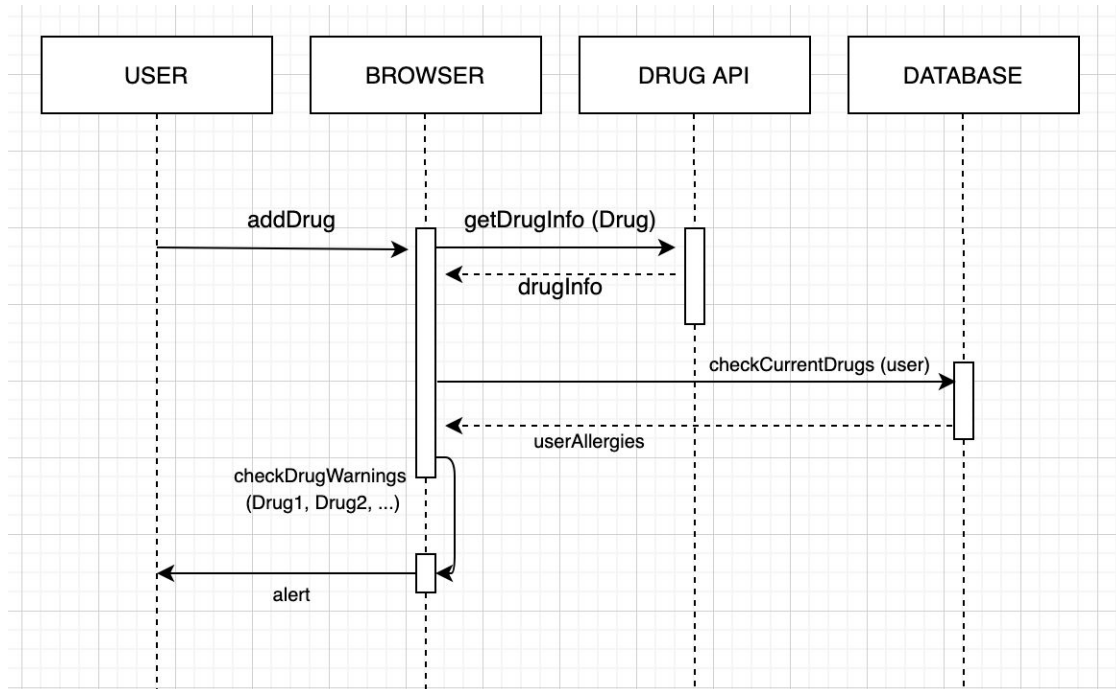
US3

Feature 3: A medical encyclopedia that allows for searches through an API/ database.

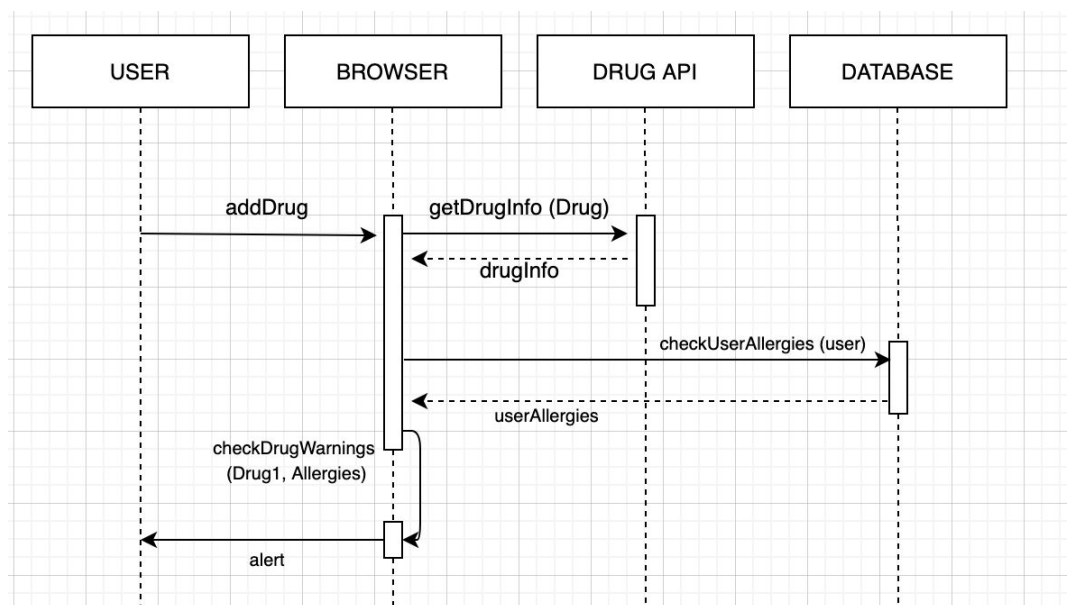


US4

Feature 4: An alert system for patients when they enter an unhealthy combination of drugs into their currently used medications.

**US5**

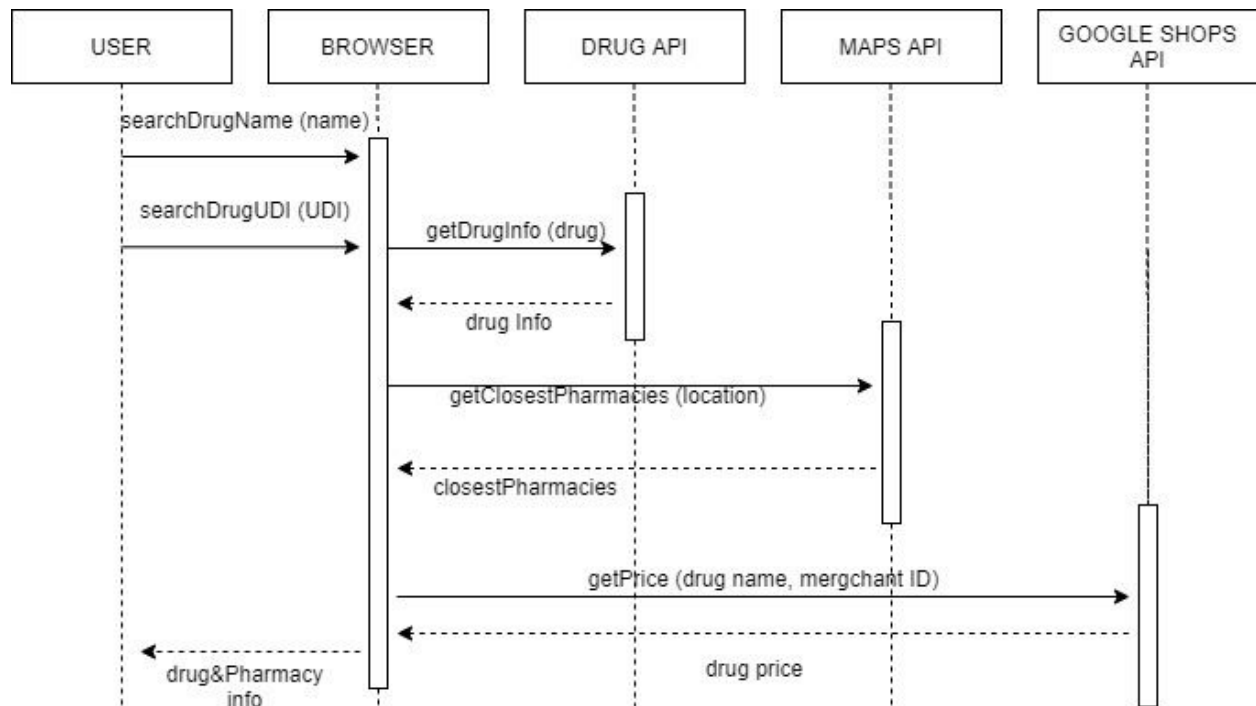
Feature 5: An alert system for patients when they enter drug(s) that can trigger allergic reactions.

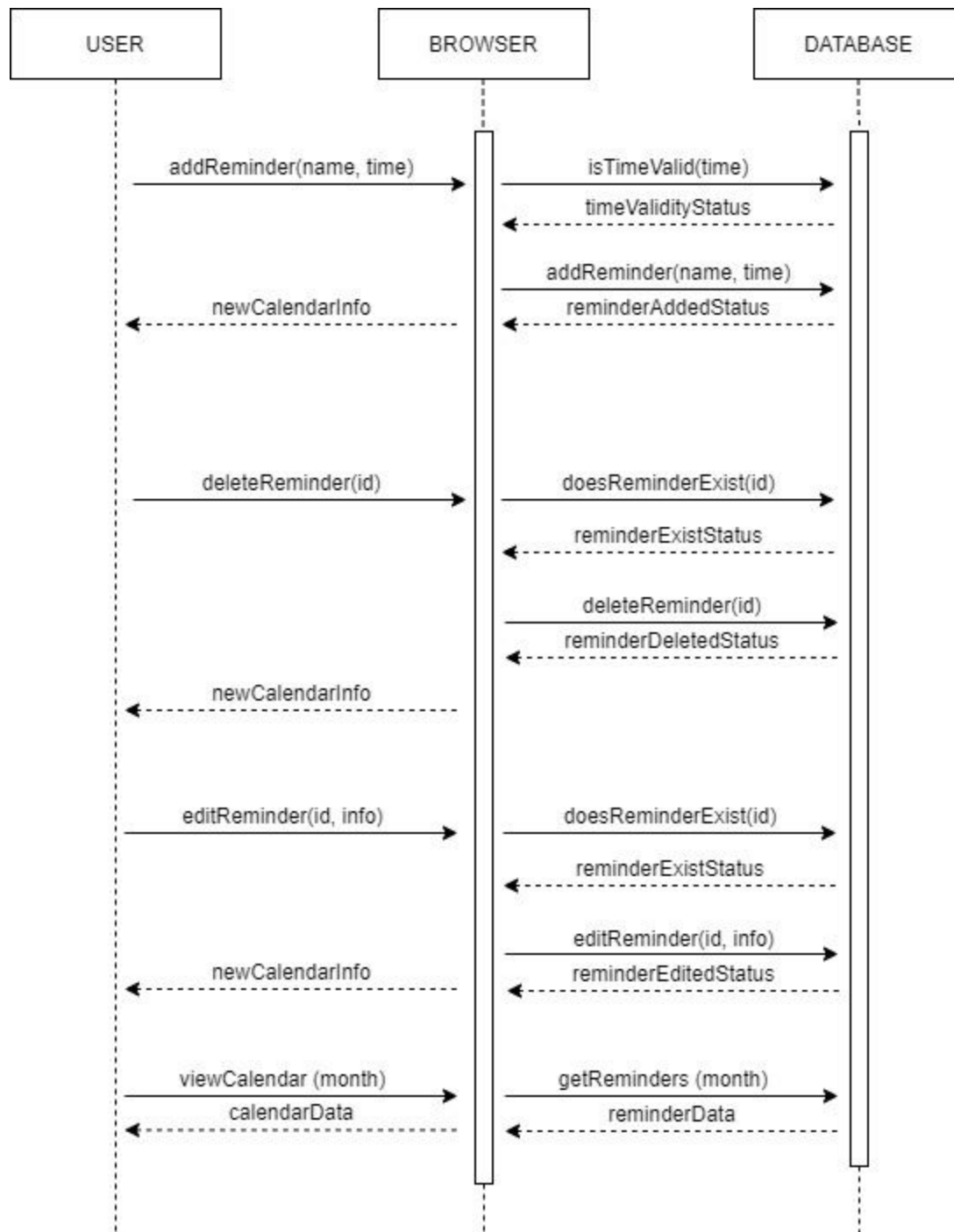


US6 & US7

Feature 6: A 'Local Chemist' application that compares the prices of specified medications from chemists in a local radius based on a search term.

Feature 7: (above) 'Local Chemist' application can search by UDI



US8 & US9:**Feature 8:** Reminders to take medications**Feature 9:** A calendar to view reminders**US10 & US11 & US12 & US13:**

Feature 10: A 'Medical History' page where you can view conditions.

Feature 11: A 'Medical History' page where you can enter my conditions or symptoms.

Feature 12: A 'Medical History' page where you can enter current medications.

Feature 13: A notification of when to visit the doctor.

