

SENG 2021 - Weekly Cri Sesh - Final Report

Members

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Table of Contents

Table of Contents	2
Requirements Analysis	3
Introduction	3
Purpose of the 'MyMed' System	3
Problem Statement	3
Requirements of the System	4
High Level Requirements	4
User Stories	4
Features (w/ Final Interface)	9
Design and Code Inspection	15
Prototypes	15
Low Fidelity	15
High Fidelity	27
Final Software Architecture	34
Technologies Used	34
Other Frameworks Used	34
Justification of Design Choices	34
ER Diagrams	35
Sequence / Interaction Diagrams	37
User Acceptance Testing:	41
Design Summary	41
Team Organization and Appraisal	43
Organisation of Team	43
Issue Resolution	44
Group Reflection	44
Personal Reflection	45

Requirements Analysis

Introduction

Throughout history there have been epidemics such as the Spanish influenza, ebola, SARS and more recently COVID-19 that have led to mass panic. A major contributor to this mass panic is the large amounts of misinformation that has spread, due to the large variety of sources with and without medical basis. In addition to this, the population tended to overburden medical centres during these times of crisis due to hysteria of them possibly contracting the disease.

Furthermore, during an epidemic free time people still die from basic medical problems simply because they were misinformed. People have died from allergies in medicine, incorrect dosages, and preventable diseases since they could not afford the medication. These deaths have exemplified the lack of medical knowledge the general public have.

There are a few products online that collate news sources or allow for medical tracking, but none that will answer all medical queries that individuals, causing for them to not be very successful. As a result, the team at 'Weekly Cri Sesh' saw the need to develop a product that can assist individuals in their everyday medical problems as well as during times of panic to reduce the pressure on medical staff.

Purpose of the 'MyMed' System

Initially inspired by the hardships patients and their caretakers face everyday, MyMed aims to provide users with a local database to store and organise their personal information (such as medication and symptoms). Despite this original vision, recent global events elicited the development of more features, in order to eliminate public confusion caused by medical jargon. This product serves to compensate for the lack of reliable information sources, as well as the need for a centralised medical database, especially in times of crisis.

Problem Statement

- 1) There is no clear consistent message regarding diseases/ treatment from news sources causing people to be over/under cautious.
- 2) Some patients have died from being unaware of the effects or ingredients of drugs they are taking.

- 3) Patients are unable to afford medication advised to them even with cheaper alternatives they are unaware of.
- 4) Patients struggle to keep track of what medicines to take and when.
- 5) Individuals are not up to date or aware of their current medical histories leading to health issues when diagnosing.

Requirements of the System

High Level Requirements

Due to problem statement 1, we require that:

- HL1: As a user, I want access to news that shows all articles based on a search term that can be sorted how I wish so that I am well-informed.

Due to problem statement 2, we require that:

- HL2: As a user, I want access to an encyclopedia about all known drugs/diseases and receive alerts if I am taking drugs that can endanger my health to avoid sickness/death.

Due to problem statement 3, we require that:

- HL3: As a user, I want access to a map that will show me drug prices at recognised chemists so that I can compare drugs that will offer the same help.

Due to problem statement 4, we require that:

- HL4: As a user, I want to be able to track my medication and receive reminders about dosages so that I know what I'm taking and when to take it.

Due to problem statement 5, we require that:

- HL5: As a user, I want to be able to keep track of my medical history so that I can diagnose and be aware of potential future issues.

User Stories

User Story 1: (HL1)

Feature: A news page that shows all news articles in sections of 10 based on a search term.

As a user, I want to attain my information in one location through credible resources with verified data **so that** I avoid misinformation.

GIVEN: That I am on my home page.

THEN: I am able to see the news application.

WHEN: I click the 'News' button.

THEN: I am able to search for a term.

WHEN: I type a search term.

AND: Press the search button.

THEN: I will be shown a page of 10 results sorted in chosen order within 2 seconds.

User Story 2: (HL1)

Feature: A drop down menu on the news section, allowing users to sort articles by popularity, relevance, date, etc.

As a user, I want to be able to sort news sources by credibility and date **so that** I am as well-informed as possible.

GIVEN: I am using the news application.

THEN: I can select sorting filters using a drop down menu.

WHEN: I select a filter.

AND: I enter a term into the search.

AND: I press the search button.

THEN: I will be shown a page of 10 results sorted in chosen order within 2 seconds.

User Story 3: (HL2)

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

As a patient I want to be able to access information about drugs **so that** I can gain knowledge about them.

GIVEN: I am on the homepage.

THEN: I am able to select the 'encyclopedia' button.

WHEN: I select the 'encyclopedia' button.

THEN: I am prompted with a search tool.

WHEN: I enter a search term.

AND: Press the search button.

THEN: I will be shown a list of medications and diseases that are relevant to my search, sorted by number of references initially, within 2 seconds of pressing search.

WHEN: I am viewing the top 10 most relevant results of my search.

THEN: I am able to select one of the results, showing me information about it.

User Story 4: (HL2)

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

As a patient, I want to be notified when I am taking an unhealthy combination of drugs so that I avoid sickness/ death.

GIVEN: I am using the 'medical history' application.

WHEN: I select a drug.

AND: I have drug(s) in my recorded list of currently used medicines that should not be used in conjunction with the selected drug.

THEN: I will be shown a modal, with an appropriate message within 2 seconds of entering the drug details.

User Story 5: (HL2)

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

As a patient, I want to be able to be alerted if a medication will set off an allergic reaction so that I avoid sickness/ death.

GIVEN: I am using the 'medical history' application.

WHEN: I select a drug.

AND: I have allergies or a condition that prevents me from using it that is recorded in the application.

THEN: I will be shown a modal, within 2 seconds after selection.

User Story 6: (HL3)

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

As a user, I want to be able to compare prices of certain drugs across local stores so that I can find the cheapest price.

GIVEN: I am on the homepage.

THEN: I am able to select the 'Price Comparison' button.

WHEN: I select the 'Price Comparison' application.

THEN: I can enter a search term for a specific drug.

WHEN: I press the search button.

THEN: I am shown a drop down selection of the 10 most relevant drugs.

WHEN: I select one of the drugs.

THEN: I am shown prices of the selected drug at local chemists within 2 seconds of pressing search.

User Story 7: (HL3)

Feature: (above) 'Price Comparison' application can search by active ingredient

As a user, I want to find drugs based on their active ingredient **so that** I can find cheaper equivalent alternatives.

GIVEN: I am using the 'Price Comparison' application.

WHEN: I can enter a certain active ingredient into the search tool.

AND: I press search.

THEN: I am shown the prices of at most 10 drugs with the corresponding active ingredient at local chemists.

User Story 8: (HL4)

Feature: Reminders to take medications

As a patient, I want to be reminded of when to take my medication **so that** I can stick to my medication schedule.

GIVEN: I am on the main application page.

WHEN: I click on a calendar date.

THEN: I can schedule when to take a specific medication.

WHEN: I need to take my medication.

THEN: I receive a notification reminder.

User Story 9: (HL4)

Feature: A calendar to view reminders

As a patient, I want to see an overview of my medication schedule **so that** I can anticipate when to take them.

GIVEN: I am on the main application page.

THEN: I see my personal schedule immediately.

User Story 10: (HL5)

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

As a user, I want to know my medical history **so that** my condition can be diagnosed by my doctor accurately.

GIVEN: I am on the main application page.

WHEN: I click the 'Medical History' button

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

User Story 11: (HL5)

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

As a user, I want to enter my conditions or symptoms **so that** they can be considered when I am being diagnosed.

GIVEN: I am on the 'Medical History' page.

WHEN: I click the 'Add Conditions' button

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

User Story 12: (HL5)

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

As a user, I want to enter my current medications **so that** its effects can be considered when being prescribed new medications.

GIVEN: I am on the 'Medical History' page.

WHEN: I click the 'Add Medications' button

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

User Story 13: (HL5)

Feature: A notification of when to visit the doctor.

As a user, I want to know the severity of my symptoms **so that** I know when to see a doctor.

GIVEN: I am on the 'Medical History' page

WHEN: I enter my current conditions or symptoms

THEN: The application matches the symptoms to the database

WHEN: The condition is severe

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

Features (w/ Final Interface)

Feature: A calendar to view reminders

Welcome to MyMed
Designed to keep you on track

May 2020						
SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	01	02
SUN	MON	TUE	WED	THU	FRI	SAT
03	04	05	06	07	08	09
● Take Neurofen @ 08:04						
SUN	MON	TUE	WED	THU	FRI	SAT
10	11	12	13	14	15	16
SUN	MON	TUE	WED	THU	FRI	SAT
17	18	19	20	21	22	23
SUN	MON	TUE	WED	THU	FRI	SAT
24	25	26	27	28	29	30

Add Reminder Delete Reminder

Feature: Reminders to take medications

ADD REMINDER

Take panadol

FROM:
25/04/2020

TO:
27/04/2020

TIMES: (HH:MM AM/PM)
10:55 PM

Add

Go Back

Feature: A ‘Medical History’ page where you can view conditions.

Feature: A ‘Medical History’ page where you can enter my conditions or symptoms.

Feature: A ‘Medical History’ page where you can enter current medications.

The screenshot shows a dark header with a logo and navigation links: Home, My Medical History, Medical News, Encyclopedia, and Price Compare. Below the header is a blue section titled "Medical History" with the subtitle "Having everything in one place to make your life easier...". At the bottom of this section, there is a text input field with placeholder text "Please enter either a symptom/condition OR a medication/drug" and two buttons: "New Symptom or Medical Condition" and "Add".

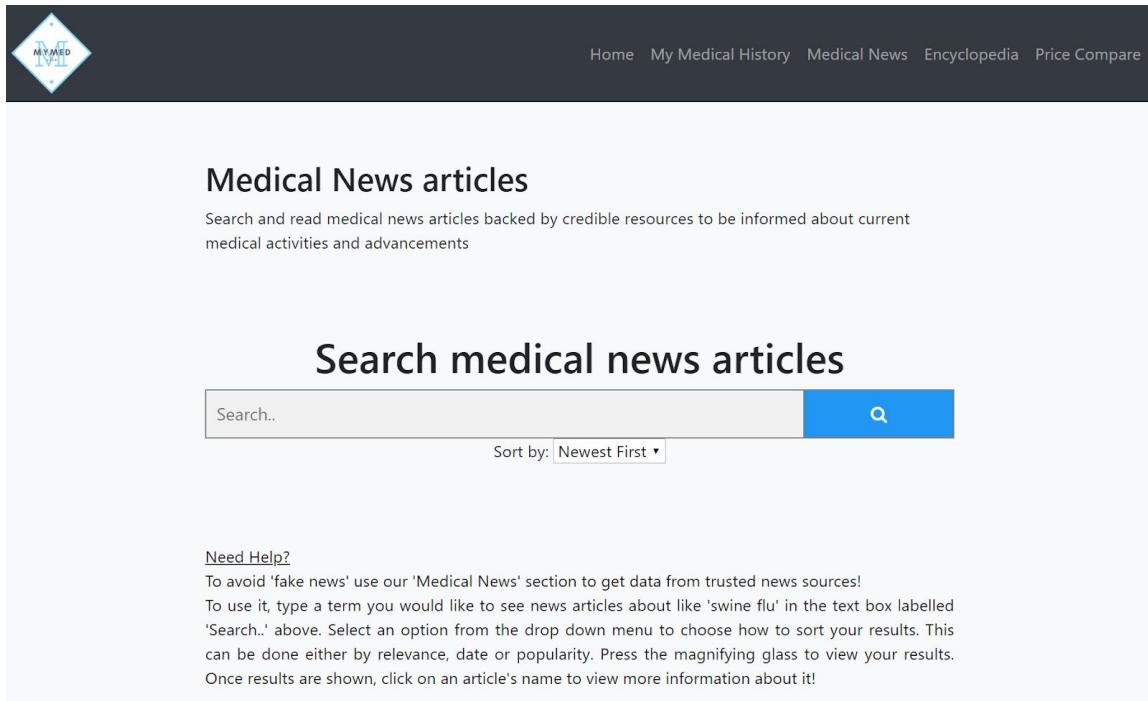
Chest pain	<input type="button" value="X"/>
Chest pain is pain or discomfort in the chest, typically the front of the chest.	
2020-04-25 12:43:47	
Panadol	<input type="button" value="X"/>
Paracetamol, also known as acetaminophen and APAP, is a medication used to treat pain and fever.	
2020-04-25 12:42:38	

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

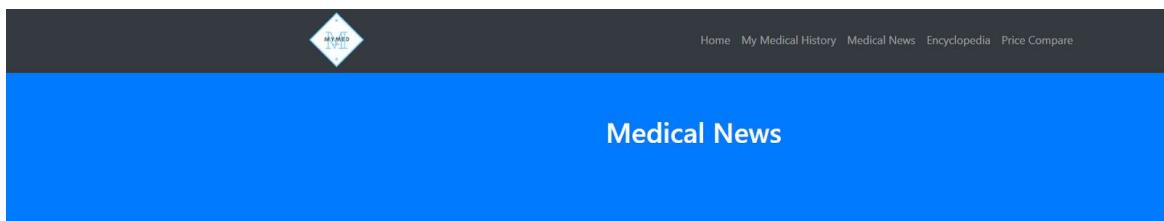
Feature: An alert system for patients when they enter drug(s) that can trigger allergic reactions.

The screenshot shows a dark header with a logo and navigation links: Home, My Medical History, Medical News, Encyclopedia, and Price Compare. Below the header is a blue section titled "Medical History" with the subtitle "Having everything in one place to make your life easier...". A modal dialog box titled "Panadol Warning" is displayed, containing a warning message about the risks of combining Panadol with other acetaminophen-containing drugs. The background shows a search bar with placeholder text "Please enter either a symptom/condition OR a medication/drug" and a "New Symptom or Medical Condition" button. Below the search bar is a list of entries: "Panadol" (with an "X" button), "Chest pain" (with an "X" button), and another entry for "Chest pain" (with an "X" button). At the bottom of the screen, there is a "Close" button for the warning dialog.

Feature: A news page that shows all news articles in sections of 10 based on a search term.

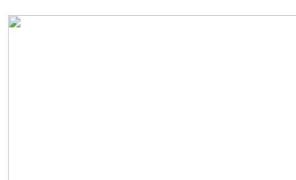


The screenshot shows the MYMED website's medical news section. At the top, there is a navigation bar with links to Home, My Medical History, Medical News, Encyclopedia, and Price Compare. On the left, there is a logo featuring a diamond shape with the letters 'M' and 'Y' inside. The main content area has a heading 'Medical News articles' followed by a sub-heading: 'Search and read medical news articles backed by credible resources to be informed about current medical activities and advancements'. Below this, there is a search bar with the placeholder 'Search..', a blue search button with a magnifying glass icon, and a dropdown menu labeled 'Sort by: Newest First ▾'. At the bottom of this section, there is a help text titled 'Need Help?' which provides instructions on how to use the search feature.



The screenshot shows the MYMED website's medical news section. At the top, there is a navigation bar with links to Home, My Medical History, Medical News, Encyclopedia, and Price Compare. On the left, there is a logo featuring a diamond shape with the letters 'M' and 'Y' inside. The main content area has a heading 'Medical News'.

Showing results for: sars



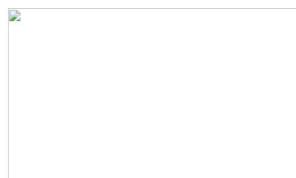
The thumbnail shows a small image of a document or a snippet of text related to the news article.

[The Long-Term Effects of COVID-19 on Field Science - The Wire](#)

As the coronavirus has spread, reaching every continent except Antarctica and infecting over half a million people, scientific institutions all around the world have shut down or suspended field research, leaving many of these scientists' work in limbo.

Thewire.in

07:30:00 2020-04-25



The thumbnail shows a small image of a document or a snippet of text related to the news article.

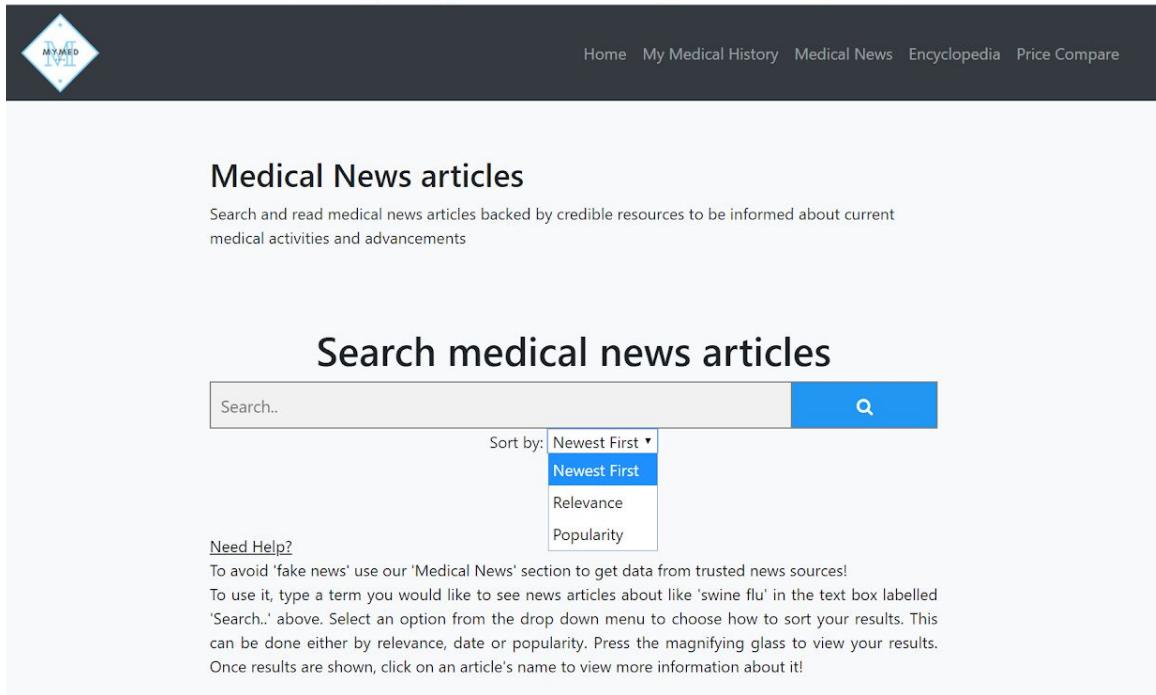
[Worst recession since the 1930s Great Depression: Tata Sons Chairman on Covid-19](#)

N Chandrasekaran, Chairman, Tata Sons, in his article on professionals' platform LinkedIn -- "A World on Pause: The State of the World and India during COVID-19" mentioned that there are more than 2

Thehindubusinessline.com

07:25:46 2020-04-25

Feature: A drop down menu on the news section, allowing users to sort articles by popularity, relevance, date, etc.

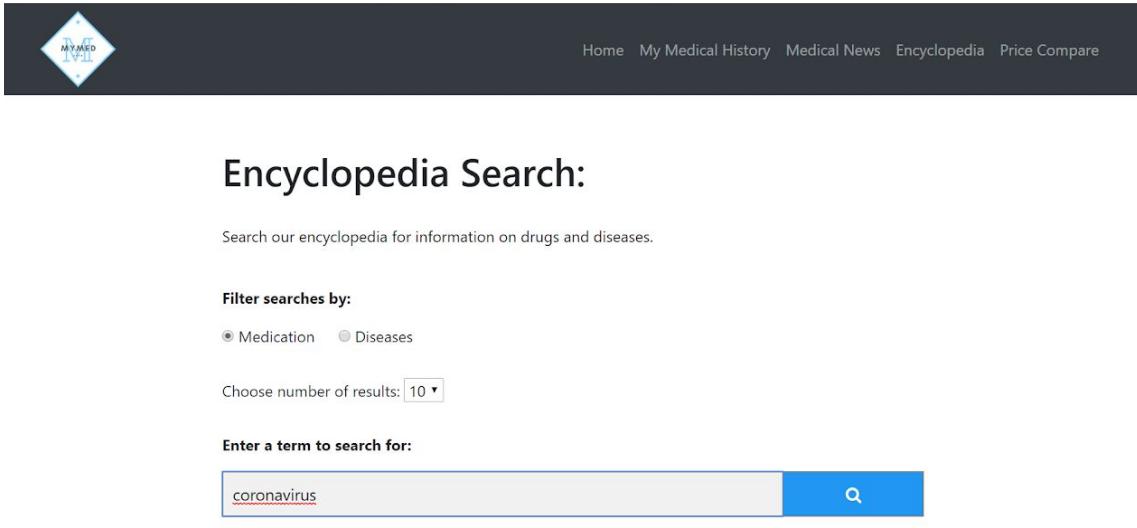


The screenshot shows the 'Medical News articles' section of a website. At the top, there is a navigation bar with links to Home, My Medical History, Medical News, Encyclopedia, and Price Compare. On the left, there is a logo consisting of a diamond shape with 'MY.MED' and a stylized 'M' inside. Below the navigation bar, the title 'Medical News articles' is displayed, followed by a subtitle: 'Search and read medical news articles backed by credible resources to be informed about current medical activities and advancements'. In the center, there is a search form with a text input field labeled 'Search..,' and a blue search button with a magnifying glass icon. Below the search form is a dropdown menu titled 'Sort by:' with options: 'Newest First' (which is selected and highlighted in blue), 'Relevance', and 'Popularity'. At the bottom of the section, there is a link 'Need Help?' and a paragraph of explanatory text.

Need Help?

To avoid 'fake news' use our 'Medical News' section to get data from trusted news sources! To use it, type a term you would like to see news articles about like 'swine flu' in the text box labelled 'Search.' above. Select an option from the drop down menu to choose how to sort your results. This can be done either by relevance, date or popularity. Press the magnifying glass to view your results. Once results are shown, click on an article's name to view more information about it!

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



The screenshot shows the 'Encyclopedia Search' section of a website. At the top, there is a navigation bar with links to Home, My Medical History, Medical News, Encyclopedia, and Price Compare. On the left, there is a logo consisting of a diamond shape with 'MY.MED' and a stylized 'M' inside. Below the navigation bar, the title 'Encyclopedia Search:' is displayed, followed by a subtitle: 'Search our encyclopedia for information on drugs and diseases.' In the center, there is a search form with a text input field containing the word 'coronavirus' and a blue search button with a magnifying glass icon. Above the search form, there is a section titled 'Filter searches by:' with two radio buttons: one for 'Medication' and one for 'Diseases'. Below the search form, there is a dropdown menu titled 'Choose number of results:' with the value '10' selected. At the bottom of the section, there is a link 'Need Help?' and a paragraph of explanatory text.

Need Help?

The encyclopedia stores all our articles about drugs and diseases, meaning you can get all the information about any specific medical term! Press one of the buttons to search by medication or by diseases. Then choose the number of results you want to see. Also make sure you are typing 3 or more letters in the text box labelled 'Search..,' then press the 'magnifying glass' button. The top results, sorted by popularity will be shown to you.

The screenshot shows the MyMed app interface. At the top, there's a navigation bar with a logo on the left and links for Home, My Medical History, Medical News, Encyclopedia, and Price Compare. The main content area has a blue header with the text "Encyclopedia Search Results". Below this, the text "Results on medications related to: 'coronavirus'" is displayed. A note below it says, "Click on a result to view more information from our trusted database. Encyclopedia results are sorted by the amount of other users visiting these pages." A list of 10 results follows, each with a link: 1. Coronavirus, 2. Coronavirus disease 2019, 3. Coronavirus recession, 4. Coronavirus Aid, Relief, and Economic Security Act, 5. Coronavirus disease, 6. Coronavirus Act 2020, 7. Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020, 8. Coronavirus Scientific Advisory Board (Turkey), 9. Coronavirus party, 10. Coronavirus Disease Mitigation Acceleration Task Force.

Results on medications related to: 'coronavirus'

Click on a result to view more information from our trusted database.
Encyclopedia results are sorted by the amount of other users visiting these pages.

1. [Coronavirus](#)
2. [Coronavirus disease 2019](#)
3. [Coronavirus recession](#)
4. [Coronavirus Aid, Relief, and Economic Security Act](#)
5. [Coronavirus disease](#)
6. [Coronavirus Act 2020](#)
7. [Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020](#)
8. [Coronavirus Scientific Advisory Board \(Turkey\)](#)
9. [Coronavirus party](#)
10. [Coronavirus Disease Mitigation Acceleration Task Force](#)

[Back to Search](#)

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

Feature: (above) 'Price Comparison' application can search by active ingredient

The screenshot shows the MyMed app interface. At the top, there's a navigation bar with a logo on the left and links for Home, My Medical History, Medical News, Encyclopedia, and Price Compare. The main content area has a dark header with the text "Price Compare". Below this, the text "This page helps you find the best price for a drug (medication), by comparing prices of drugs at local stores!" is displayed. There are two search bars: one for "Search by Common Name" and one for "Search by Active Ingredient".

Price Compare

This page helps you find the best price for a drug (medication), by comparing prices of drugs at local stores!

Search by Common Name

Search by Active Ingredient

Need Help?

1. Using 'search by common name'

Enter a drug/medicine that you are looking to buy into the search bar underneath the text "Search by common name". Press the 'magnifying glass icon' and the top results, prices and stores will be shown for the specified name. Click on a product's name to view more information about it!

2. Using 'search by active ingredient'

An active ingredient is the part of the drug that affects the body. Drugs containing the same active ingredient will have very similar effects. Please check with your doctor that the drugs with the same active ingredient are interchangeable. Enter a drug/medicine that you are looking to buy into the search bar underneath the text "Search by common name". Press 'magnifying glass icon' and the top drug results, prices and stores will be shown for the specified active ingredient. Click on a product's name to view more information about it!

3. Using 'Pharmacies near me'

'Pharmacies near me' shows you the closest pharmacies near your area! To use it, click and hold on the map then drag your mouse to move around the map. Scroll in/out using the mouse to zoom in/out. Any red markers on the map represent pharmacies. To get more information, click on the red marker.



Showing results for: panadol

[Back to Search](#)



Panadol Extra Strength 500mg 16 Tablets

USD 15.00

Bonanza - OneLoveJia

Panadol Extra Strength 500mg 20 Tablets This drug is used to treat mild to moderate pain (from headaches, menstrual periods ...



3 X 16 PANADOL EXTRA 500mg Paracetamol 65mg Caffeine Tablets

USD 14.40

Bonanza - CtPerfect Store

PANADOL EXTRA PARACETAMOL 500mg / CAFFEINE 65mg 16 TABLETS RELIEVES: HEADACHE AND TOOTHACHE MUSCLE AND JOINT PAIN NEURALGIA ...



Panadol Extra Strength 500Mg 24.0 Ea

USD 28.94

verybeautydaily.com



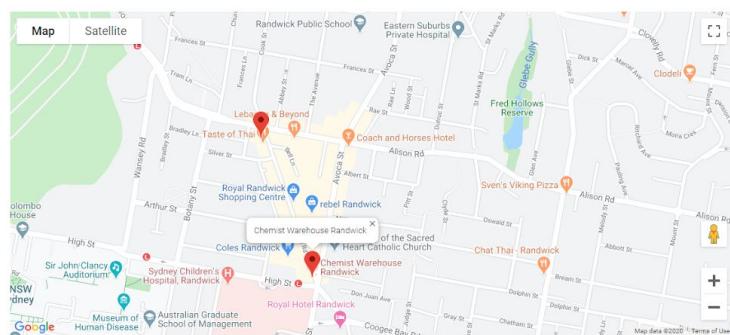
Panadol Caplets 20ct Pain Relief 3 Pk Usa Sellerexp 10/20

USD 12.95

eBay

Panadol caplets 20ct, relief headache, fever and pain, can be taken on empty stomach EXP 10/2020

Pharmacies Near Me



Need Help?

1. Using 'search by common name'.

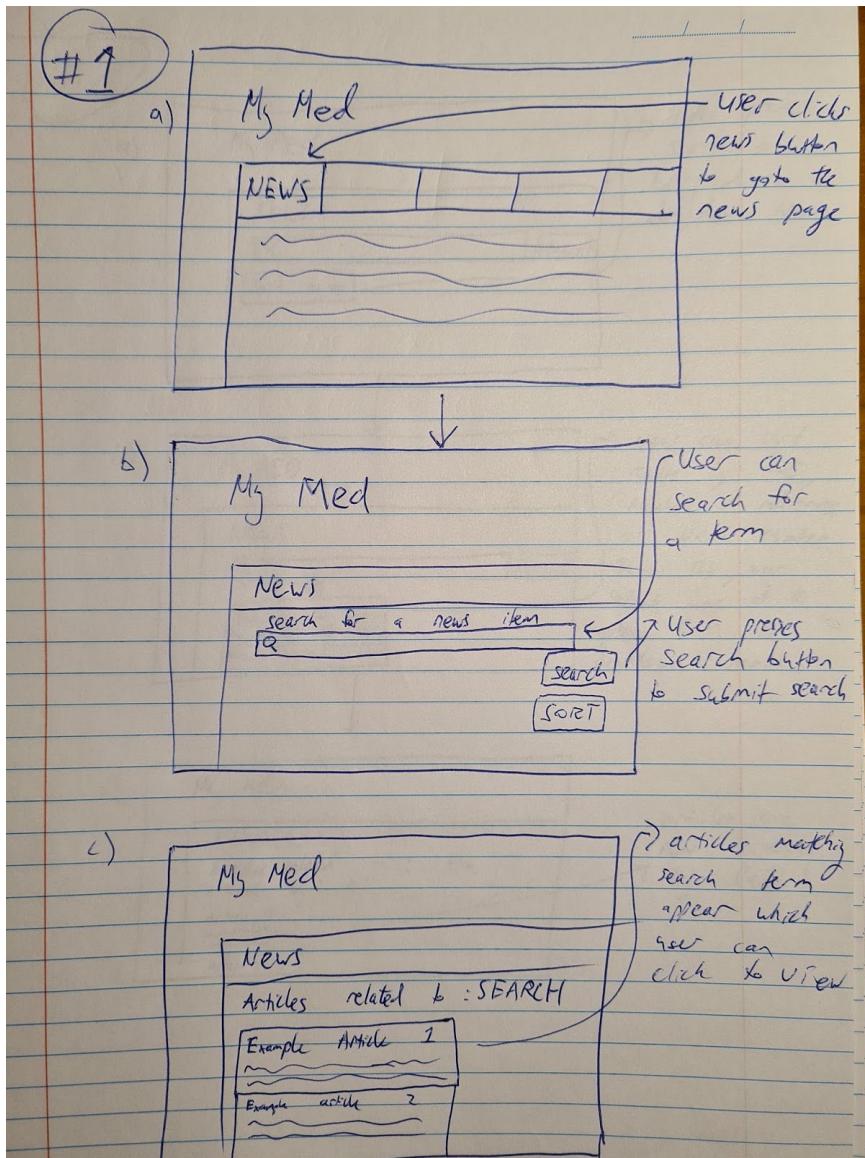
Enter a drug/medicine that you are looking to buy into the search bar underneath the text "Search by common name". Press the 'magnifying glass icon' and the top results, prices and stores will be shown for the specified name. Click on a product's name to view more information about it!

Design and Code Inspection

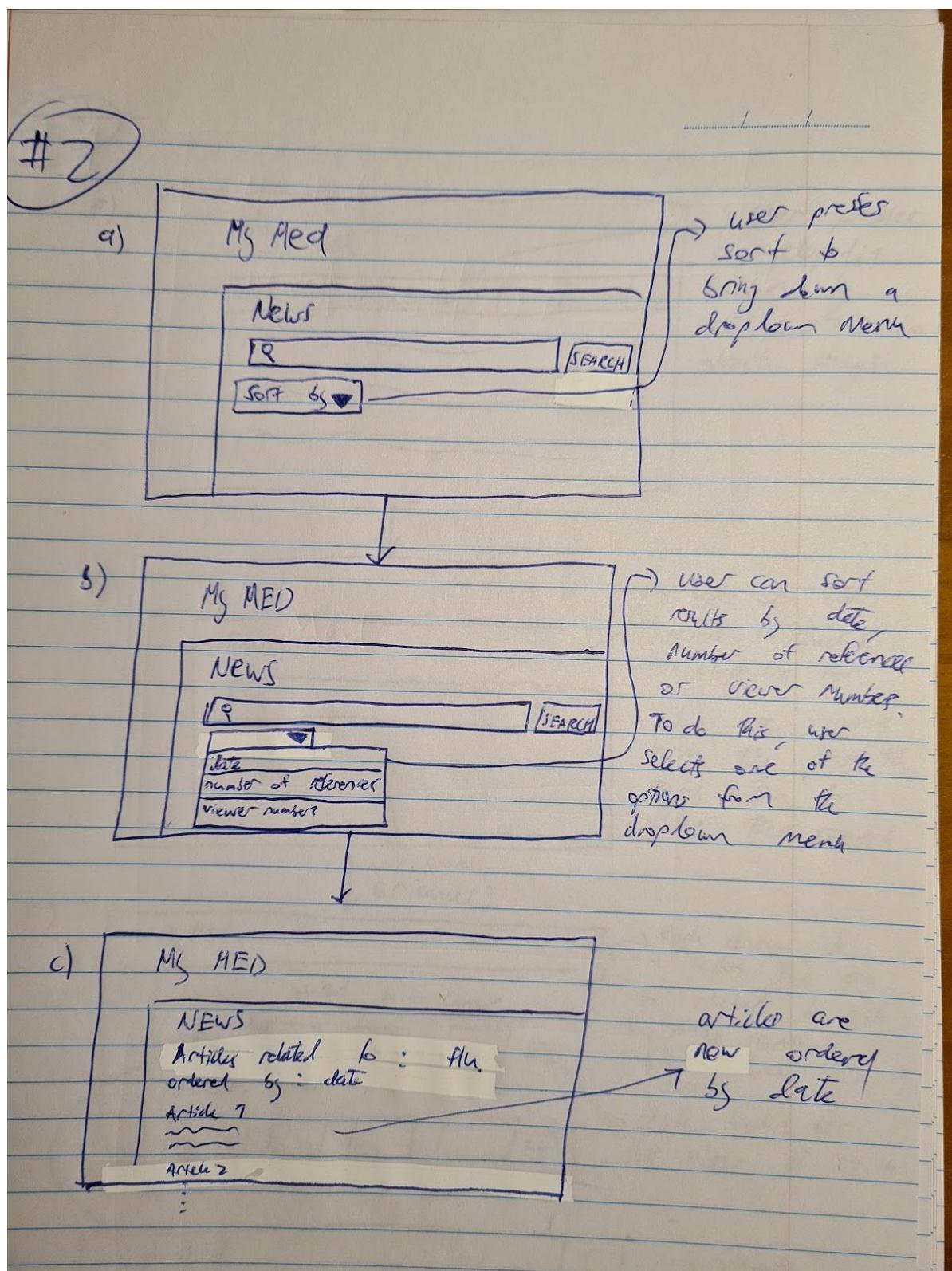
Prototypes

Low Fidelity

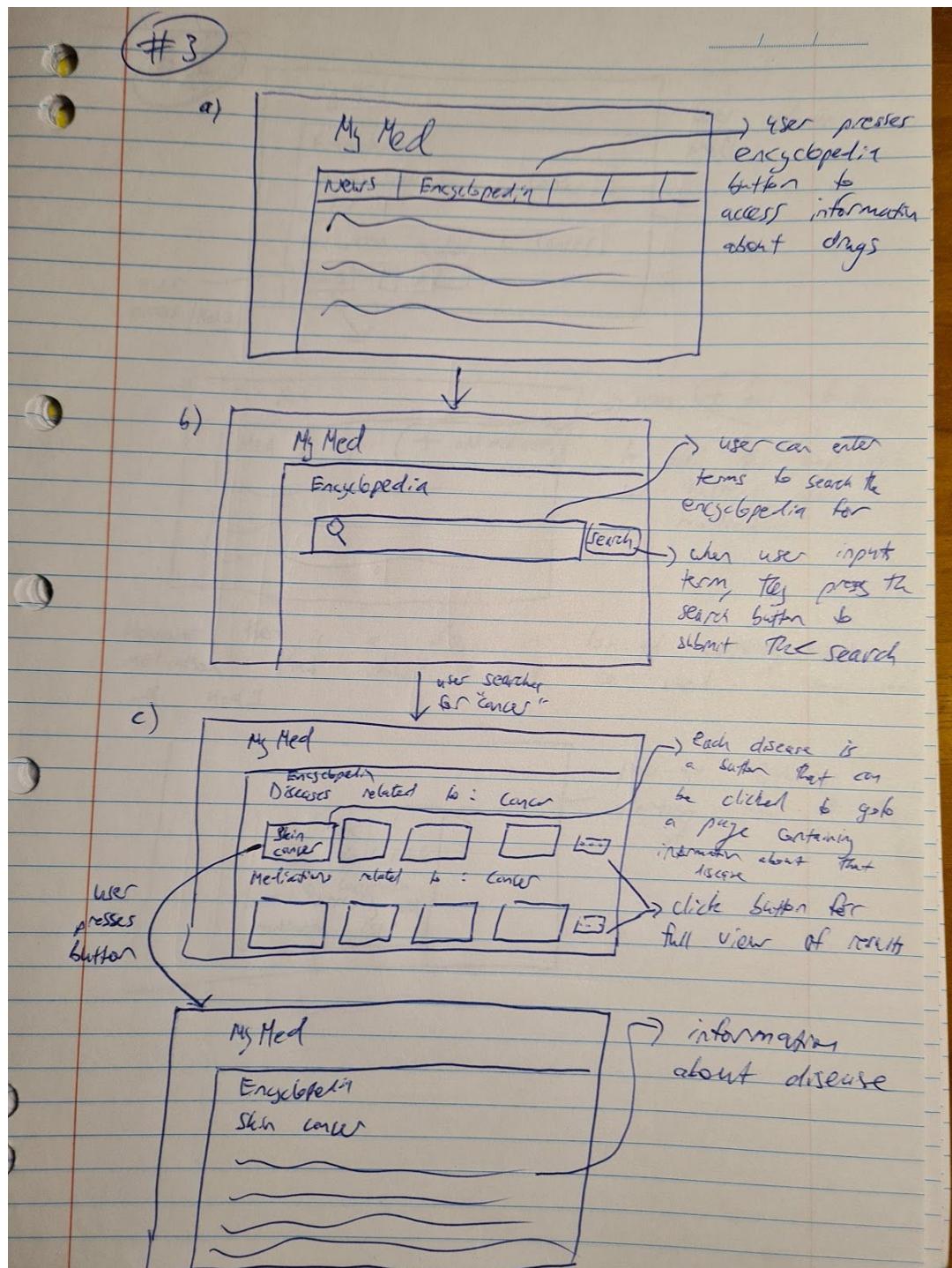
US1 - As a user, I want to attain my information in one location through credible resources with backed-up data so that I avoid misinformation.



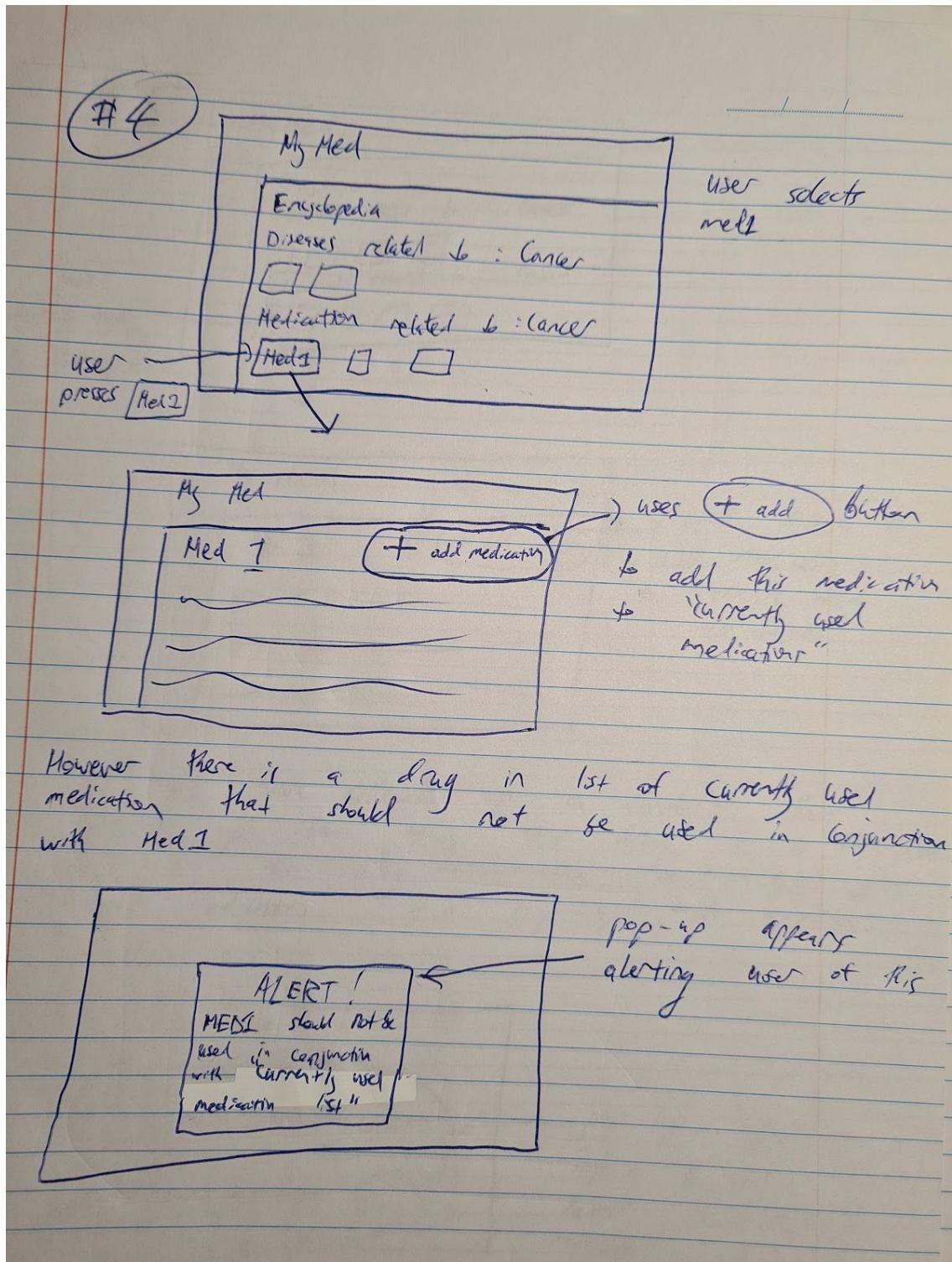
US2 - As a user, I want to be able to sort news sources by credibility and date so that I am as well-informed as possible.



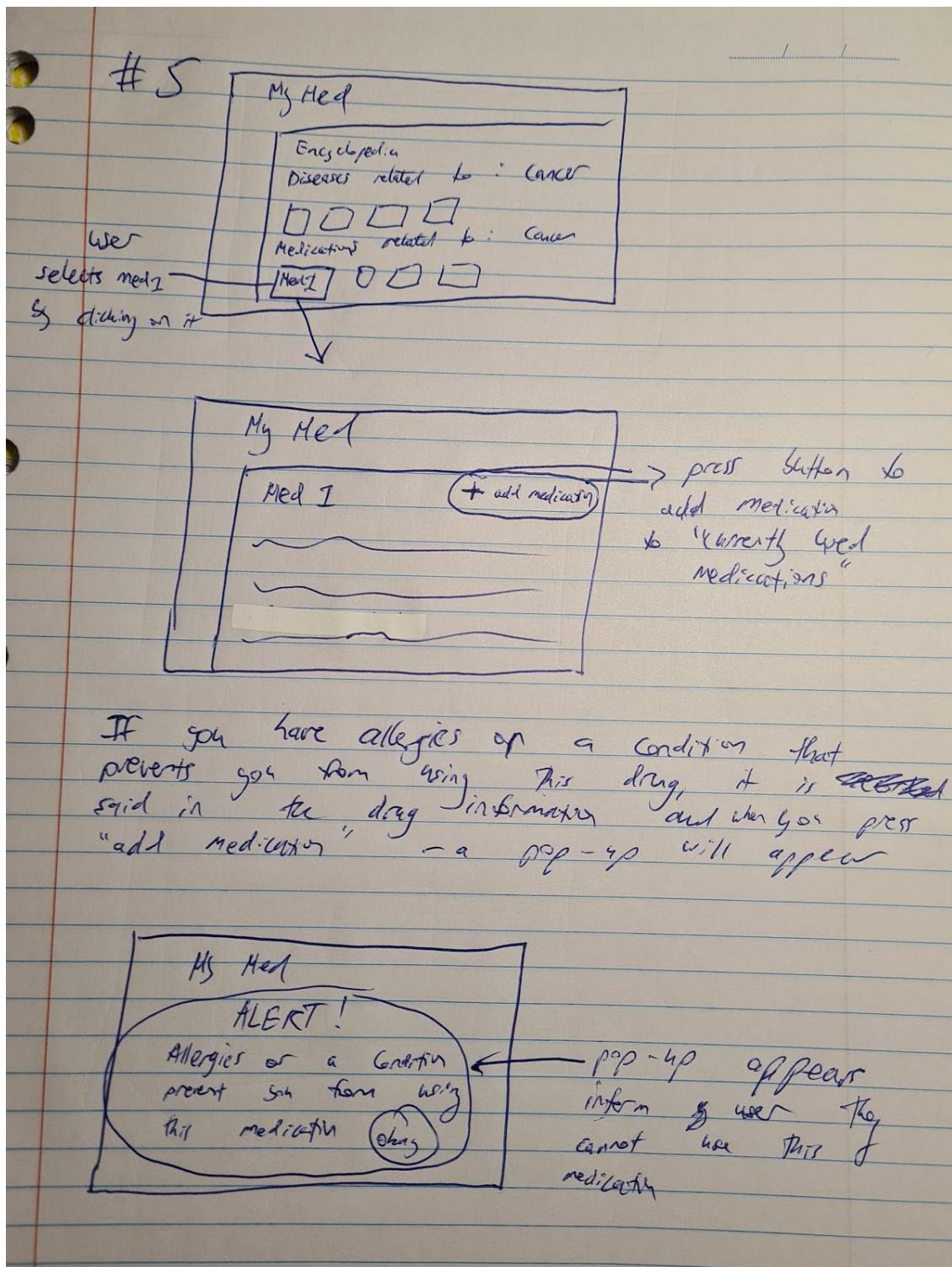
US3 - As a patient I want to be able to access information about drugs so that I can gain knowledge about them.



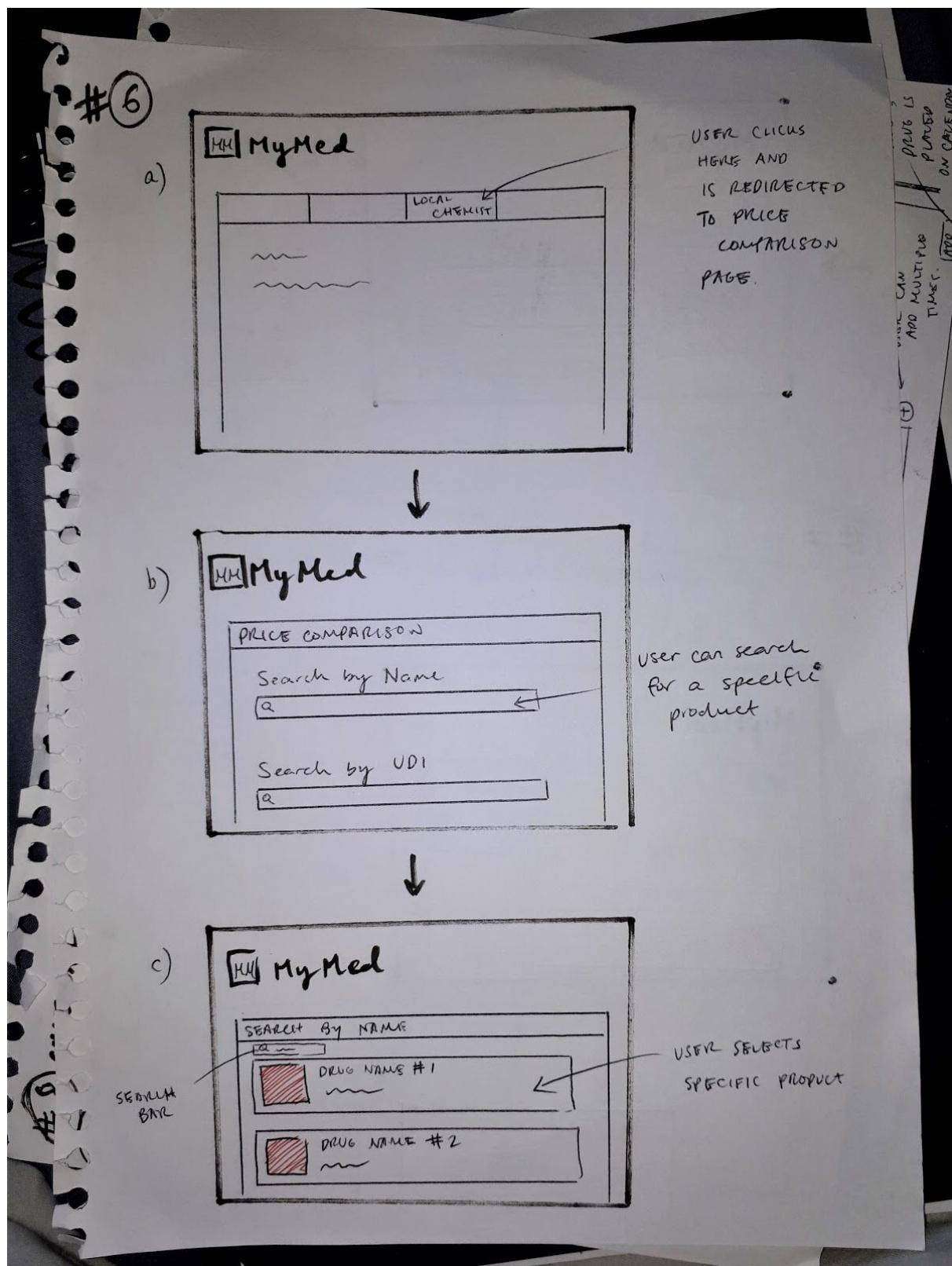
US4 - As a patient, I want to be notified when I am taking an unhealthy combination of drugs so that I avoid sickness/ death.

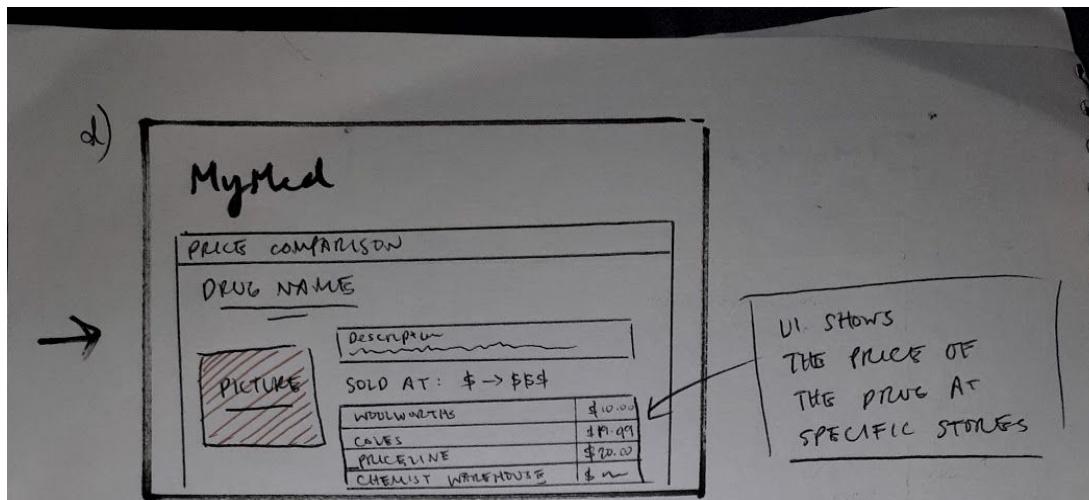


US5 - As a patient, I want to be alerted if a medication will set off an allergic reaction so that I avoid sickness/ death.

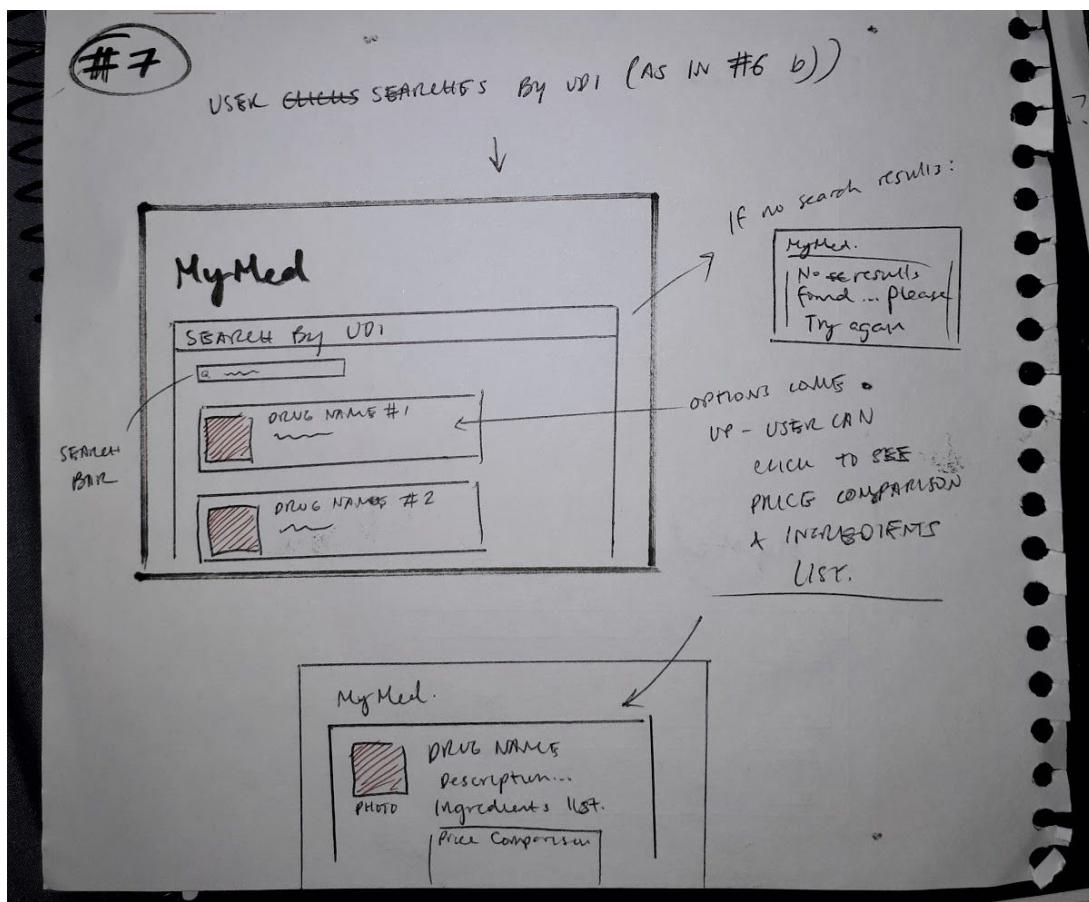


US6 - As a user, I want to be able to compare prices of certain drugs across local stores so that I can find the cheapest price.





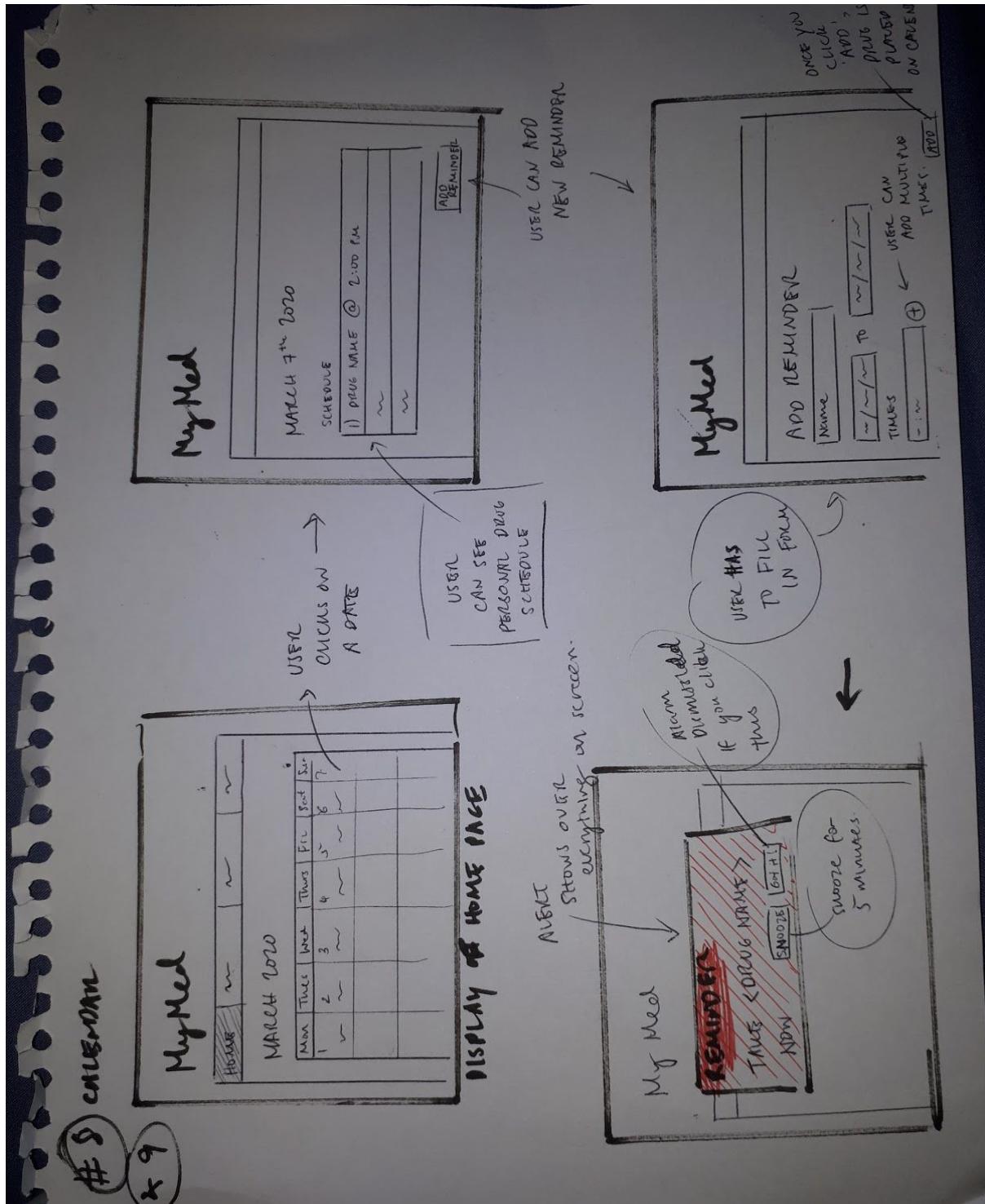
US7 - As a user, I want to find drugs based on their active ingredient* so that I can find cheaper equivalent alternatives.



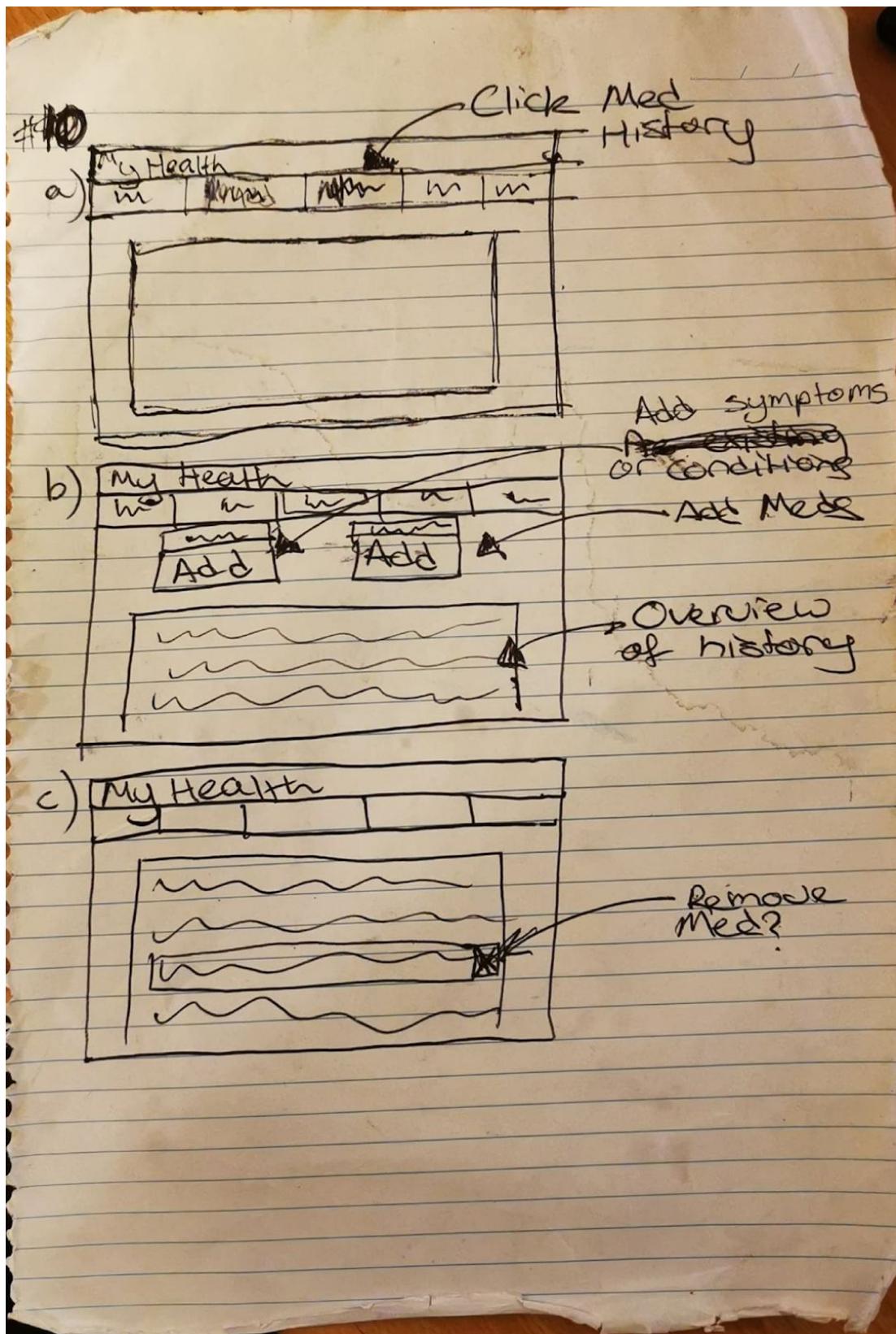
* This was initially by a unique drug identifier (UDI), however this was changed to 'active ingredient' after feedback.

US8 - As a patient, I want to be reminded of when to take my medication so that I can stick to my medication schedule.

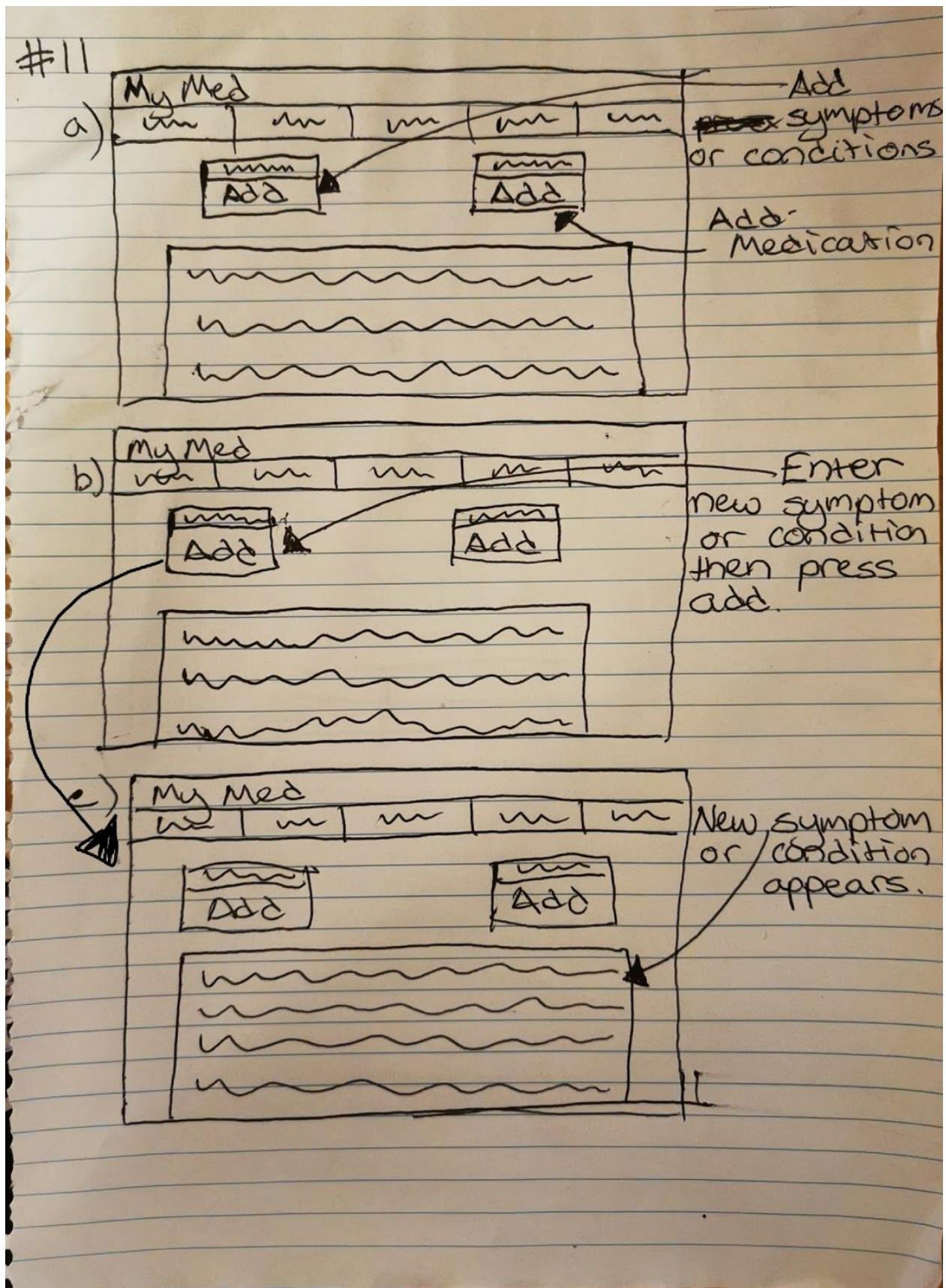
US9 - As a patient, I want to see an overview of my medication schedule so that I can anticipate when to take them.



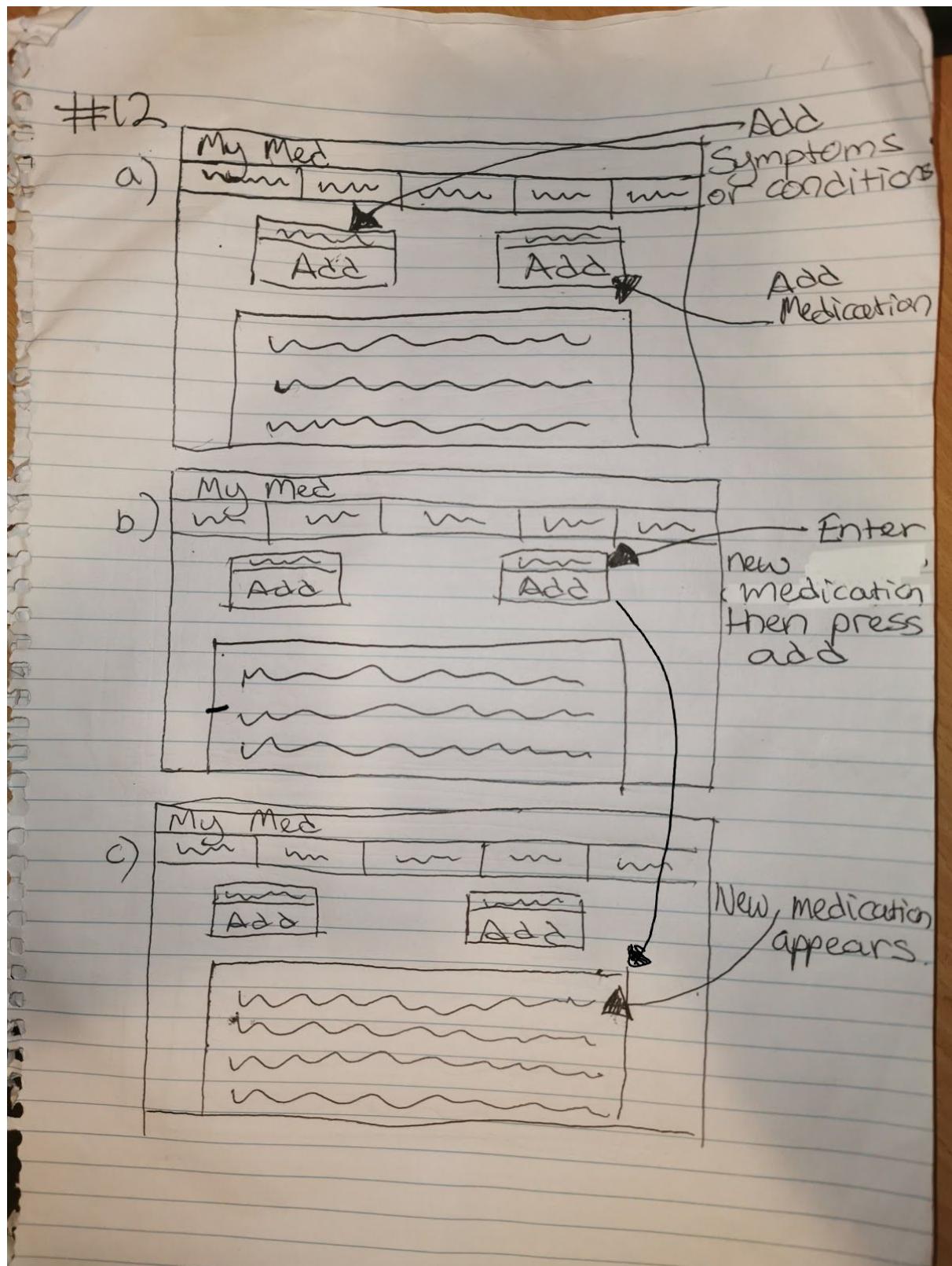
US10 - As a user, I want to know my medical history so that my condition can be diagnosed by my doctor accurately.



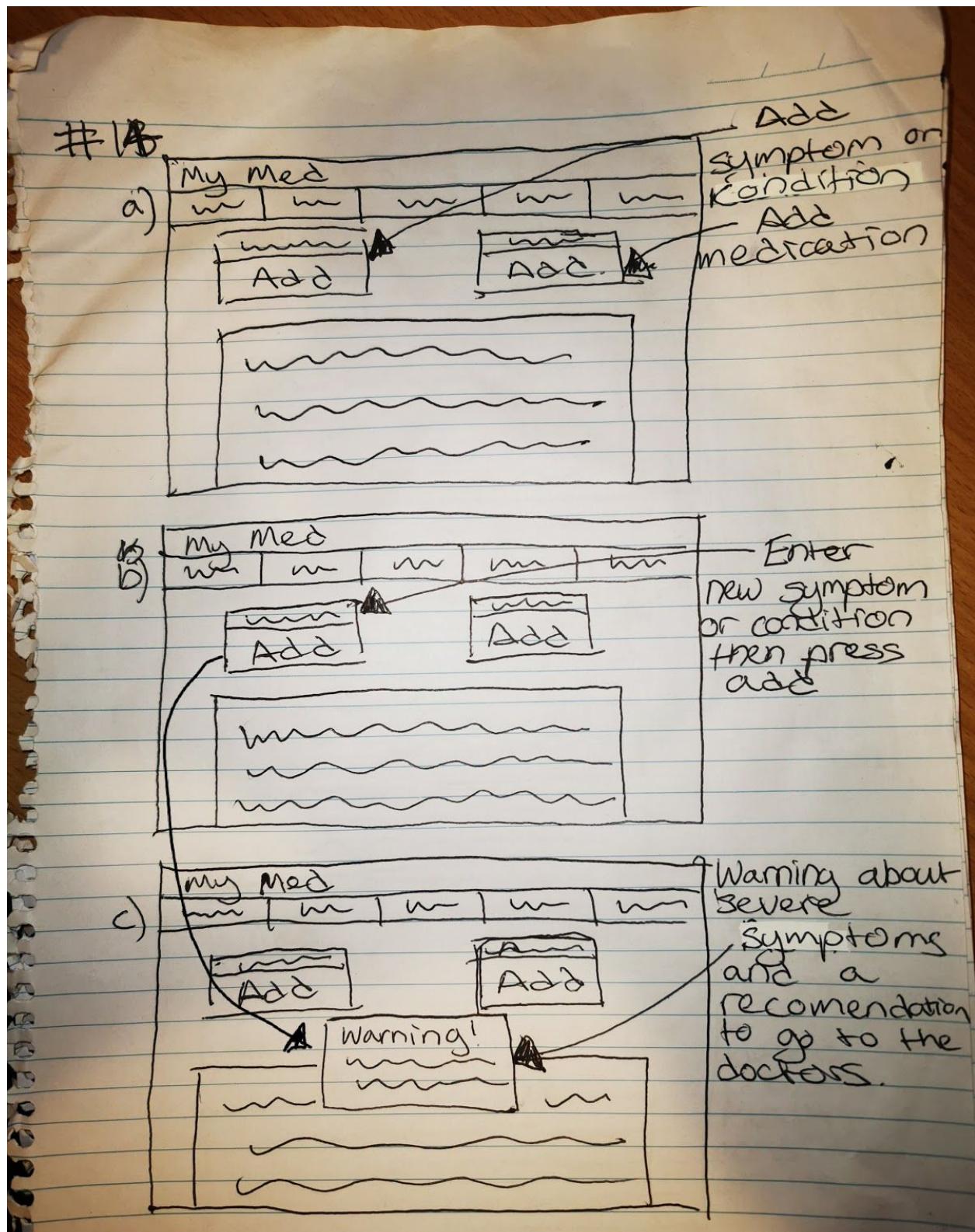
US11 - As a user, I want to enter my conditions or symptoms so that they can be considered when I am being diagnosed.



US12 - As a user, I want to enter my current medications so that its effects can be considered when being prescribed new medications.

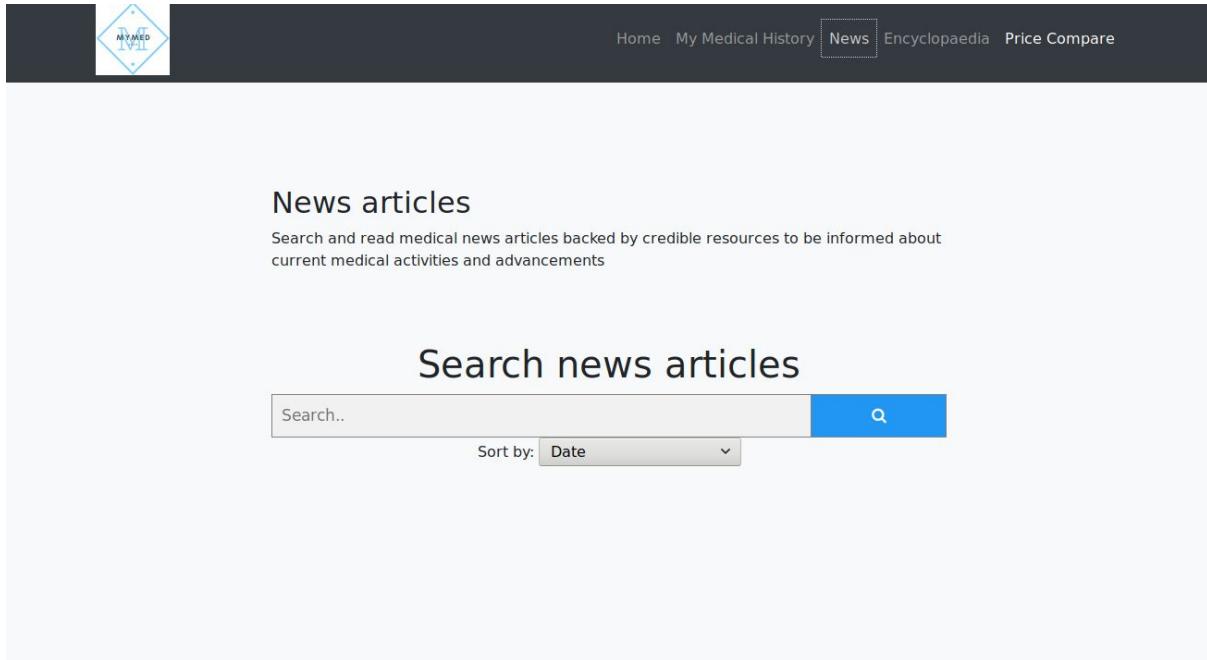


US13 - As a user, I want to know the severity of my symptoms so that I know when to see a doctor.



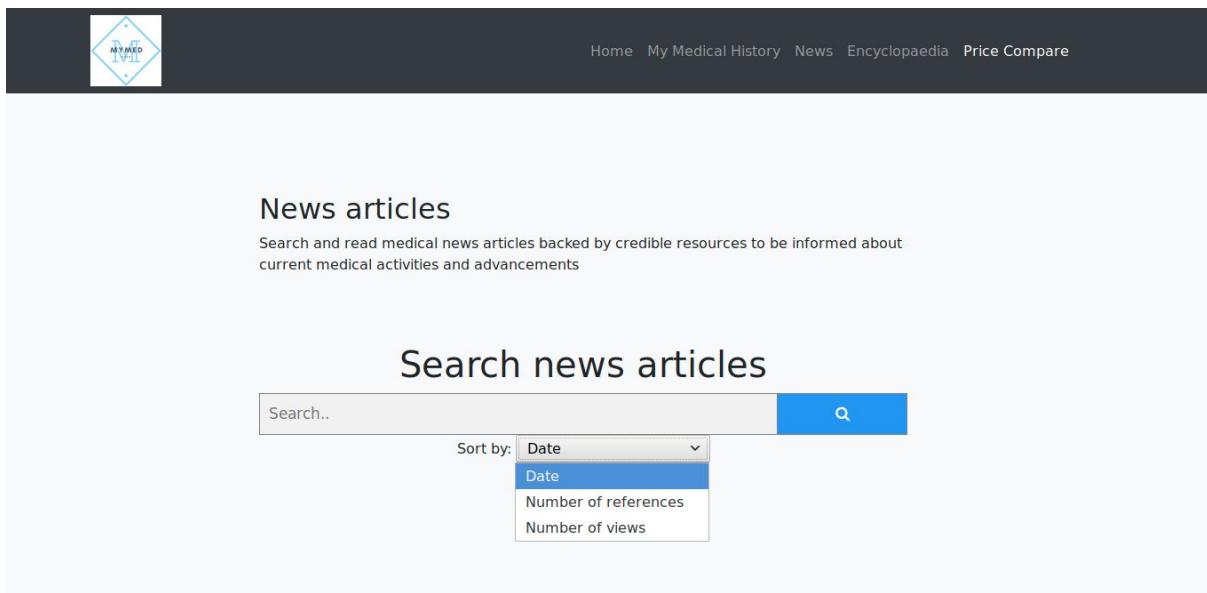
High Fidelity

US1 - As a user, I want to attain my information in one location through credible resources with backed-up data so that I avoid misinformation.



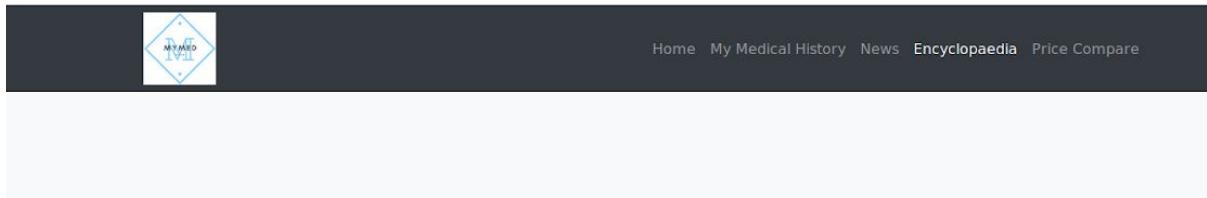
The screenshot shows the MyMed website interface. At the top, there is a dark header bar with the MyMed logo on the left and navigation links: Home, My Medical History, News (which is highlighted with a dotted border), Encyclopaedia, and Price Compare. Below the header, the main content area has a light gray background. A section titled "News articles" is displayed, with a sub-section titled "Search news articles". This search section includes a search input field with placeholder text "Search..", a blue search button with a magnifying glass icon, and a dropdown menu labeled "Sort by:" with "Date" selected. Below the search section, there is descriptive text: "Search and read medical news articles backed by credible resources to be informed about current medical activities and advancements".

US2 - As a user, I want to be able to sort news sources by credibility and date so that I am as well-informed as possible.



This screenshot is similar to the previous one, showing the MyMed website's News section. The header and overall layout are identical. The "Sort by:" dropdown menu is open, showing four options: "Date", "Number of references", and "Number of views". The "Date" option is currently selected, indicated by a blue background and white text. The other two options are in a standard black font.

US3 - As a patient I want to be able to access information about drugs so that I can gain knowledge about them.



Encyclopedia

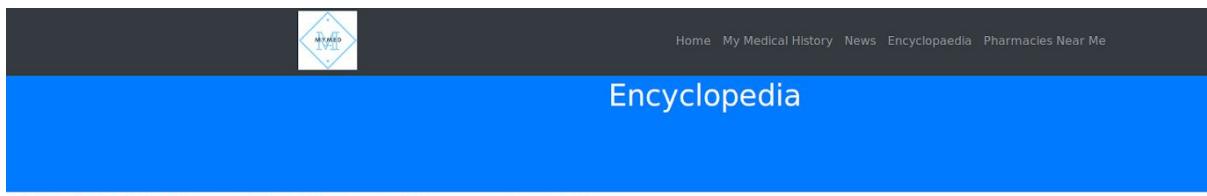
Search our encyclopedia for information on drugs and diseases

Search encyclopedia

DRUG YOU WANT TO SEARCH



US4 - As a patient, I want to be notified when I am taking an unhealthy combination of drugs so that I avoid sickness/ death.



TELFAST 180mg Hayfever Allergy Reliefs

+ ADD MEDICATION

x Danger! The medication is not to be used in conjunction with other medicine(s) in your currently used medications list



Lorem ipsum dolor sit amet, consectetur adipisicing elit. Vero odio fugiat voluptatem dolor, provident officiis, id iusto! Obcaecati incident, qui nihil beatae magnam et repudiandae ipsa exercitationem, in, qu

US5 - As a patient, I want to be able to be alerted if a medication will set off an allergic reaction so that I avoid sickness/ death.

The screenshot shows the MyMed app's encyclopedia section. At the top, there is a navigation bar with links to Home, My Medical History, News, Encyclopaedia, and Pharmacies Near Me. Below this is a blue header bar with the word "Encyclopedia". The main content area features a product image of Telfast 180mg tablets and some descriptive text.

TELFAST 180mg Hayfever Allergy Reliefs

+ ADD MEDICATION

Danger! The medication cannot be added to your list of currently used medication because it may set off your allergic reaction



Lorem ipsum dolor sit amet, consectetur adipisicing elit. Vero odio fugiat voluptatem dolor, provident officiis, id iusto! Obcaecati incident, qui nihil beatae magnam et repudiandae ipsa exercitationem, in,

US6 - As a user, I want to be able to compare prices of certain drugs across local stores so that I can find the cheapest price.

The screenshot shows the MyMed app's price compare feature. At the top, there is a navigation bar with links to Home, My Medical History, Medical News, Encyclopedia, and Price Compare. Below this is a section titled "Price Compare".

Price Compare

This page helps you find the best price for a drug (medication), by comparing prices of drugs at local stores!

Search by Common Name

🔍

Search by Active Ingredient

🔍

Store	Product Image	Price	Rating
Priceline		\$14.99	★★★☆☆
Woolworths		\$12.99	★★★☆☆
Coles		\$12.00	★★★★☆

US7 - As a user, I want to find drugs based on their active ingredient so that I can find cheaper equivalent alternatives.

Price Compare

This page helps you find the best price for a drug (medication), by comparing prices of drugs at local stores!

Search by Common Name

Search by Active Ingredient

The screenshot shows a grid of three product cards on a website. Each card includes an image of the medicine box, the product name, a brief description, the price, and a star rating.

- Zyrtec Allergy & Hayfever Antihistamine Tablets 30 Pack**: \$14.99. Description: Relieves hayfever and allergy symptoms. Contains Loratadine 10 mg. Symptoms relieved: Sneezing, Runny nose, Itchy / watery eyes, Itchy skin. Rating: ★★★☆☆ (3 stars).
- Claratyne Hayfever & Allergy Relief Antihistamine Tablets 75 pack**: \$12.99. Description: Relieves hayfever and allergy relief. Contains Loratadine 10 mg. Symptoms relieved: Sneezing, Runny nose, Itchy / watery eyes, Itchy skin. Rating: ★★★☆☆ (3 stars).
- Telfast Hayfever Allergy Relief Non Drowsy 120mg 10 pack**: \$12.00. Description: Relieves hayfever and allergy relief. Contains Loratadine 10 mg. Symptoms relieved: Sneezing, Runny nose, Itchy / watery eyes, Itchy skin. Rating: ★★★★☆ (4 stars).

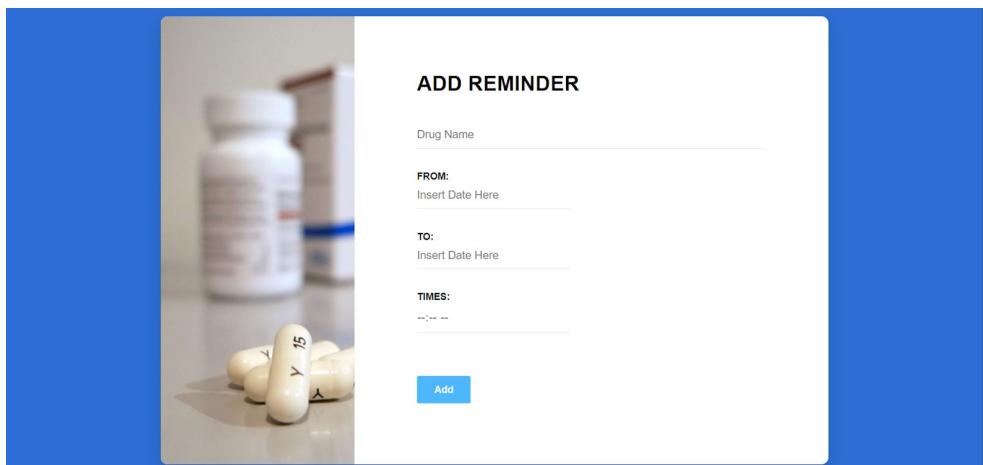
This screenshot shows a detailed product page for Zyrtec. It features a large image of the Zyrtec box, the product name, price, and a star rating. Below the product information is a section with legal disclaimers and a customer review.

Zyrtec Allergy & Hayfever Antihistamine Tablets 30 Pack
\$24.99
ALWAYS READ THE LABEL. FOLLOW DIRECTIONS FOR USE. IF SYMPTOMS PERSIST TALK TO YOUR HEALTHCARE PROFESSIONAL. THIS MEDICINE MAY NOT BE RIGHT FOR YOU. READ THE WARNINGS BEFORE PURCHASE. THE PHARMACIST RESERVES THE RIGHT TO NOT SUPPLY CONTRARY TO OUR PROFESSIONAL AND ETHICAL OBLIGATION.
★★★★☆ 4.0 stars

US8 - As a patient, I want to be reminded of when to take my medication so that I can stick to my medication schedule.

This screenshot shows a digital calendar interface. A pop-up message in the center says "This page says Take Vitamin C now!" with an "OK" button. The calendar displays the days of the week from Monday to Sunday. Specific dates are highlighted or annotated:

- Wednesday, September 10: An annotation "10 Doctor's Appt @ Maroubra" is placed over the date.
- Friday, September 18: An annotation "Blood test" is placed over the date.



US9 - As a patient, I want to see an overview of my medication schedule so that I can anticipate when to take them.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1	
2	3	4	5	6	7	8
9	10 Doctor's Appt @ Maroubra	11	12	13	14	15
16	17	18 Blood test	19	20	21	22 Take Vitamin C @ 12PM
23	24	25	26	27	28	29
30	31					

US10 - As a user, I want to know my medical history so that my condition can be diagnosed by my doctor accurately.

New Symptom or Medical Condition	Add
New Medication	Add
<hr/>	
Stomach Ache General Symptom	1 day ago
Nausea General Symptom	2 days ago

US11 - As a user, I want to enter my conditions or symptoms so that they can be considered when I am being diagnosed.

The screenshot shows the 'Medical History' section of the MyMed app. At the top, there is a navigation bar with links: Home, My Medical History, News, Encyclopaedia, and Pharmacies Near Me. Below the navigation bar, the title 'Medical History' is centered. There are two input fields at the bottom: 'NEW MEDICAL CONDITION' and 'New Medication', each with an 'Add' button. A list of medical conditions and symptoms is displayed below these fields:

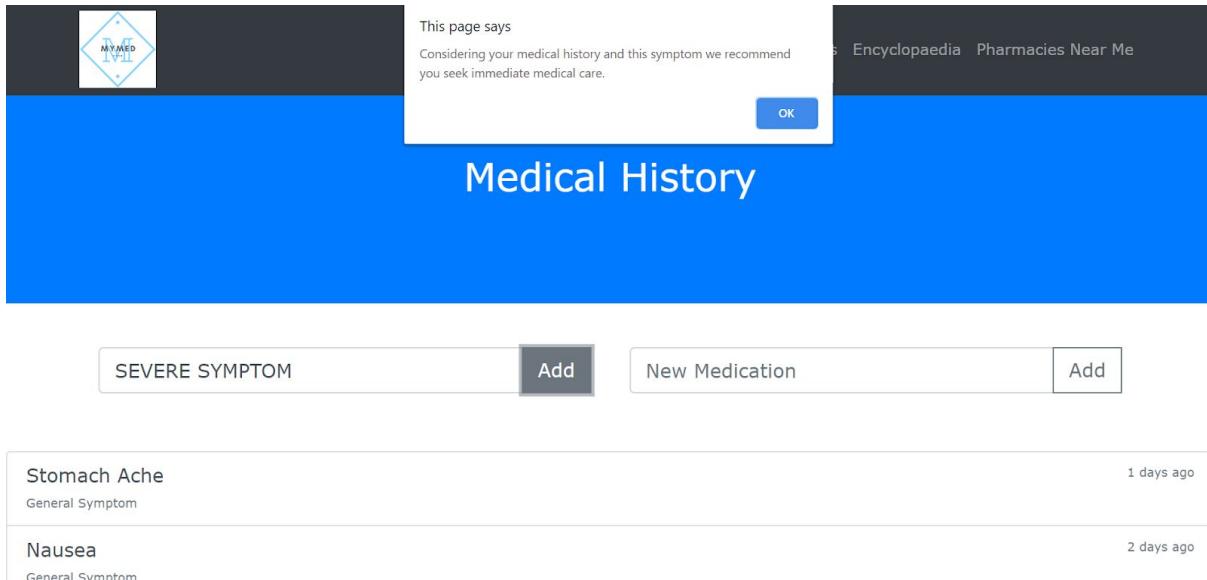
Stomach Ache General Symptom	1 days ago
Nausea General Symptom	2 days ago

US12 - As a user, I want to enter my current medications so that its effects can be considered when being prescribed new medications.

The screenshot shows the 'Medical History' section of the MyMed app. At the top, there is a navigation bar with links: Home, My Medical History, News, Encyclopaedia, and Pharmacies Near Me. Below the navigation bar, the title 'Medical History' is centered. There are two input fields at the bottom: 'New Symptom or Medical Condition' and 'NEW MEDICATION', each with an 'Add' button. A list of medical conditions and symptoms is displayed below these fields:

Stomach Ache General Symptom	1 days ago
Nausea General Symptom	2 days ago

US13 - As a user, I want to know the severity of my symptoms so that I know when to see a doctor.



Final Software Architecture

Technologies Used

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

The backend was made using Python which draws from our external API's and also interacts with our database. Our group used SQLite for our database.

Other Frameworks Used

No other frameworks were used beyond Flask.

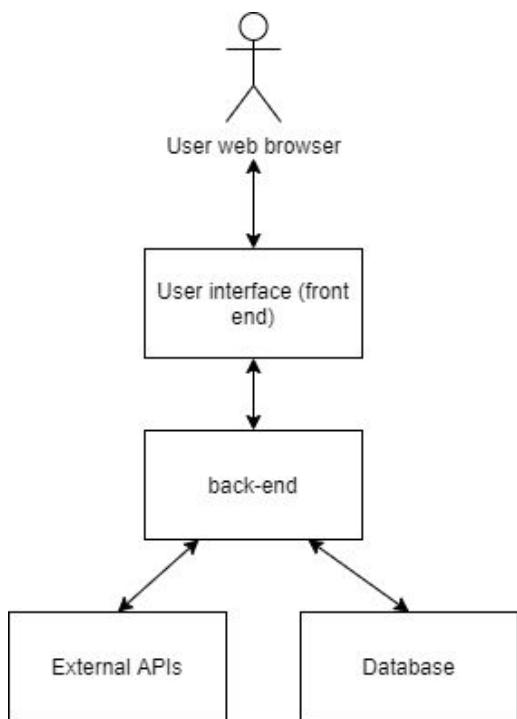
Justification of Design Choices

- We have a variety of external API's that we accessed so that different types of information can be used for all our purposes:
 - [Wikipedia](#) provided very comprehensive information about drugs/diseases - though unreliable it serves as a suitable stub for a prototype.
 - [openFDA](#) provided reliable information and usage warnings for drugs
 - [Newsapi](#) provided medical news articles from news websites across the internet.
 - [Google Maps](#) provided accurate information about local pharmacies, customised depending on the user's location.

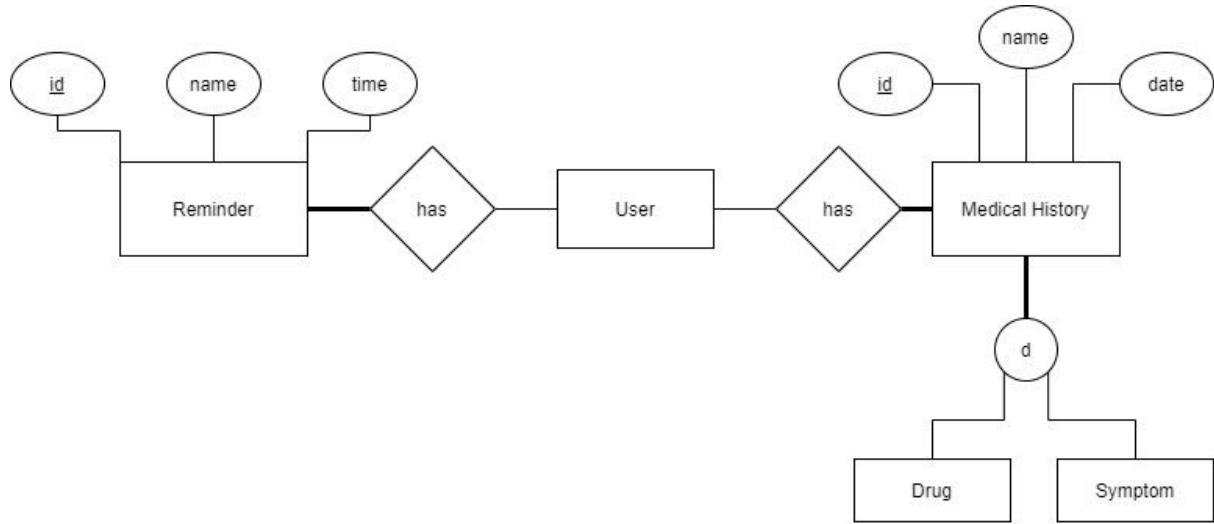
- [SerpAPI](#) provided extensive information about prices of products, allowing for better price comparisons of drugs.
- HTML, CSS and Javascript allowed us to customise the appearance and functionality of our website so that its clear and more easily accessible for users
- Python is a simple language for us which interacts with the database and also interacts with the frontend using flask. It also allowed us to use our external API's as information sources to our website
- SQLite is a popular and simple DBMS that was integrated with our python code.
- Our application was created to be a website means it can be used on any OS, meaning anyone can use it.

ER Diagrams

Full System



Reminders and Medical History Database

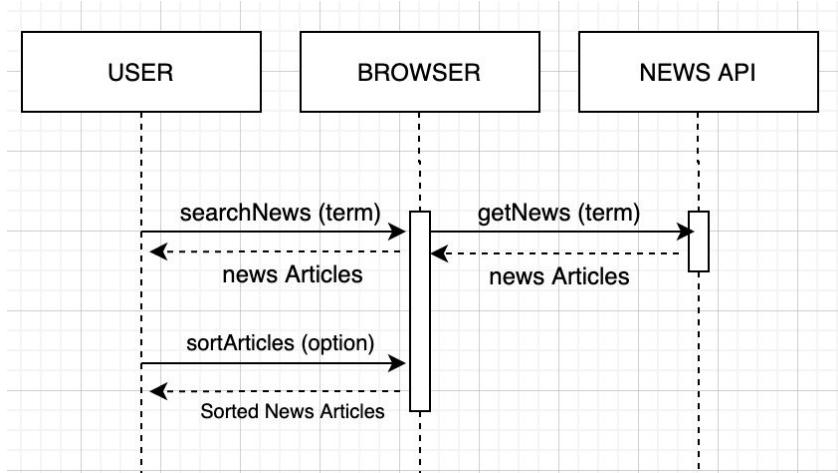


Sequence / Interaction Diagrams

US1 & US2

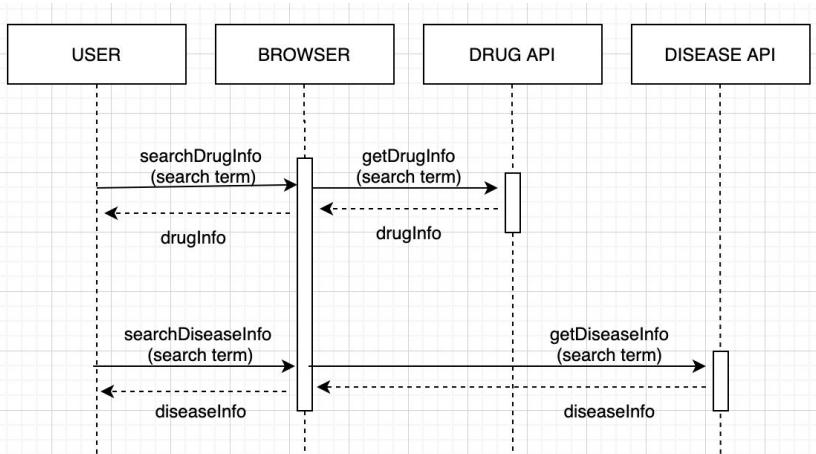
Feature 1: A news section on your dashboard that shows all news articles in sections of 10 based on a search term.

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



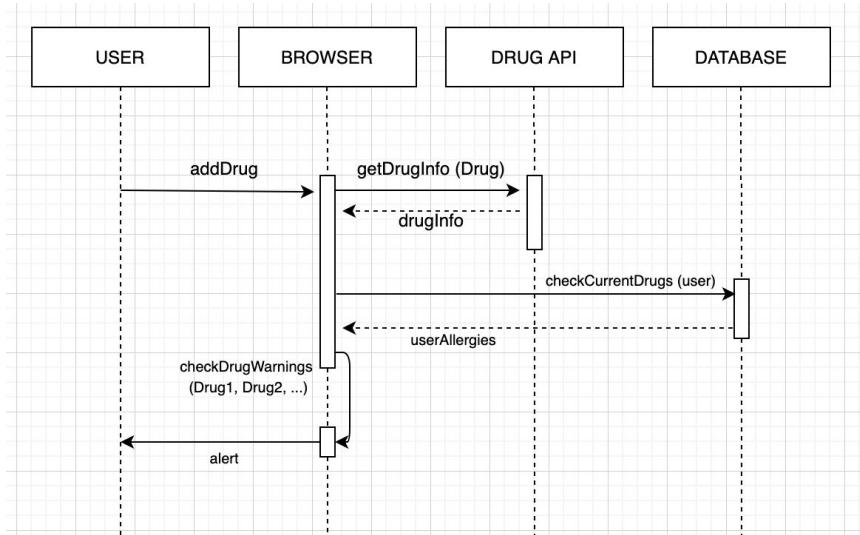
US3

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

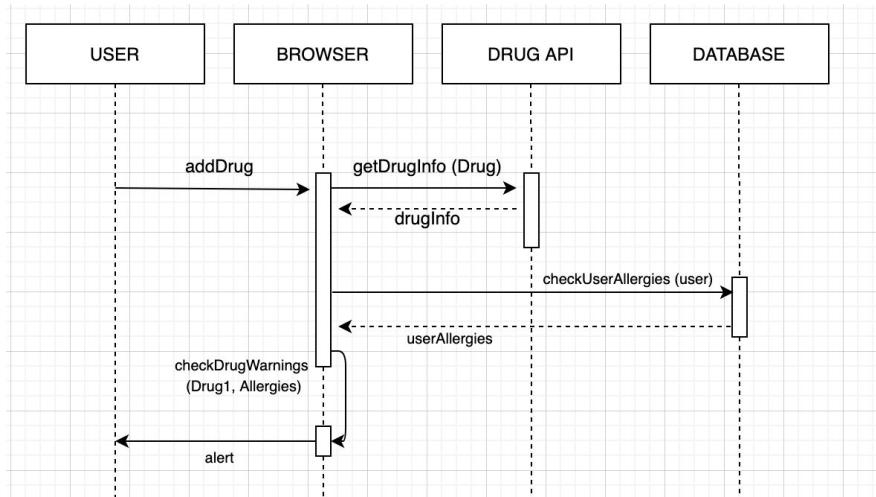


US4

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

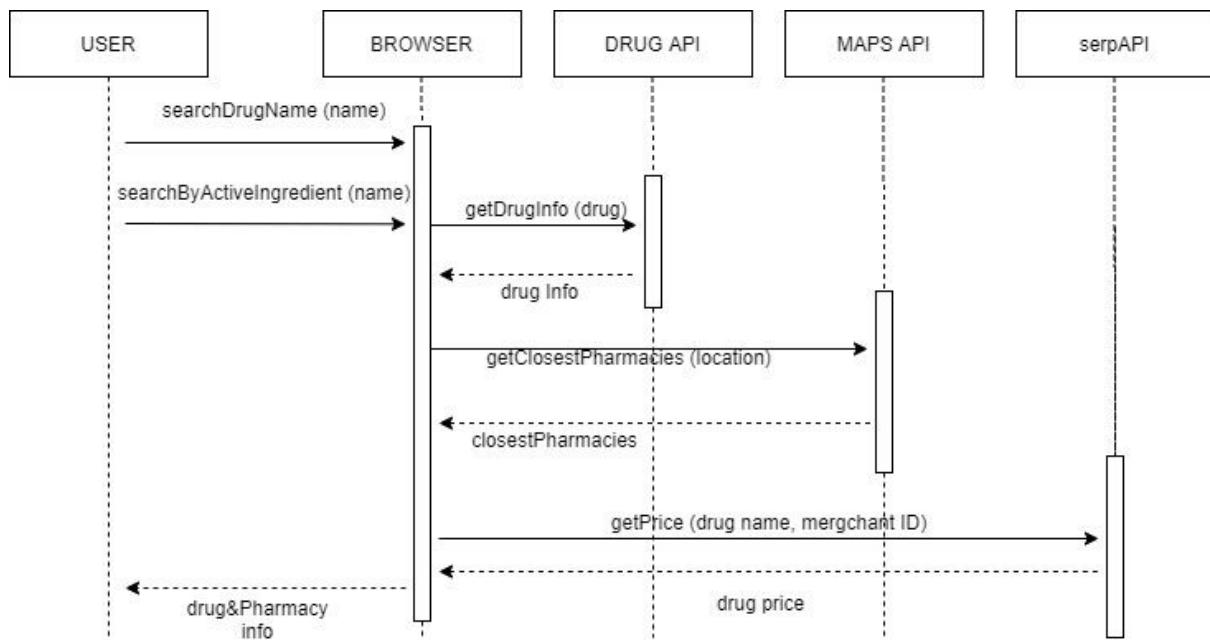
**US5**

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

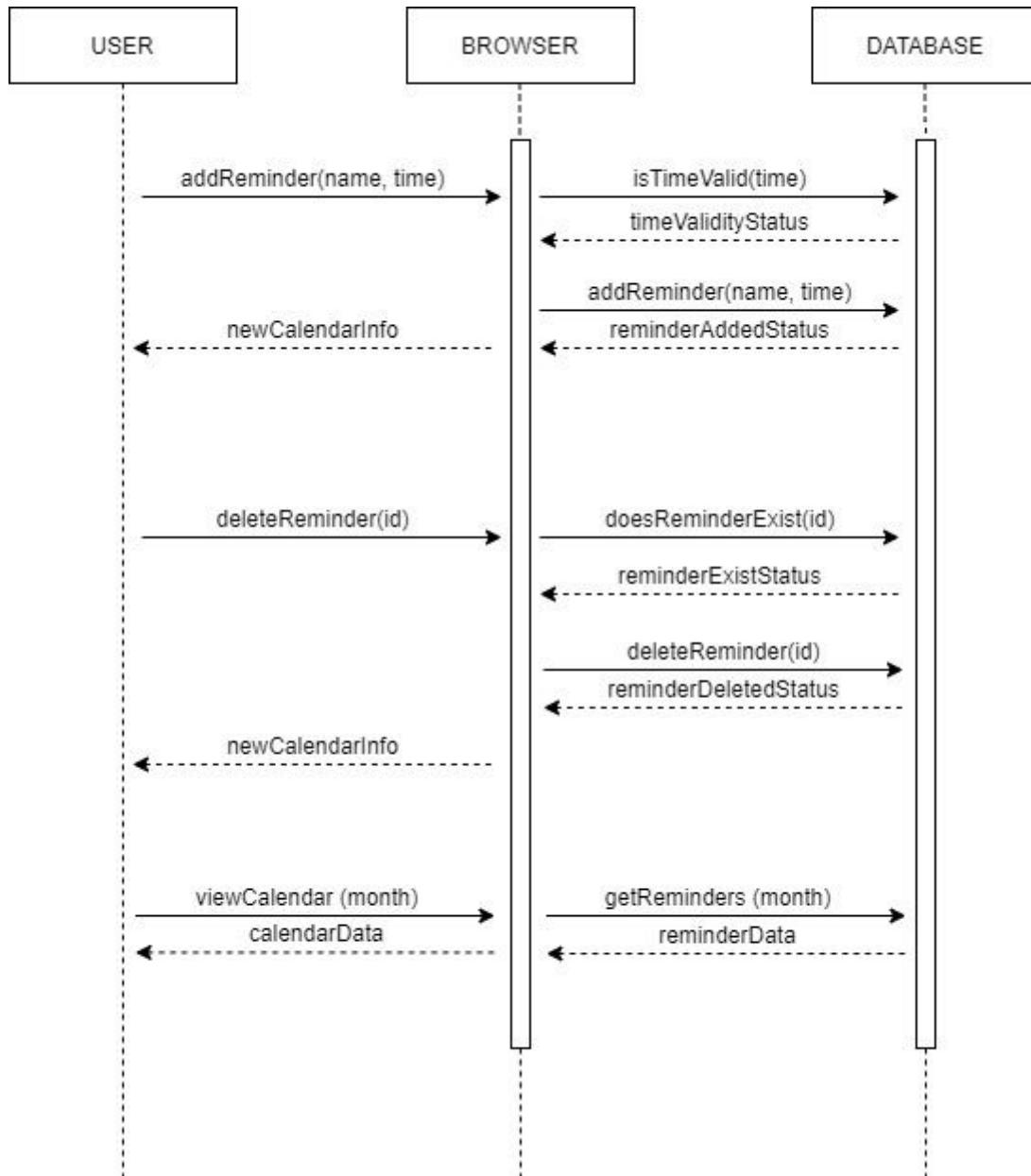
**US6 & US7**

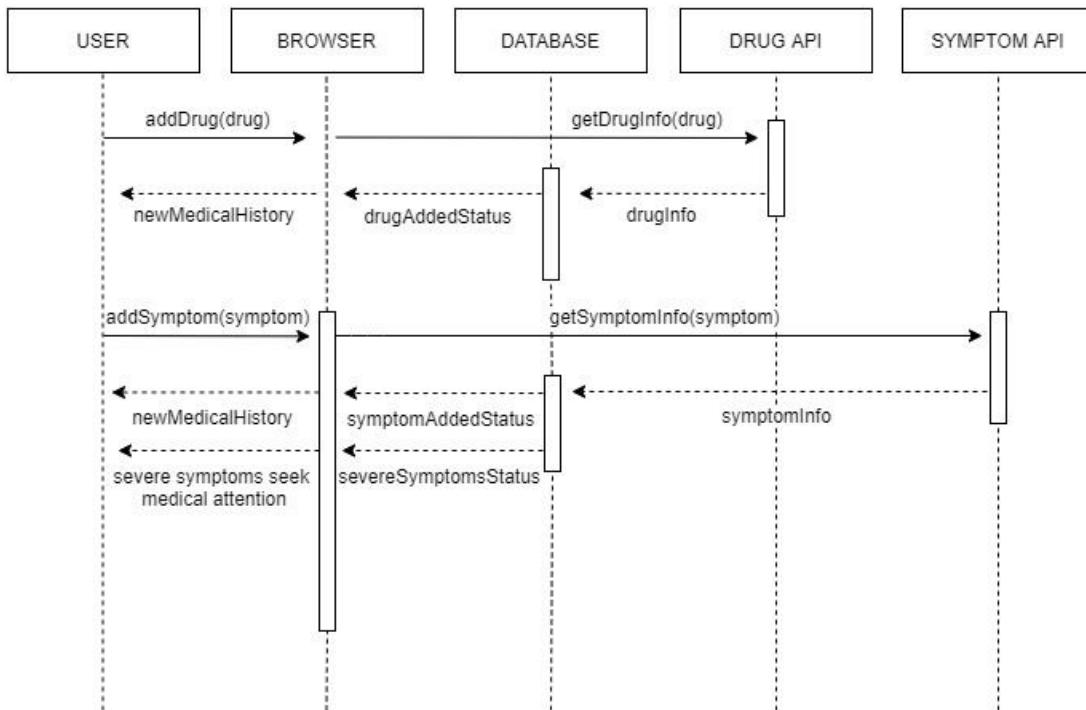
Feature 6: A 'Price Comparison' application that compares the prices of specified medications from chemists in a local radius based on a search term.

Feature 7: (above) 'Price Comparison' application can search by active ingredient*



* This was initially the Unique Drug Identifier (UDI), however it was changed after feedback to 'active ingredient'.

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.



User Acceptance Testing:

From the initial presentation we took on board feedback from our mentors to do testing w/ older people as the product needs to be usable for our target audience. Members of our team showed the product to our parents (aged 40 - 60 years) and walked them through it. From this we got important feedback such as:

- To use a darker color scheme.
 - ◆ Darker colours are easier for older people to read.
- To add a 'need help' section
 - ◆ Older people tend to have weaker technological literacy. Giving them a step-by-step tutorial if they got stuck would benefit them greatly.
- To change section headings to be more specific.
 - ◆ The title needs to be clear and concise, so people know what the section does. E.g. changing 'News' to 'Med News' so people know it's specifically a medical news database.

This feedback was very helpful as we needed to accomodate for our target audience. After implementing these changes, the product was a lot more usable and ergonomic.

Design Summary

MyMed condensed the following key features into one convenient application, readily

available for anyone to use:

1. **Drug reminder system** - This feature enables users to stay organised with their medications and doctors appointments. All events are conveniently displayed on a calendar on the home page.
2. **Storage of Medical History** - This allows users to keep track of all symptoms they may be suffering from, and all medication that they currently take. The app also keeps note of any medicines that cannot be taken in conjunction with one another, and sends the user an alert if it finds a clash.
3. **Drug Price Comparison** - This allows a user to search for specific medication, and provides them with current prices at various retailers. It also provides the user with a map of all local pharmacies, so that they can not only buy the drug at an ideal price, but also purchase it at the closest possible retailer.
4. **Centralised News Source** - This allows the user to input various medicine-related queries, and utilises a news API to return several news articles, ordered by either relevance, popularity, or time. This feature filters out fake news in order to prevent the spread of misinformation.
5. **Accessible Encyclopaedia** - This allows the user to search for specific drugs or diseases and eliminates the need to traverse through several websites for the information they require. Currently, this feature uses the Wikipedia API since it was the only free database we could access.

Altogether, the above features focused on user personalisation in order to cater for an individual's specific medical needs.

Team Organization and Appraisal

Organisation of Team

Deliverable 1

Person(s)	Task(s)
Shabrina & Sumeet	Problem Statement & User Stories
Nathan, Sisil & Zoe	Lo-Fi & Hi-Fi Prototype

Deliverable 2

Person(s)	Task(s)
Nathan & Shabrina	Software Architecture
Sisil, Sumeet & Zoe	Initial Software Design

Deliverable 3 - Initial Presentation

Person(s)	Task(s)
Nathan	Software Architecture
Shabrina	Implementation Decisions
Sumeet	Q&A and backup speaker
Sisil	Full demo
Zoe	Intro

Final Presentation

Person(s)	Task(s)
Nathan	Software Architecture & News
Shabrina	Price Compare/ Local Pharmacy
Sumeet	Encyclopedia & Backup
Sisil	Did full demo, Q&A
Zoe	Intro & Calendar

Final Report

Person(s)	Task(s)
Sumeet & Shabrina	Requirements analysis
Nathan, Sisil & Zoe	Design and code inspection
	Team Organisation and Appraisal

The Product

Person(s)	Task(s)
Nathan	Medical News
Shabrina	Price Compare / Local Pharmacy
Sumeet	Encyclopedia
Sisil	Medical History
Zoe	Calendar / Home Page

Issue Resolution

The project as a whole did not have any serious issues in terms of teamwork or meeting deadlines as everyone communicated effectively and completed their required tasks - as shown above. All issues arose due to logistics and technical problems as listed below:

→ COVID-19 impacts:

- ◆ **Due to lockdown restrictions we were unable to have in person meetings, making communication/ task delegation harder.**
We quickly adjusted to this by having 1-2 short extra online meetings per week to delegate tasks and see if anyone needed help. This allowed us to work around everyone's constantly changing commitments.
- ◆ **Members had extra commitments (e.g. extra work, looking after siblings), thereby having less available hours.**
To assist these members in their increased commitments, we gave members different deadlines and easier tasks depending on their schedules.

→ Technical issues

- ◆ **Flask was difficult to integrate w/ external files & programs.**
When trying to connect sqlite databases / JS files to the product, we had errors as Flask required specific naming conventions and file use. Sisil was well learned in Flask and able to find our errors and resolve them.
- ◆ **Problems during presentation due to internet issues**
Zoe's internet dropped during our practice presentation. To ensure we could manage this in the final presentation, everyone had a copy of the script. This did happen and Sumeet covered for Zoe, avoiding the problem.
- ◆ **Chosen APIs not offering what was advertised**
To resolve this these APIs e.g. WebMD was replaced with other APIs like Wikipedia and Google Shopping was replaced by SerpAPI. We had to use JavaScript in some cases where we planned to use Python.

Group Reflection

Generally, the group had an enjoyable time doing the project as we worked well together and completed deliverables ahead of time. However we collectively experienced similar issues with the technologies we chose to use, which stemmed from not researching deeply in initial stages of planning. Through working together well, we were able to overcome these issues and produce a product that exceeded our expectations.

We learned and improved on our knowledge on how to create a website with HTML, CSS, Javascript, Flask and SQLite as well as external APIs. Furthermore, we learned that in future, it is better to thoroughly research the tools we plan on using so that we experience less problems further down the track.

The restrictions of coronavirus negatively impacted this project as it made meetings and presentations much harder. There were some technical problems - including the Flask framework being problematic, APIs misadvertising their features and having to learn new programming languages for this course. We managed to overcome this by starting deliverables early and communicating effectively.

In future, we will learn to do more research into frameworks/ external sources before we use them during the designing stage. Another thing to improve on would be to use more centralised resources, so that group members can collaborate more instead of work on individual tasks.

Overall the project was very well done as tasks were delegated early, everyone pulled their weight and communicated problems promptly as they arose.

Personal Reflection

Nathan's Reflection

This project was both enjoyable and successful. Our group completed all deliverables on time and to a high quality and our final product reflected the quality of work and effort put in during the term. I learnt the importance of planning as well as clear objectives to complete a project. As a group, we clearly discussed and documented what needed to be done, by who and by when. This allowed all group members to clearly know what was going on and all contribute to the project evenly. Clear communication and goals as well as committed team members made this project a success. The API's we intended to use turned out to have problems such as doing what we thought they would or not being free. This led to our group having to find new API's at the last minute. To prevent this, when searching for what API's we are going to use, we shouldn't just read the API's documentation, we should test that the API fulfils the criteria that is needed to be met for our project.

Shabrina's Reflection

The project was highly fulfilling in that we were able to achieve and even exceed our goals for the project. Our team was supportive and responsible, so everybody's tasks were completed to an exceptional standard. We were also proactive in ensuring that we finished deliverables with plenty of time before deadlines. The project itself was also satisfyingly challenging as we pushed ourselves to explore new technologies, such as external APIs and new programming languages, to achieve the functionalities we wanted. For example, I learned how to use HTML, CSS and Javascript to create a frontend and use APIs. As these languages were quite different to what I learned in previous CS courses, it was difficult but very rewarding when I was able to achieve the goals for my designated webpage. However, it would have been better if I properly researched the API I thought I could use for my section earlier, as I wouldn't have spent too much time looking for a new one for the final

implementation. In future, it would be a good idea to learn appropriate technologies earlier so that most of the learning isn't crammed in the final stages of development.

Sisil's Reflection

During the project I learnt that without clear oversight the design process can result in issues later in the project. Issues that we encountered were, designing Lo-Fi and Hi-Fi prototypes before we had a chance to test the apis. Even though documentation of the APIs we had selected suggested they would be capable of performing certain tasks, the reality was far from that with some APIs only capable of a fraction of what was suggested. As a result I've learnt that prior to any component of prototyping, I should test the features of an API and see what information they can provide. In addition I found issues with creating a Hi-Fi prototype outside the Flask framework as it required a small amount of extra work to adjust the code to fit the required structure of the framework. Going forward I would aim to have the framework partially set up so all the files are properly structured from the beginning in all future projects.

Sumeet's Reflection

Throughout this project, I had a very positive experience as the team did work evenly and everyone contributed an equal amount of effort. I was already comfortable with HTML & JavaScript but this project solidified my knowledge. A major issue I had was working with the Wikipedia API as it had depreciated over time. This meant I could not access content easily or the pictures on the page. A major positive of this was the requirement definition process for the 'MyMed' product as I was able to break down our problem and become more aware of our current situation w/ coronavirus. In future projects, I will spend more time on research on the problem and external resources available so I can best understand how to attack the problem.

Zoe's Reflection

This project was easily one of my best experiences working in a team. All members of the group were consistent, present and contributed equally to the project. One of the biggest issues I had was translating the Lo-Fi and Hi-Fi prototypes into the final product. I had to adapt a bootstrap calendar widget so that it would fit into the system, and would reflect changes in the SQLite database, so I struggled to connect the backend to the frontend. Despite this, I learned how to be more flexible with design structure, and adapt my ideas to what was actually possible in the time we had. In the future, I should definitely do more research into the various systems and how they would link up to each other, prior to implementing my own ideas.