

SENG2021

Deliverable 2



Engineering

2021 - Trimester 1

The Procrastinators

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Part 1: Software Architecture

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

To achieve our desired web application we will be using a web crawler to gather the relevant event data. This data will then be injected into an SQL database which can then be accessed by the server.

2. Software components: the selected Web stack showing major software components that comprise your solution. These will include both components that need to be developed and third-party components (e.g. web browser).

The web stack includes the following major components:

Operating system: Linux

Webbrowser: Chrome

Webserver: Amazon EC2

Database: SQL

Backend script interpreter: python3

Frontend script interpreter (for browser): Javascript HTML CSS

3. Relating choices to components: decide which language should be used for which component of the software architecture. This will be largely determined by the Web stack but at the same time you can make variations

We had a discussion about the languages everybody is comfortable with and we decided on Python3 for the backend and HTML CSS for the frontend after consideration of a number of factors.

We decided on Python3 for the backend because of the easy to use syntax, universibility and the vast range of reliable libraries.

HTML CSS were preferred because of most of our team was familiar with it and a good frontend can be developed with these languages

4. The choice of a platform: decide on machine or machines requirements (Linux, Windows etc.) for the final system Selected theme and user requirements Software Design Interface Design Implementation Considerations Software Architecture

The team decided to implement our final product on an Amazon Elastic Compute Cloud (Amazon EC2), made possible through Amazon Web Service (AWS). We have decided on using Amazon EC2 through consideration of several factors such as scalability, security, and using the cloud to allow for easy deployment of the product. The operating system chosen to run on Amazon EC2 is Linux, as members of the team are most familiar with developing on that OS.

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

For our project, we will be implementing a client-server architecture using the following webstack: Linux for the operating system, Amazon EC2 for the web server, SQL for the Database, Python for the backend and HTML/CSS and Javascript for the frontend. We will also be extracting data for our project through the use of a web crawler.

Our web application needs to retrieve relevant data related to university events and their details from external sources. To do this, we are using a web crawler, as it is a lot easier to integrate this to directly and continuously inject data into an SQL database, from which it is easily and consistently accessible by our server. We have also gone down this route as it allows us to source data from multiple sources as not all events are made on only one platform.

We chose Linux for the operating system as our team is most familiar with developing on that OS. Linux is open source, which makes it easier for everyone in the team to access and use it, in addition to Linux being more secure and more powerful than Windows, with fast software updates.

For our web server, we decided on Amazon Elastic Compute Cloud (EC2) as it provides scalability, security and ease of product deployment and ease of use for developers, all of which are key features we need from our infrastructure when developing a secure web-based application.

For our database, we will be using SQL as our team is most familiar with this language and because it is the standard language for a relational database management system, which makes it easier for us to handle and manage data.

Our backend will be using Python3 as our team is also most familiar with it, due to its nature of being easy to use, with a wide range of libraries that can be utilised to suit our needs, and it is very portable.

Alongside Python3, we will also be using the Flask framework for web development because compared to other Python frameworks, such as Django, Flask is more beginner friendly, more Pythonic and more flexible.

Finally, for our frontend, we will be using HTML/CSS and Javascript as they are the most common and widely used for web page content and structure, and allows us to create an engaging interface for our users.

Part 2: Initial Software Design

Change Log

Removals

None

Additions

None

Edits

1. User story 1.1 and scenario.

Originally -

“As a student, I want to be able to filter events by their type so that I am able to view types of events I am interested in”

Changed to -

“As a student, I want to be able to filter events by their type (social, networking, seminar, workshop) so that I am able to view types of events I am interested in.”

Originally -

GIVEN I am on the landing page of the application

WHEN I click on the filter button and enter the event type I want to view

THEN all events with the corresponding type will be displayed on the home page

Changed to -

GIVEN I am on the landing page of the application

WHEN I click on the filter button

THEN I see a drop down menu appear with the event types: social, networking, seminar, workshop.

AND when I select the appropriate filter I want to apply

THEN all events with the corresponding type will be displayed on the home page

Both user story and scenario was revised to better showcase what a user should expect whilst using our web application.

2. Scenario for user story 1.3.

Originally -

GIVEN I am on the landing page of the application

WHEN there is an event on the feed

THEN I should be able to view a brief description of the event

WHEN I click into the event

THEN I should be able to view the full description of the event

Changed to -

GIVEN I am on the homepage of the web application

WHEN there is an event on the feed

THEN I should be able to view the event's title as well as date

WHEN I click the event

THEN I should be able taken to a new page where I can view the full description of the event

Was revised to better show the web application's behaviour with user interaction.

3. Scenario for user story 1.6

Originally -

GIVEN I am on the landing page of the application
WHEN there is an event on the feed
THEN I should be able to see different events and their organisers

Changed to -

GIVEN I am on the homepage of the web application
WHEN there is an event on the feed
AND I click an event
THEN I should be redirected to the event specific page
AND I should be able to view all the details for that event including the detailed description, date and time, location as well as the organiser.

Was revised to better show how we expect the web application to fulfill the user story.

4. User story 2.5

Originally -

“As a student, I want to be notified when new events are created so that I can have as much time as possible to plan for them.”

Changed to -

“As a student, I want to be notified by email when new events are created so that I can have as much time as possible to plan for them.

5. User story 2.6.

Originally -

“As a user, I want to be able to turn off notifications for certain events that I am not interested in, so that my phone will not be full of notification.”

Changed to -

“As a user, I want to be able to turn off email notifications for certain events that I am not interested in, so that my email inbox is not spammed with event information.”

Was revised to better clarify the type of notifications our users should expect by using our application.

User Story 1.1

As a student, I want to be able to filter events by their type (social, networking, seminar, workshop) so that I am able to view types of events I am interested in.

Scenario-

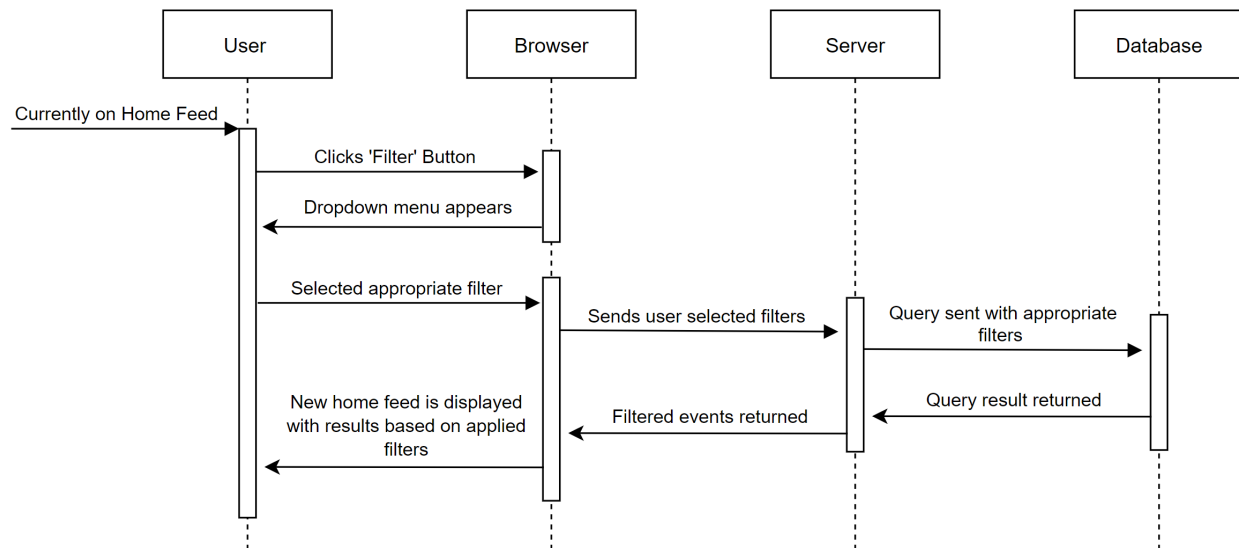
GIVEN I am on the homepage of the web application

WHEN I click on the filter button

THEN I see a drop down menu appear with the event types: social, networking, seminar, workshop.

AND when I select the appropriate filter I want to apply

THEN all events with the corresponding type will be displayed on the home page



User Story 1.2

As a student, I want to be able to view start and end dates and/or times of events so that I am able to see if I can attend or not.

Scenario-

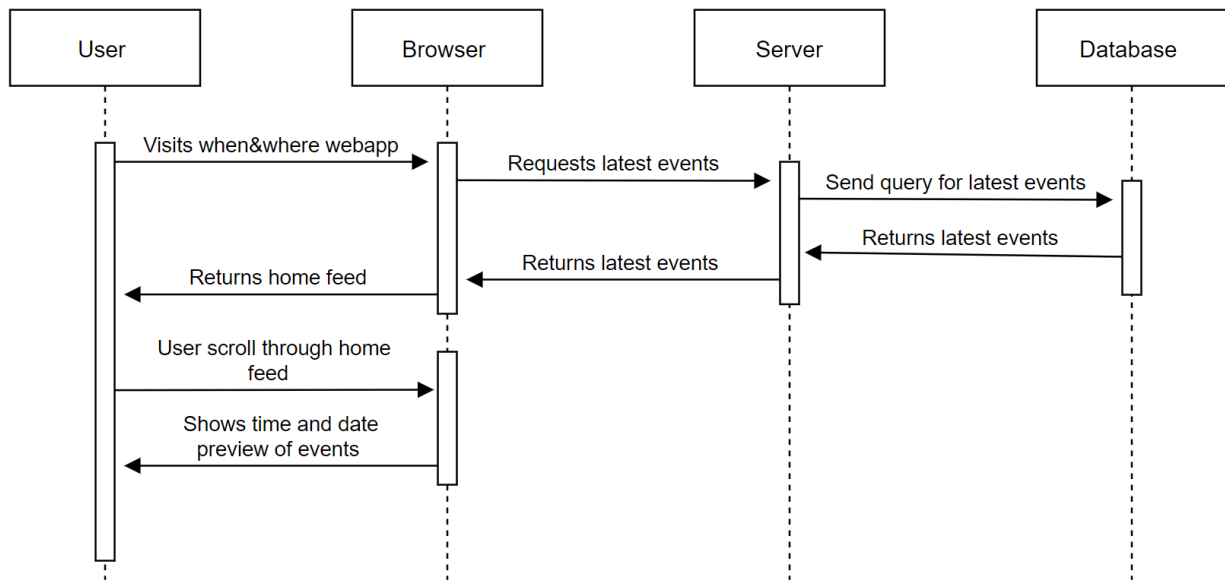
GIVEN I am on the homepage of the web application

WHEN there is an active event on the feed

THEN the event's date should be viewable

WHEN I select the event

THEN the event's time and date should be viewable



User Story 1.3

As a student, I want to be able to view a description of specific events so that I can know if that event is something I would be interested in.

Scenario-

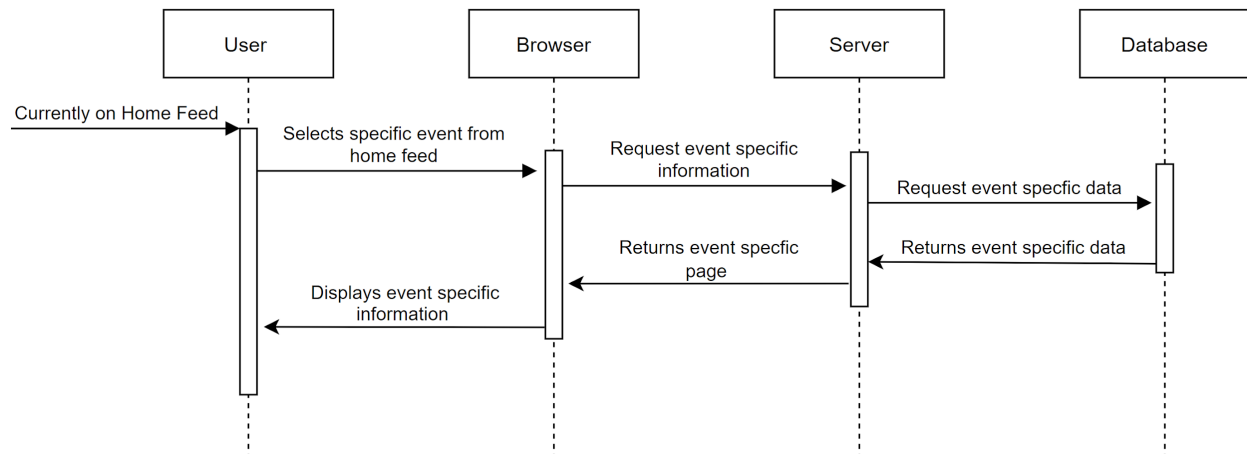
GIVEN I am on the homepage of the web application

WHEN there is an event on the feed

THEN I should be able to view the event's title as well as date

WHEN I click into the event

THEN I should be able taken to a new page where I can view the full description of the event



User Story 1.4

As a student, I want to be able to see the location of events so that I know where to go if I choose to attend that event.

Scenario-

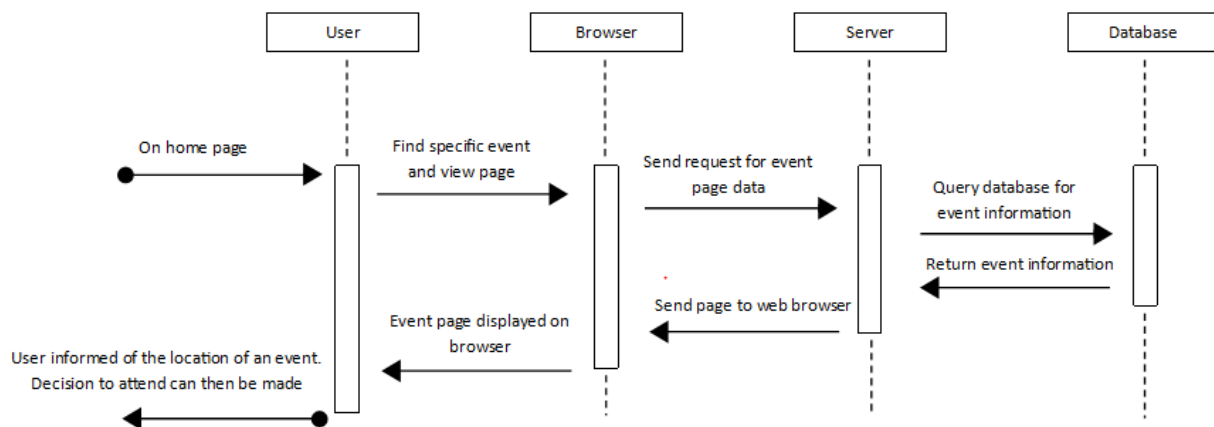
GIVEN I am on the home page of the application

WHEN there is an event on the feed

WHEN I click into the event

THEN I should be redirected to the event specific page

THEN I should be able see the location name and a map of the location of the event



User Story 1.5

As a student, I want to be able to filter events by university so that I am able to see only relevant event information for me.

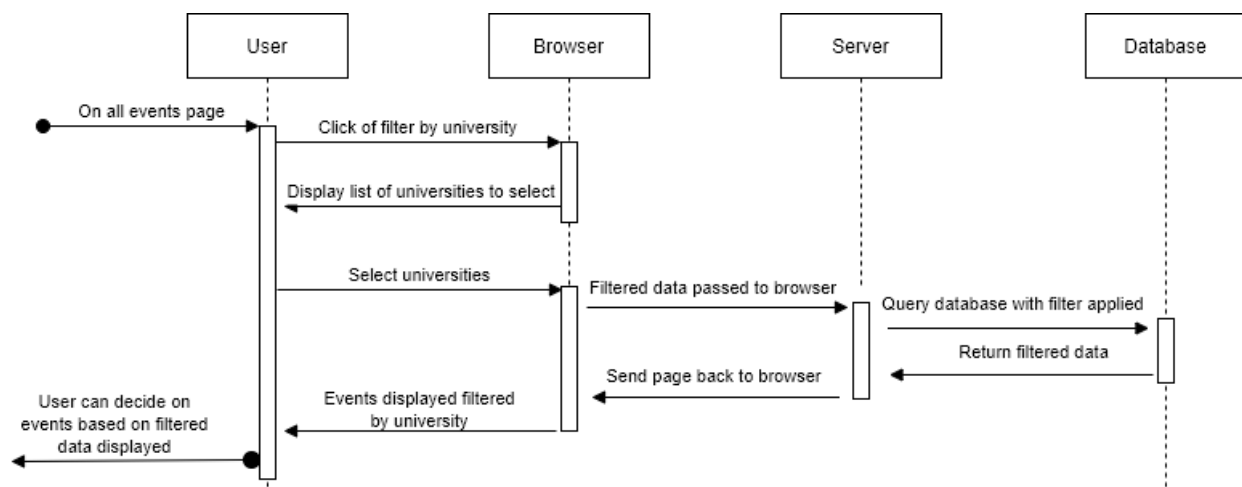
Scenario-

GIVEN I am on the all events page of the application

WHEN I click on the filter button

AND select my desired university

THEN the web application should refresh and only show me events that are run by the selected university on the home feed.



User Story 1.6

As a student, I want to be able to view specific events and their organisers so that I am able to properly assess if this is an event that I am interested in.

Scenario-

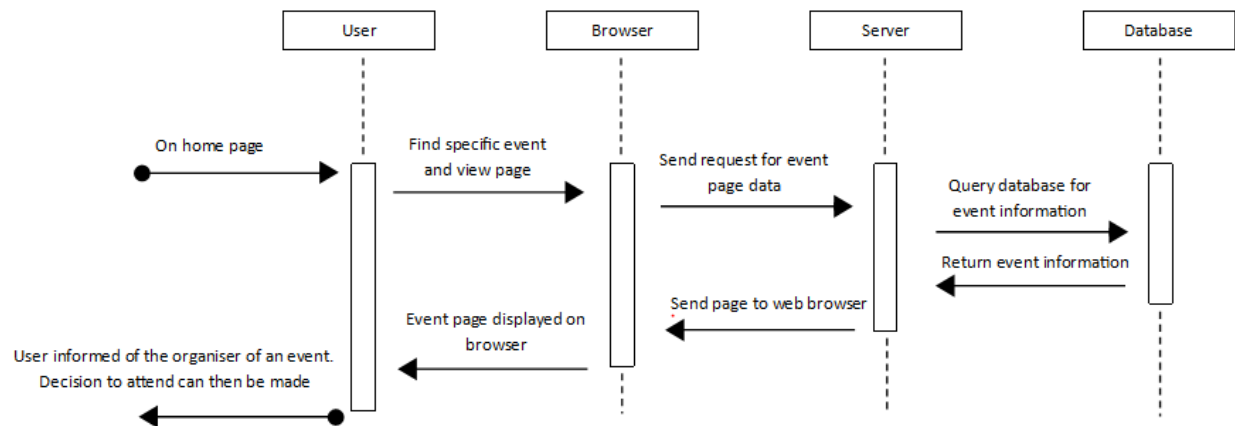
GIVEN I am on the homepage of the web application

WHEN there is an event on the feed

AND I click an event

THEN I should be redirected to the event specific page

AND I should be able to view all the details for that event including the detailed description, date and time, location as well as the organiser.



User Story 1.7

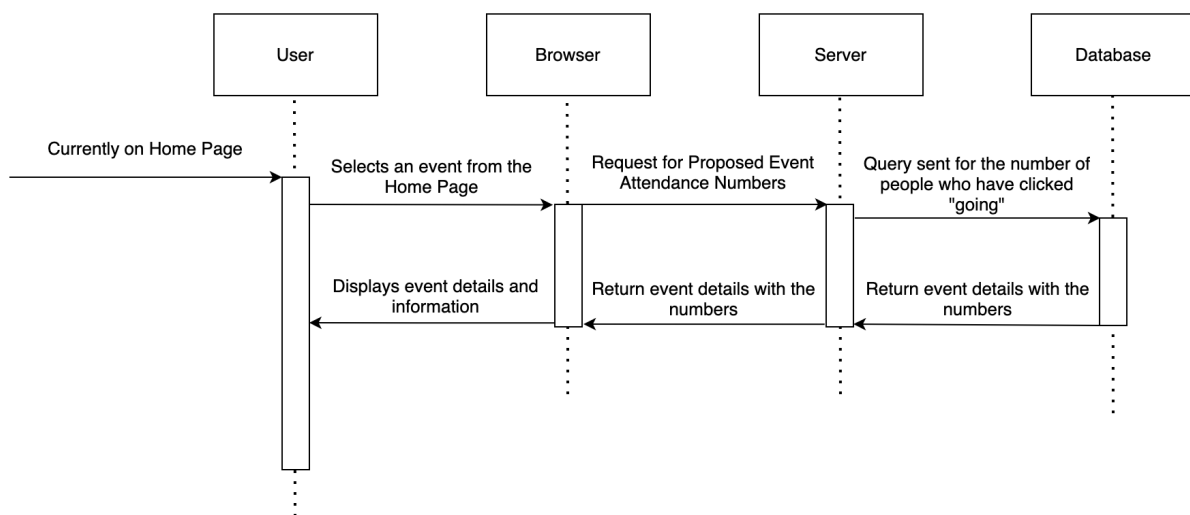
As a student, I want to be able to judge how popular an event is by checking how many people are going.

Scenario-

GIVEN I am on the home feed of the web application

WHEN I click an event on the home feed.

THEN the number of people attending the event should be visible



User Story 2.1

As a student, I want to be able to log in using my student email credentials so that I may receive results personalised to me.

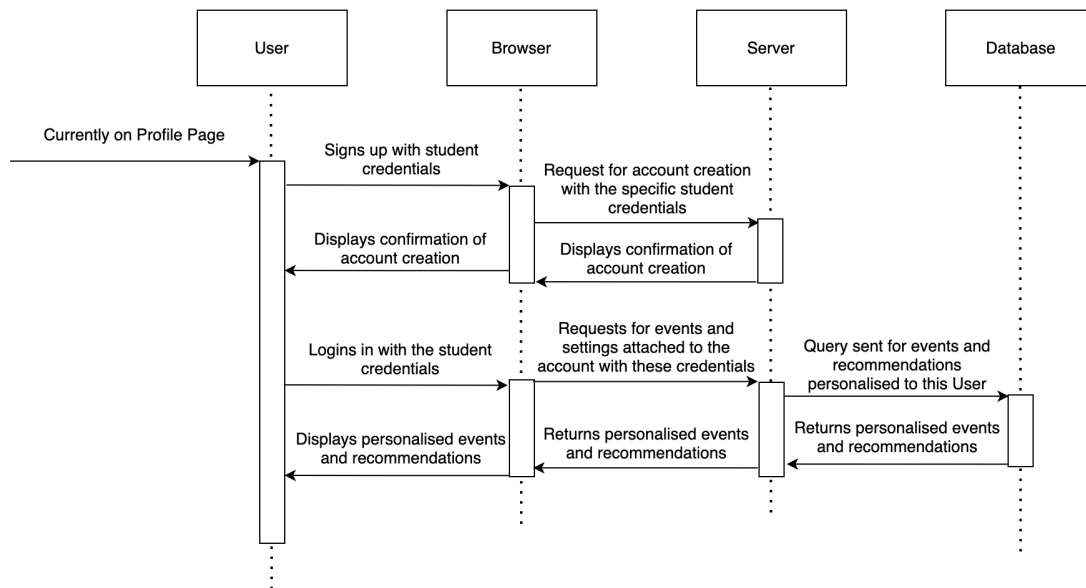
Scenario-

GIVEN I am on the login screen

WHEN I input my login credentials

AND I select login

THEN I should be logged in and redirected to my own personal feed



User Story 2.2

As a student, I want to be able to import university events to my personal calendar (Google/iCal) so that I am able to better see how it fits into my current schedule.

Scenario-

GIVEN I am on an events page

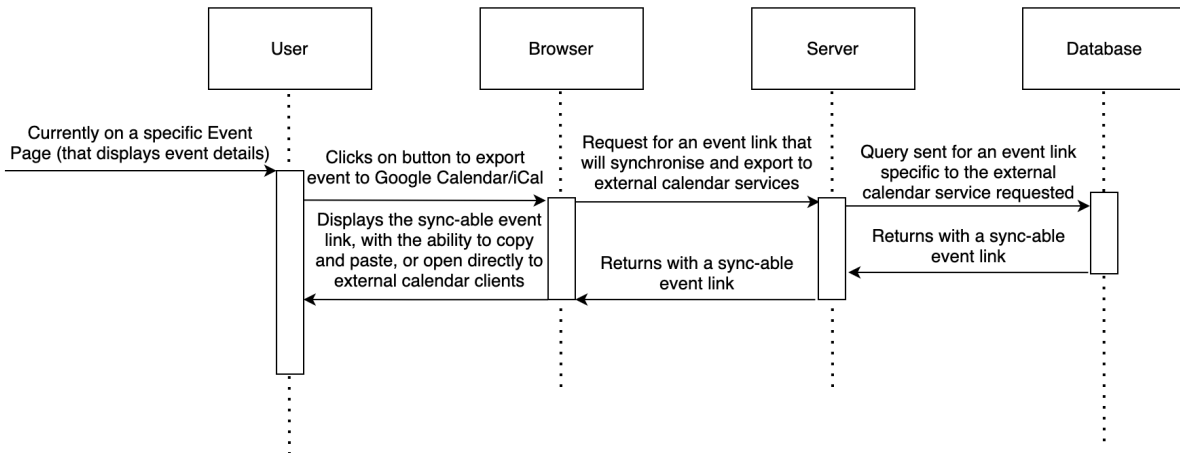
WHEN I click an event

THEN I should be redirected to the event specific page.

WHEN I click the export event button

THEN A request link should then be displayed

AND I am able to use this link to add the event to my calendar



User Story 2.3

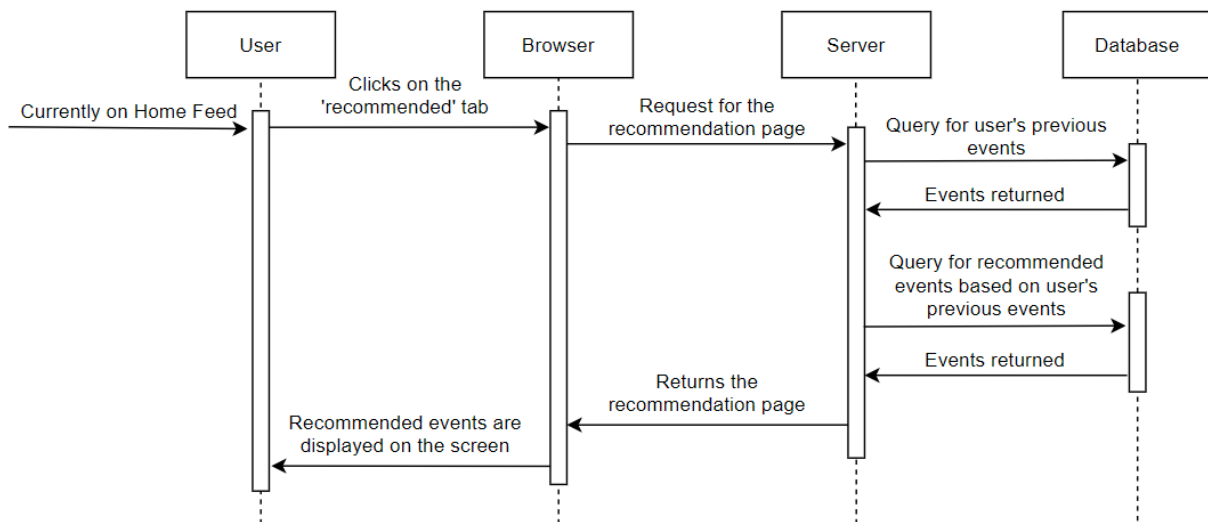
As a student, I want events to be recommended to me based on my past event attendance so that I can be more aware of events that I may be interested in.

Scenario-

GIVEN I am on the homepage page of the application

WHEN I scroll through the list of events

THEN I should be recommended relevant events based on my degree and previous attended events



User Story 2.4

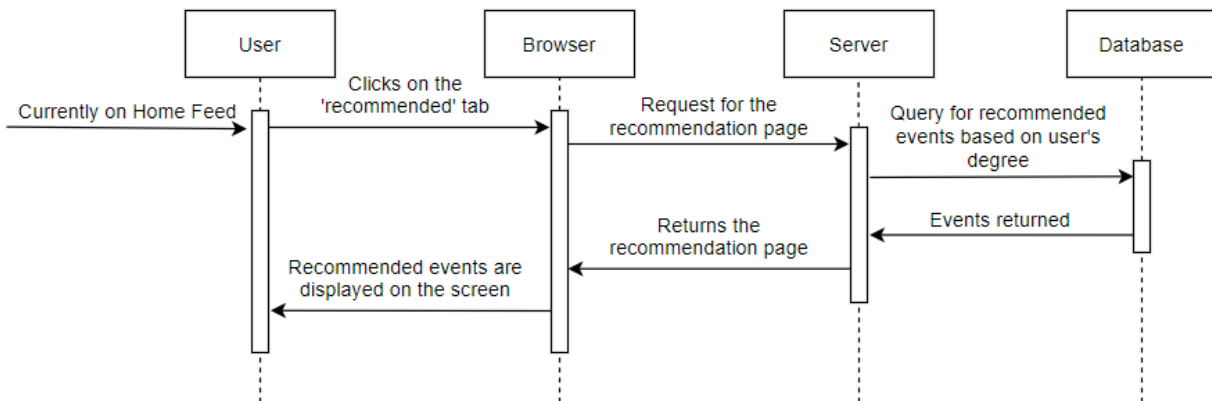
As a student, I want events to be recommended to me based on my degree so that I can be more aware of events that I may be interested in.

Scenario-

GIVEN I am on the homepage page of the application

WHEN I scroll through the list of events

THEN I should be recommended relevant events based on my degree and previous attended events



User Story 2.5

As a student, I want to be notified by email when new events are created so that I can have as much time as possible to plan for them.

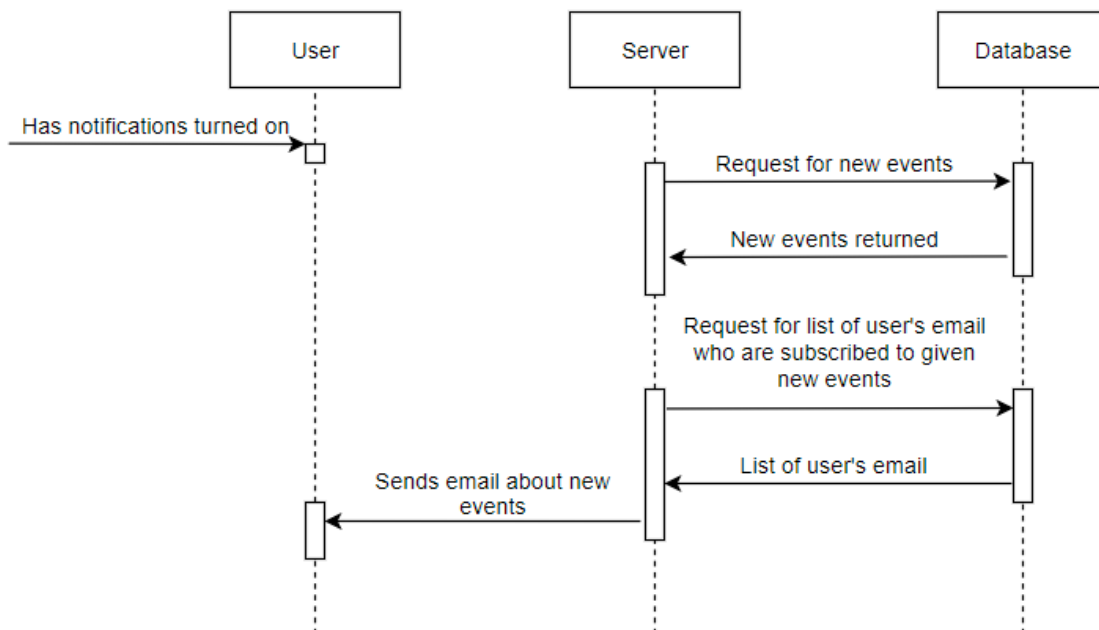
Scenario-

GIVEN I have subscribed to or been recommended events

WHEN new events are created

THEN I should be notified by email about them

WHEN I view the email



User Story 2.6

As a user, I want to be able to turn off email notifications for certain events that I am not interested in, so that my email inbox is not spammed with event information.

Scenario-

GIVEN I am on the homepage page of the application

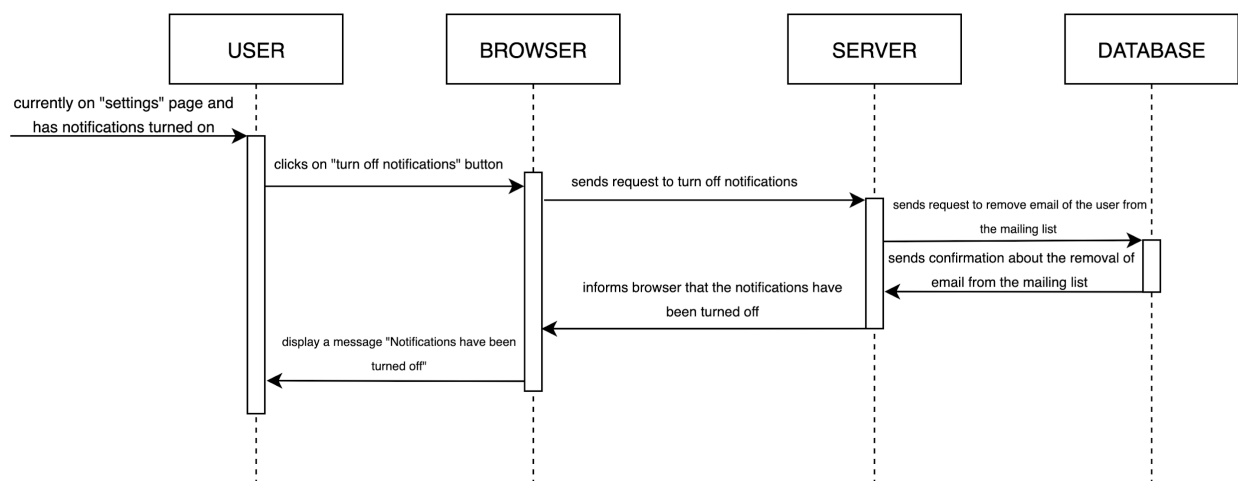
WHEN I click into a specific event

THEN I should be directed into the event page

WHEN I click on the drop down menu

AND I click onto 'settings'

THEN I should be able to turn off email notifications



User Story 2.7

As a student, I want to be able to view my previous attended events so that I can keep track of the different events I have been to.

Scenario-

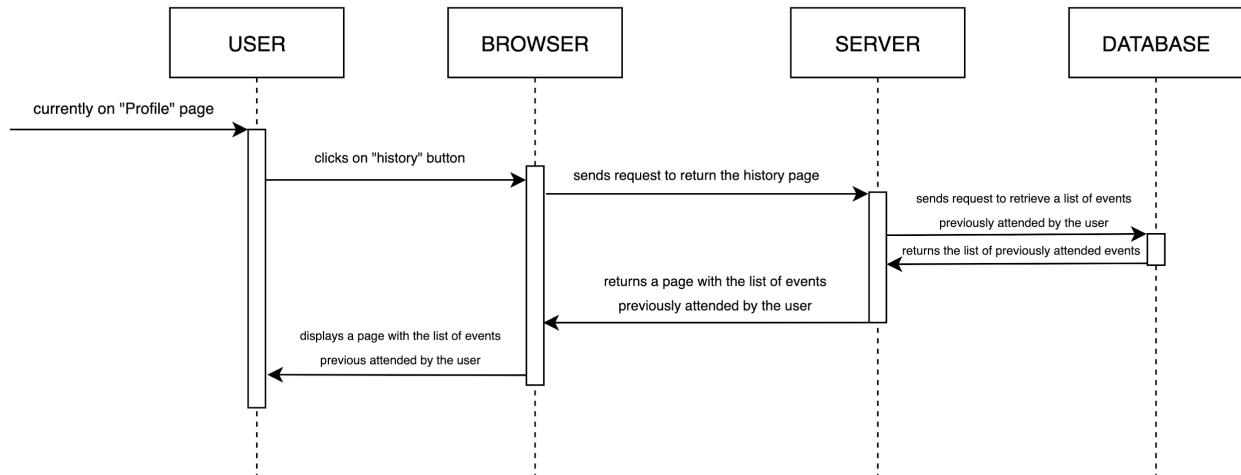
GIVEN I am on the homepage of the application

WHEN I click 'Profile'

THEN I should be redirected to my profile page.

WHEN I click 'History'

THEN I should be shown a list of events that I have previously clicked attending on.



User Story 3.1

As a student, I want to be able to see reviews and ratings of previous similar events so that I know whether the upcoming event will be suitable for me.

Scenario-

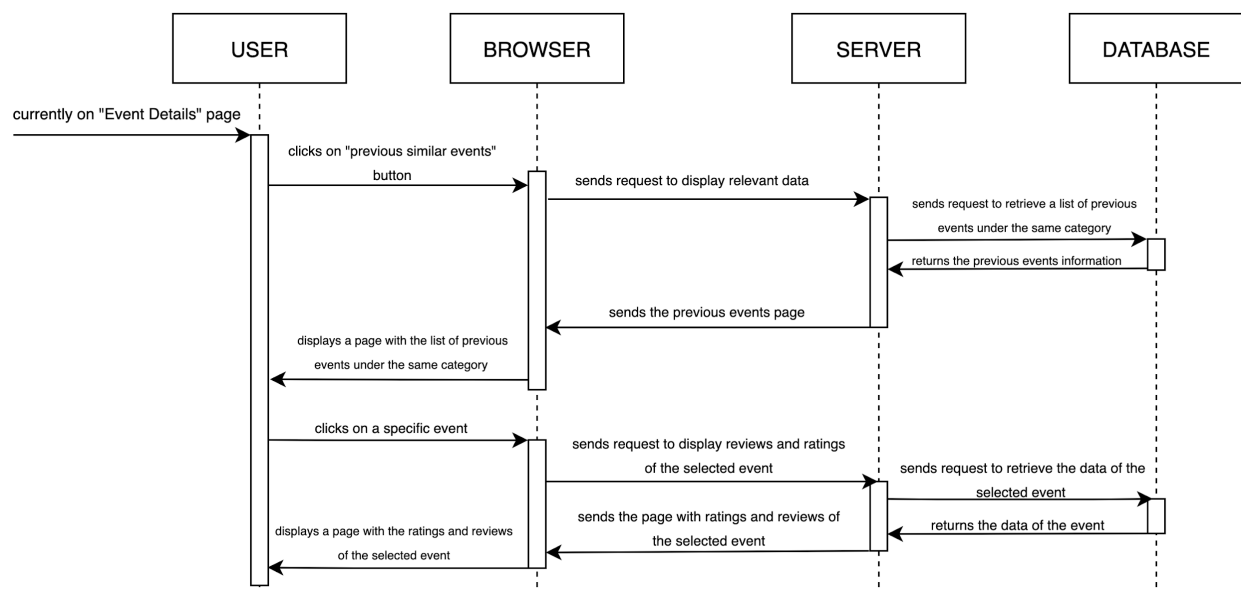
GIVEN I am on the 'History' page

WHEN I click on 'Previous Similar Event's' button

THEN A new page with a list of previous events under the same category and their rating should be shown.

WHEN I select a specific event

THEN I should be redirected to the event specific page where I can then see the past event's rating as well as reviews.



User Story 3.2

As a student, I want to be able to give a review for an event I have attended so that the organisers can get feedback on their event.

Scenario-

GIVEN I am on the homepage page of the application

WHEN I click onto the 'history' page

AND I click onto an event that I have just attended

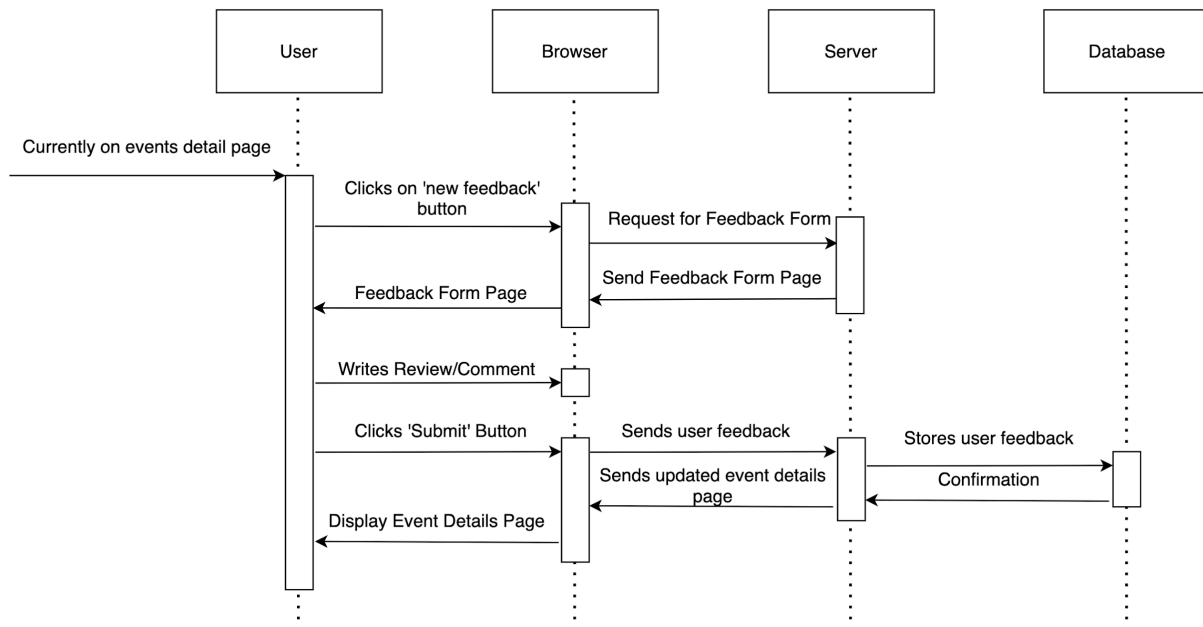
THEN I should be navigated to the events page

WHEN I scroll to the bottom of that events page

AND I click 'Give feedback'

THEN I should be redirected to a feedback page with a star rating section as well as a review text section.

THEN I should be able to review and give a rating of that event



User Story 3.3

As a student, I want to be able to give a rating for an event that I have attended so that the organisers can get feedback on their event.

Scenario-

GIVEN I am on the homepage page of the application

WHEN I click onto the 'history' page

AND I click onto an event that I have just attended

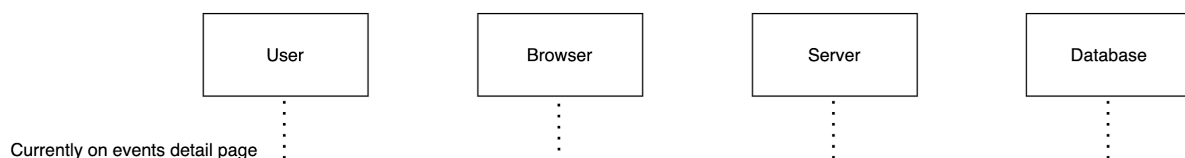
THEN I should be navigated to the events page

WHEN I scroll to the bottom of that events page

AND I click 'Give feedback'

THEN I should be redirected to a feedback page with a star rating section as well as a review text section.

THEN I should be able to review and give a rating of that event



User Story 3.4

As an event organiser, I want to be able to see reviews of events organised by me so that I know what I need to improve and sustain.

Scenario -

GIVEN I am on the homepage page of the application

WHEN I click onto the history page

THEN I should be able to see the history of my events

WHEN I click on one of the events

THEN I should be able to see the ratings and reviews of that event

