

JobHunta by Etchness

FINAL REPORT

UNSW SENG2021

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Business

Purpose and problems addressed

The process of looking for a job is extremely time-consuming with users forced to frequently check a wide variety of websites in order to stay up-to-date on all available jobs. There is also currently no convenient way of accessing personalised industry news in one place so that users can be knowledgeable about any recent changes or innovations in their interested industries. Additionally, it is difficult to keep track of jobs that are specific to an individual's needs and interests from a variety of job hubs as well as all their application statuses.

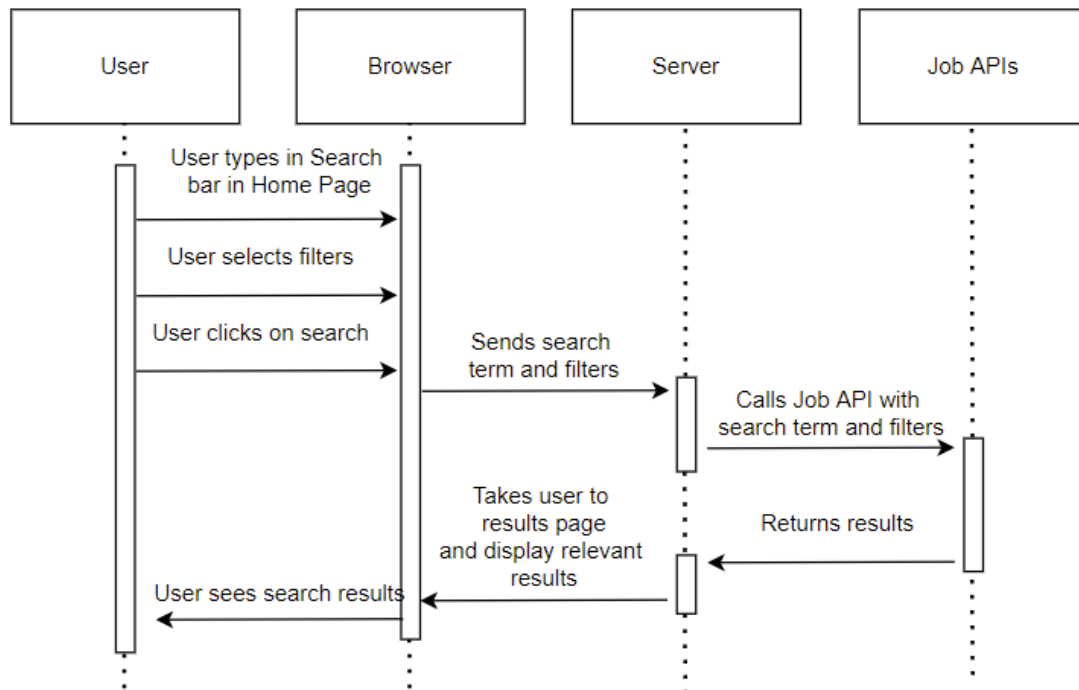
Our web application, Job-Hunta, takes popular job search APIs such as CareerJet, Adzuna, and GitHub Jobs, and combines them into one integrated job hub for our user's convenience, whilst offering a multitude of quality features mentioned below:

Features

1. Search bar for jobs that filter by location, salary, job type, and keyword.
 - a. As a jobseeker, I want a search bar for jobs so that I can find specific job postings based on keywords.
 - **Search job postings by keyword:** Given that I am on the home page or results page, when I fill in "retail" in the search bar and click "search" then I can view the most relevant job postings that are specified as "retail"
 - b. As a jobseeker, I want a filter for jobs so that I can find specific job postings based on location.
 - **Search job postings by location:** Given that I am on the home page or results page, when I type "Sydney" under the location filter then I can view the most relevant job postings that are located in or around "Sydney".
 - c. As a jobseeker, I want a filter for jobs so that I can find specific job postings based on salary.
 - **Search job posting by salary:** Given that I am on the home page or results page, when I click "100 000K" under the salary filter then I can view the most relevant job postings that has a salary of at least 100 000K pa
 - d. As a jobseeker, i want a filter for jobs so that i can find specific job postings based on job type.

- **Search job postings by job type:** Given that I am on the homepage or results page, when I click “part-time” under the job-type filter then I can view the most relevant job postings that are specified as looking for part-time workers

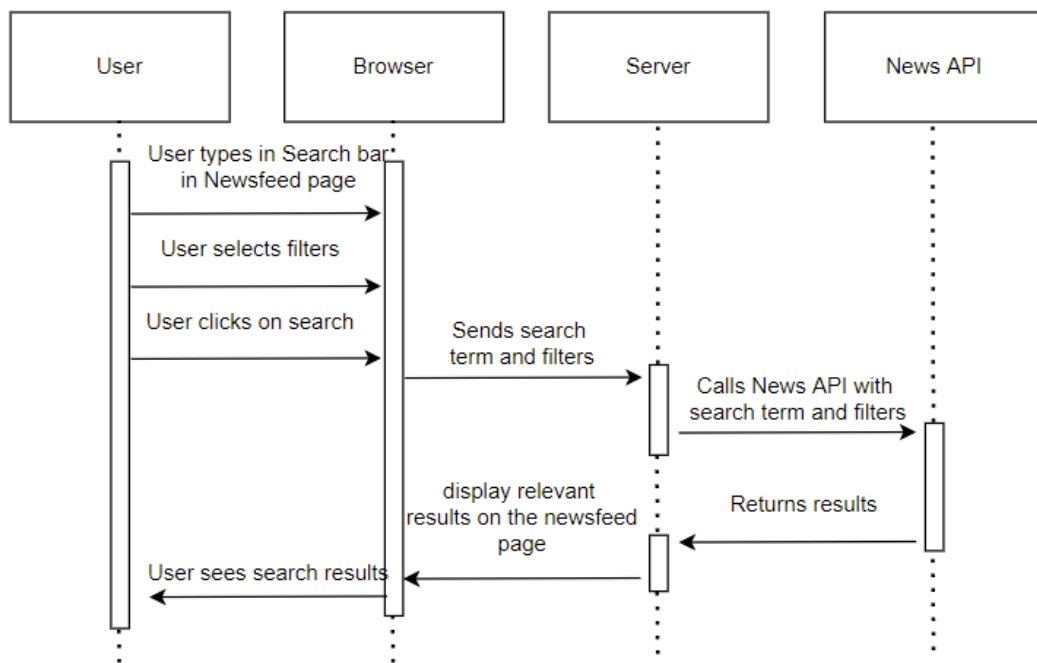
Jobs Search bar



2. Search bar for the newsfeed that filters by the date posted, category, country, and keyword.
 - a. As a jobseeker, I want a search bar for the newsfeed so that I can find specific news articles based on keywords.
 - **Search news articles by keyword:** Given that I am on the newsfeed page, when I fill in “retail” in the search bar and click “search” then I can view the most relevant news articles posted within a default of 3 days of the current date and are about “retail”.
 - b. As a jobseeker, I want a filter so that I can find specific news articles based on the date posted.
 - **Search job posting by date posted:** Given that I am on the newsfeed page, when I click “1 week” under the time frame filter then I can view the most relevant news articles posted within 1 week of the current date.
 - c. As a jobseeker, I want a filter for the newsfeed so that I can find specific news articles based on the date posted.

- **Search news articles by country:** Given that I am on the newsfeed page, when I select "Australia" under the country filter then I can view the most relevant news articles posted within a default of 3 days of the current date and are about "Australia"
- d. As a jobseeker, i want a filter so that i can find specific news articles based on categories
- **Search job postings by a category:** Given that I am on the newsfeed page, when I click "sports" under the category filter then I can view the most relevant news articles posted within a default of 3 days of the current date and are about "sports"

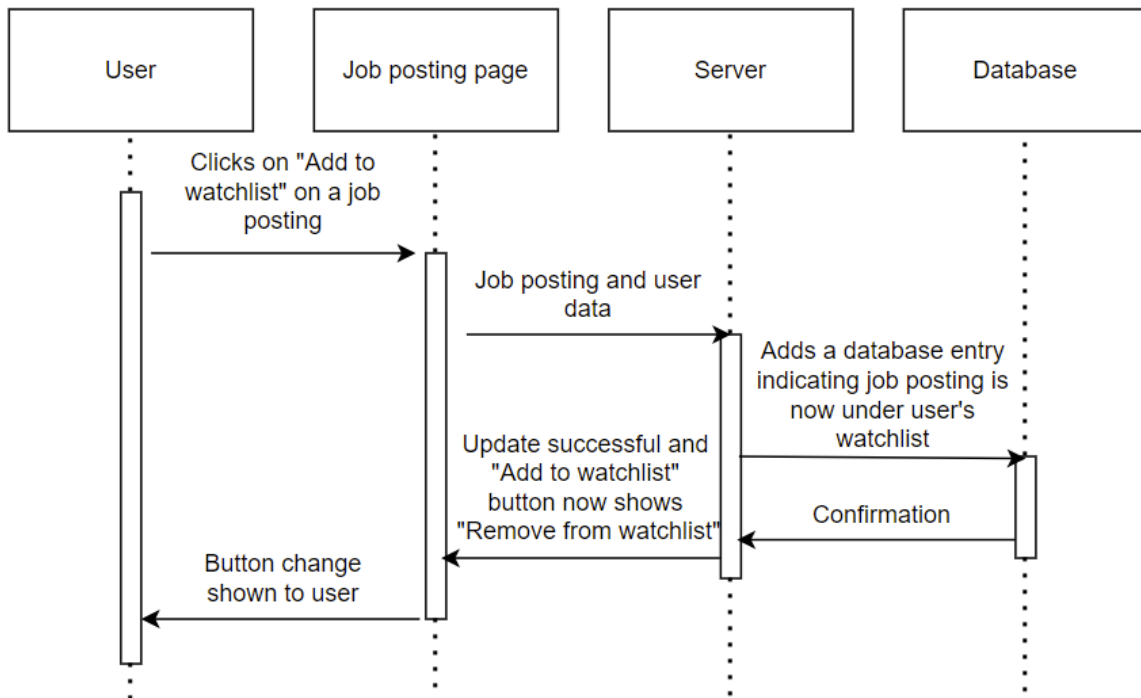
News Search bar



3. Watchlist for job postings

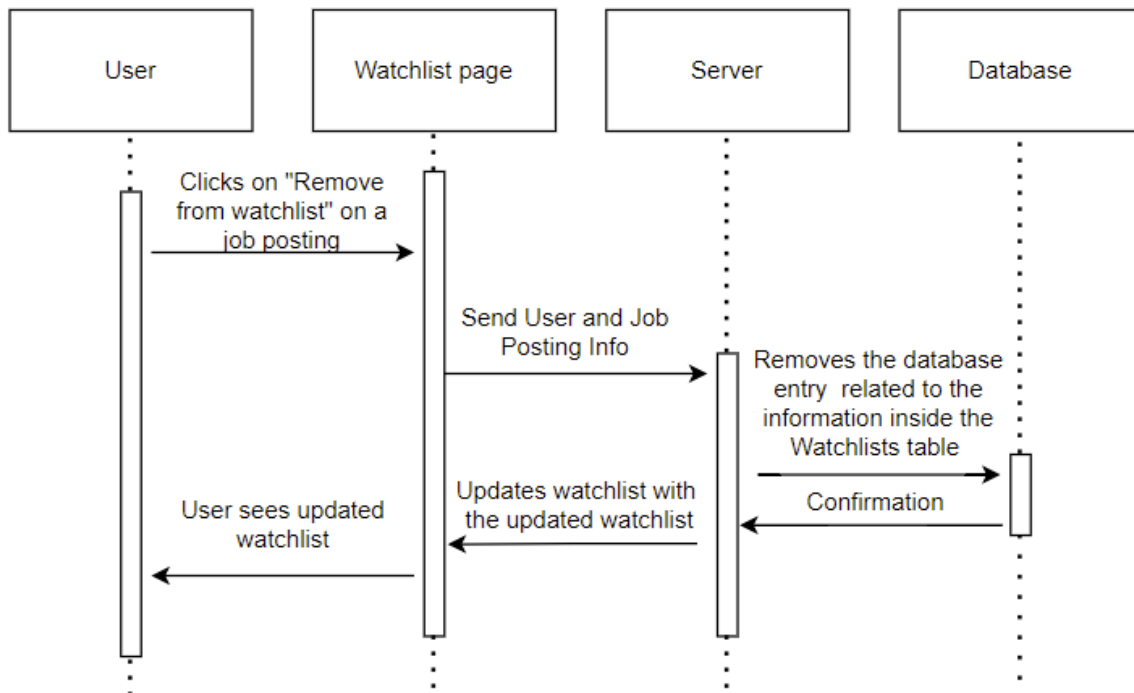
- a. As a jobseeker, I want to add job postings to watchlist so that I can check the availability and details of the job posting.
- **Add a job posting to the watchlist via job posting page:** Given that I am logged in viewing a job posting, when I click the "Add to Watchlist" button, then I have that job posting added to my watchlist and then the "Add to Watchlist" button's text will change to "Remove from Watchlist" giving a clear indication that I have added the job.

Watchlist (Add job posting to watchlist through job posting page)



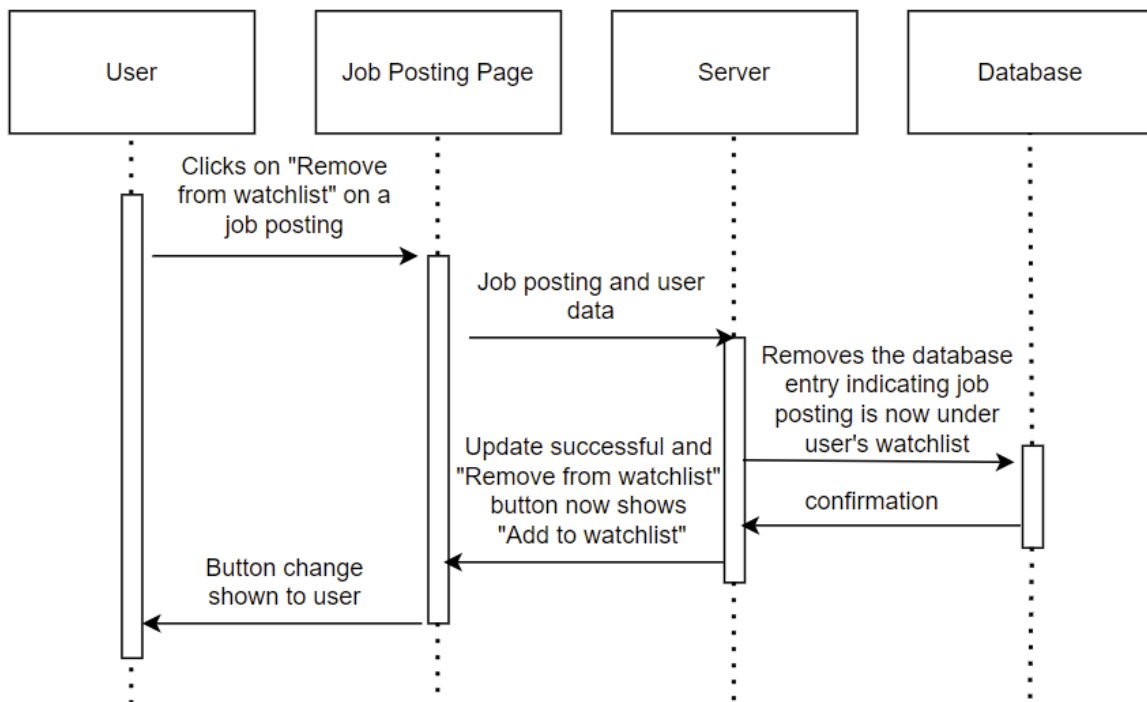
- b. As a jobseeker, I want to remove job postings from my watchlist so that I only have a list of job postings that I am still interested in.
- **Remove a job posting from the watchlist via watchlist page:** Given that I am logged in and on my watchlist page, when I am viewing the watchlist, then I can see the job postings ordered by my most recent add, and each job posting will have a "Remove from watchlist" button on its right, when i click the the "Remove from Watchlist" button then I have that job posting removed from my watchlist

Watchlist(Remove a job posting on Watchlist page)



- **Remove a job posting from the watchlist via job posting:** Given that I am logged in and viewing a job posting, when I click the "Remove from Watchlist" button, then I have that job posting removed from my watchlist and then the "Remove from Watchlist" button's text will change to "Add to Watchlist" giving a clear indication that I have removed the Job.

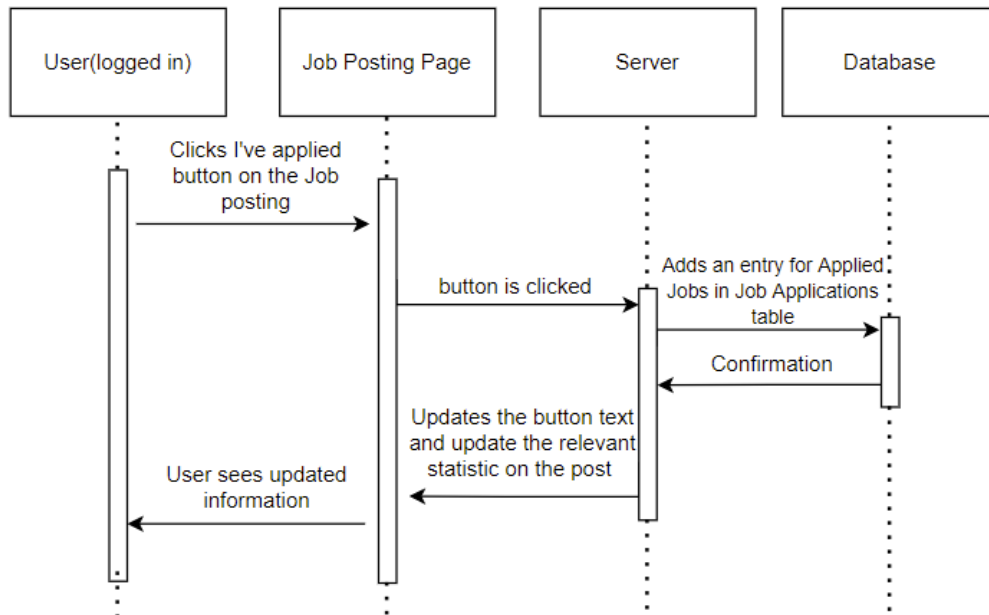
Watchlist (Remove job posting from watchlist through job posting page)



4. Tracking the job application status

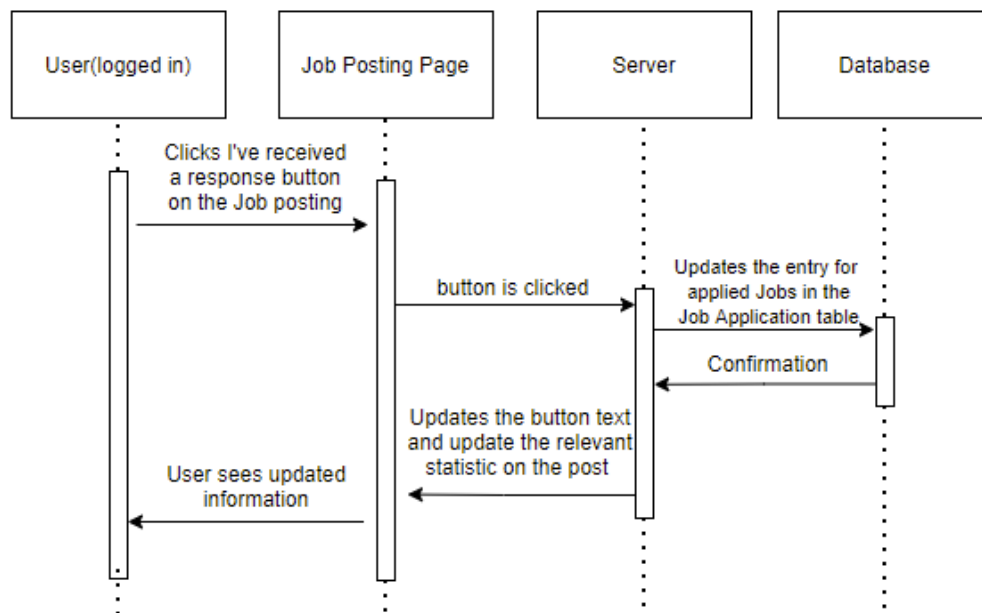
- a. As a jobseeker, I want to be able to mark a job as applied so I can keep track of which jobs postings I've applied to.
- **Mark a job posting as having applied to:** Given that I am logged in and viewing a job posting that no one including me has previously applied for, then the statistics in the job posting regarding the applied applications will show "0 people have applied.", when I click on the "I've applied" button then the button's text will change to "I've received a response" and the statistics regarding the applied applications will change to "1 people have applied." and the job posting will now be added to the applied jobs list.

Job application tracking (Job posting Page)



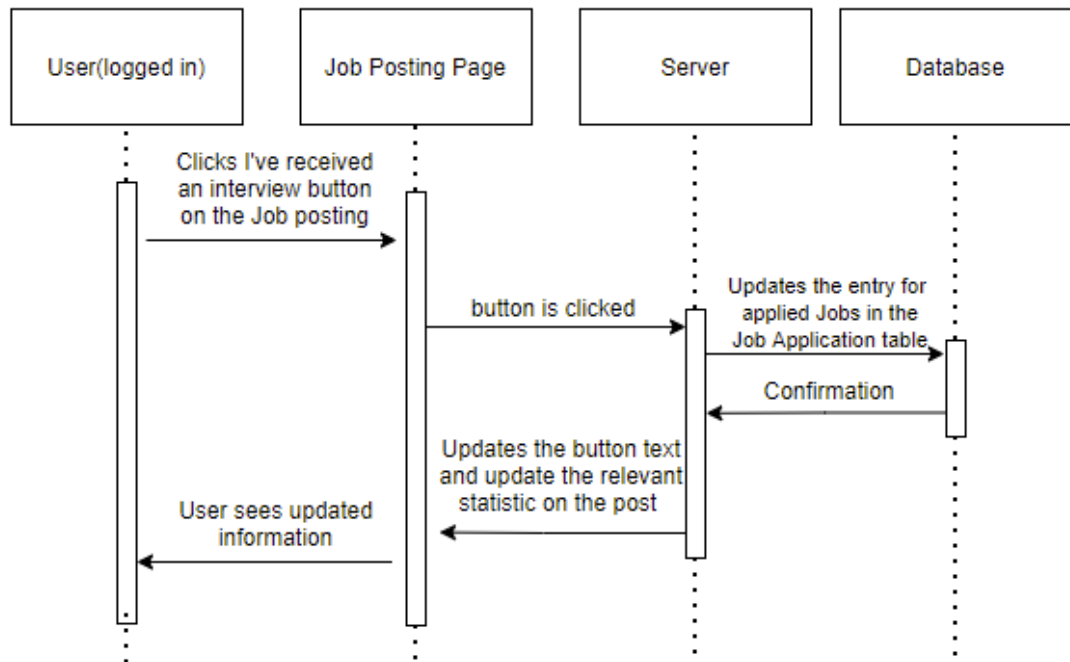
- b. As a jobseeker, I want to be able to mark a job as having received a response so I can keep track of which jobs posting applications that I've received a response from.
- **Mark a job posting as having received a response:** Given that I am logged in and viewing a job posting that I have previously applied for, then the statistics in the job posting regarding the applications with a response will show "1 people have applied." and "0 people have received a response", when I click on the "I've received a response" button then the button's text will change to "I've received an interview" and the statistics regarding the application status will change to "1 people have applied." and "1 people have received a response".

Job application tracking (Received Response)



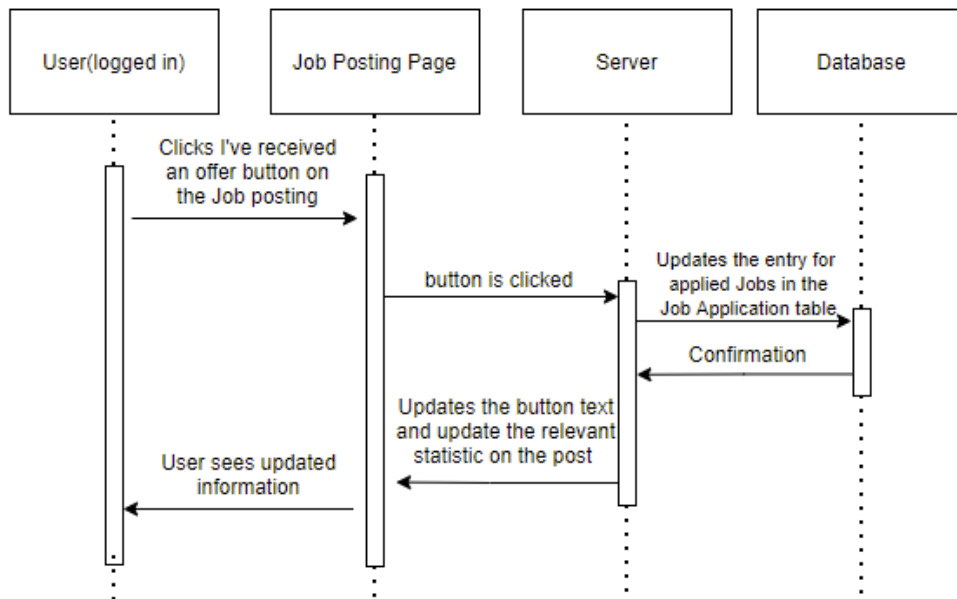
- c. As a jobseeker, I want to be able to mark a job as having received an interview so I can keep track of which jobs posting applications that I've received an interview from.
- **Mark a job posting as having received an interview:** Given that I am logged in and viewing a job posting that I have previously received a response for, then the statistics in the job posting regarding the applications with an interview will show "1 people have applied." and "1 people have received a response" and "0 people have received an interview", when I click on the "I've received an interview" button then the button's text will change to "I've received an offer" and the statistics regarding the application status will change to "1 people have applied.", "1 people have received a response", and "1 people have received an interview".

Job application tracking (Received Interview)



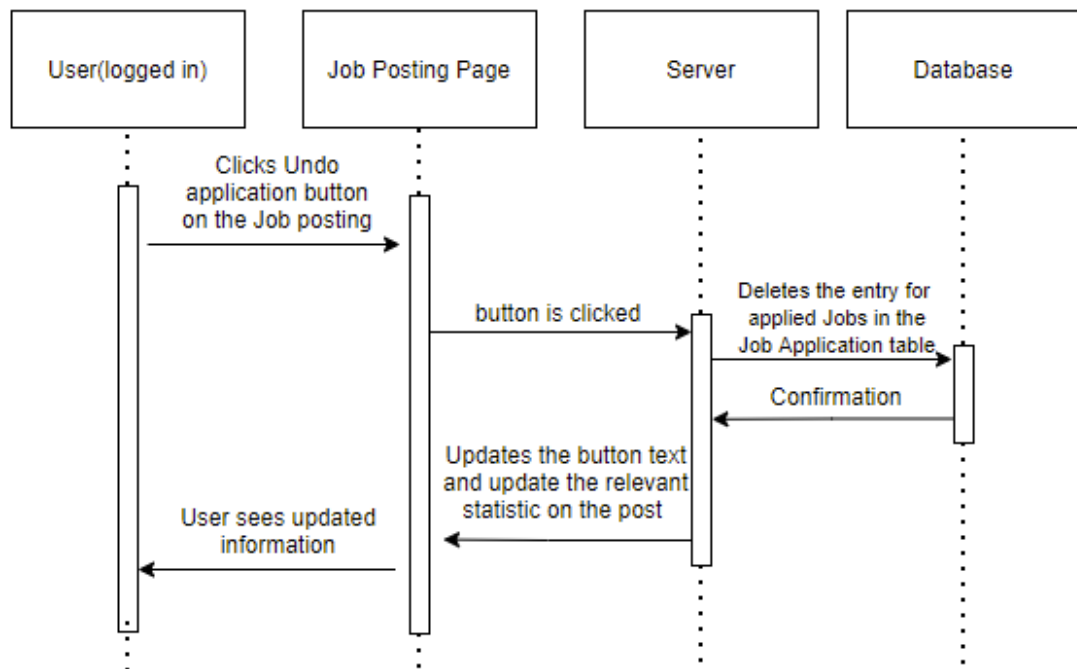
- d. As a jobseeker, I want to be able to mark a job as having received an offer so I can keep track of which jobs posting applications that I've received an offer from.
- **Mark a job posting as having received an offer:** Given that I am logged in and viewing a job posting that I have previously received an interview for, then the statistics in the job posting regarding the applications with an offer will show "1 people have applied." and "1 people have received a response", "1 people have received an interview" and "0 people have received an offer", when I click on the "I've received an offer" button then the button's text will change to "Thanks for the response" and the statistics regarding the application status will change to "1 people have applied.", "1 people have received a response", "1 people have received an interview" and "1 people have received an offer"

Job application tracking (Received Offer)



- e. As a jobseeker, I want to be able to undo the job application status so that I can correct or change the status of the job application.
- **Undo the status of the job posting application:** Given that I am logged in and viewing a job posting that I have previously received an interview for, then the statistics in the job posting regarding the applications with an offer will show “1 people have applied.” and “1 people have received a response”, “1 people have received an interview” and “0 people have received an offer”, when I click on the “Undo all applications” button then the statistics regarding the application status will change to “0 people have applied.”, “0 people have received a response”, “0 people have received an interview” and “0 people have received an offer”, and the job posting will be removed from the applied jobs list.
- **Correct the job application status:** Given that I am logged in viewing a job posting that I have applied to, have not yet received a response from and has accidentally clicked the “I’ve received a response” button, then the button to track job application status has the text “I’ve received an offer”, when I click the “Undo all applications” button, then I have removed the job posting from my applied jobs list and the button to track the job application status will now change to “I’ve applied” to reset the status, when I click the “I’ve applied” button the text will change to “I’ve received a response” and the status has been corrected.

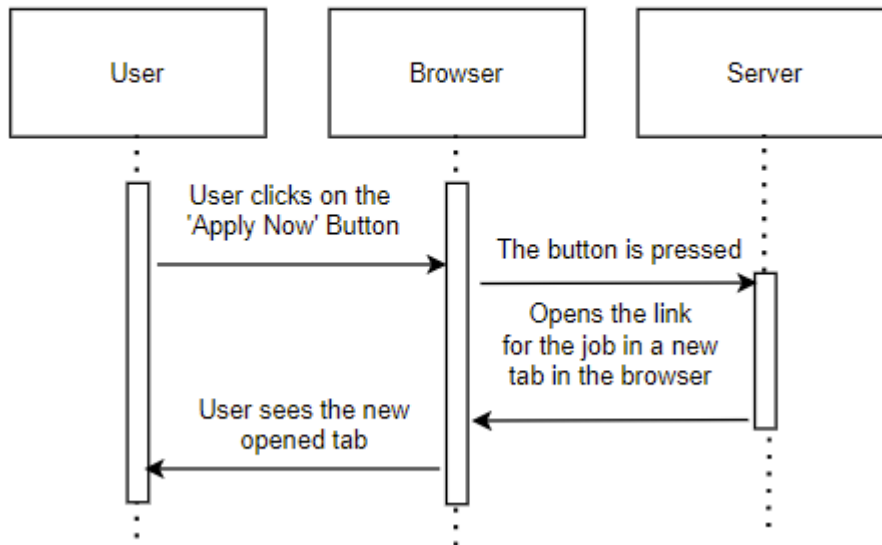
Job application tracking (Undo Tracking)



5. Link to apply for the job posting

- a. As a jobseeker, I want to be able to access the job application so that I can apply to the job that I am interested in.
- **Apply for a job posting:** Given that I am logged in and viewing a job posting, when I click on the "Apply now" button then a new tab with instructions for the job posting application will be opened.

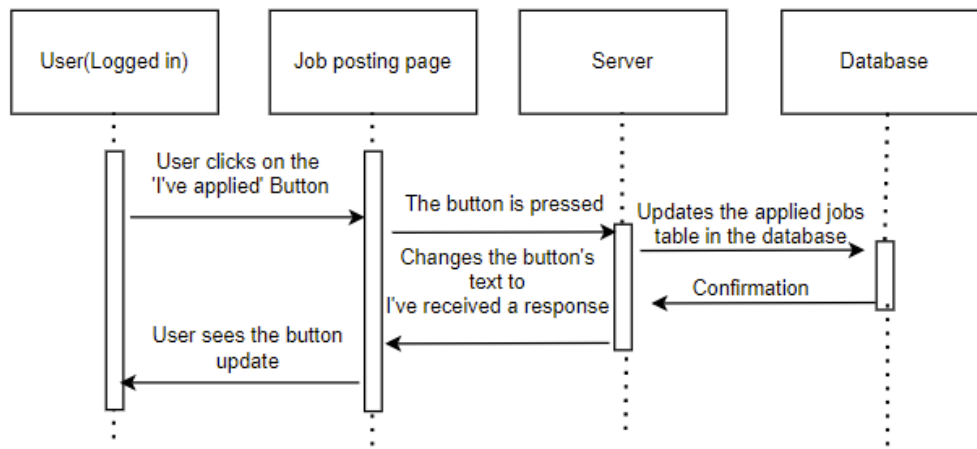
Link to apply for the Job Posting



6. Applied jobs list

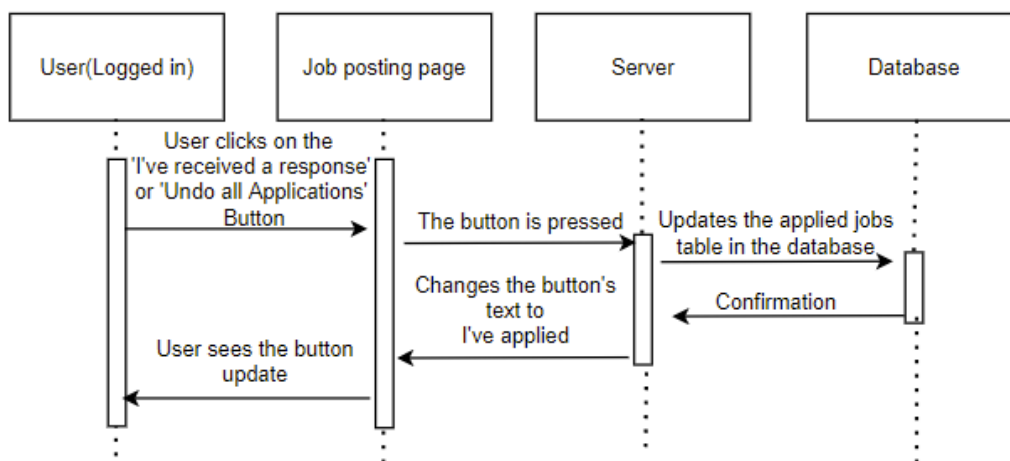
- a. As a jobseeker, I want to add job postings to the applied jobs list so that I can keep track of and update the status of the job postings that I have applied for.
- **Add a job posting to the applied jobs list:** Given that I am logged in and viewing a job posting that I have applied to, when I click the “I’ve applied” button, then I have that job posting added to my applied jobs list and then the button’s text will change to “I’ve received a response” giving an indication that I have applied to the job and am waiting for a response, and the job posting is now in my applied jobs list.

Adding a job to applied jobs list



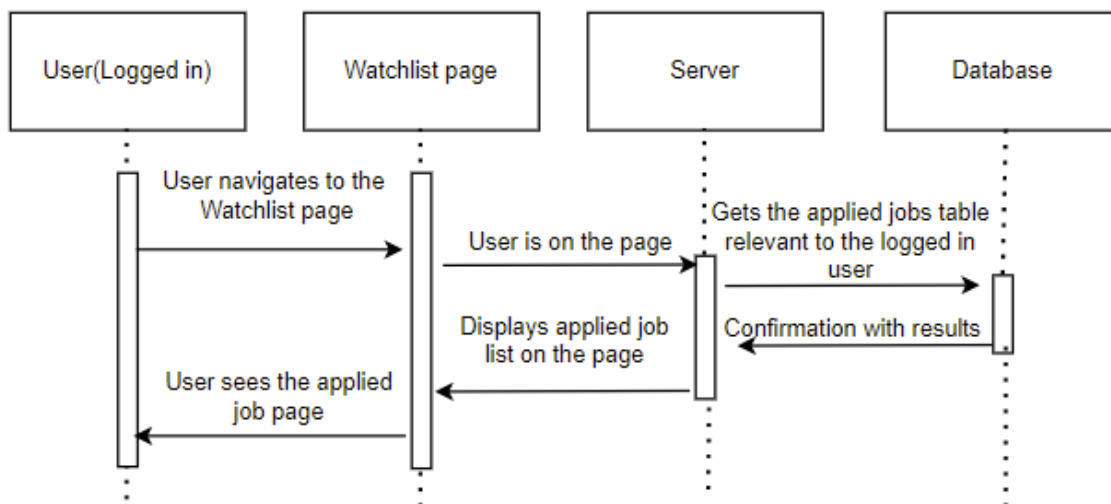
- b. As a jobseeker, I want to remove job postings from my applied jobs list so that I only have a list of job postings that I have actually applied to.
- **Remove a job posting from the applied jobs list:** Given that I am logged in, viewing a job posting that I have applied to, and have received a response from, then the button to track job application status has the text “I’ve received an offer”, when I click the “Undo all applications” button, then I have removed the job posting from my applied jobs list and the button to track the job application status will now change to “I’ve applied” to reset the status.

Removing a job from applied jobs list



- c. As a jobseeker, I want to view my list of job postings that I have applied to so that I can keep track of and update the status of the job postings that I have applied for.
- **View the jobs in my applied job list:** Given that I am logged in and in my watchlist page, when I scroll down then I can see the list job postings that I have applied for ordered by my most recently added.

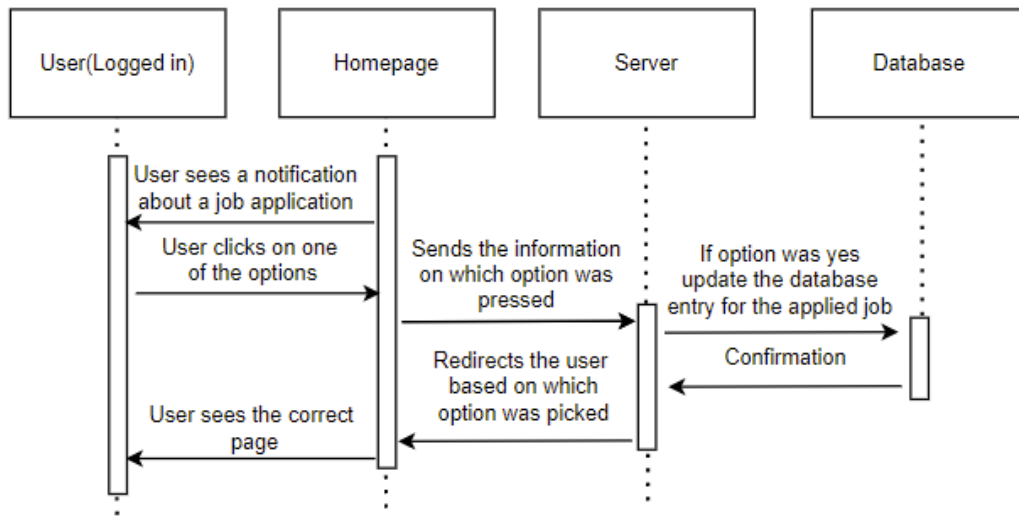
Viewing the applied jobs list



7. Notification to update my job application status

- a. As a job seeker, I want to be reminded to update my job application status after a week so that I can keep my job application status up to date
- **Receiving notification when logged in:** Given that I am logged in and the “Canva Software Engineer” job posting in my applied list hasn’t been updated after having the status on “I’ve applied” for a week, then a notification will appear on the bottom right corner of my home page with the text “Have you received a response from Canva Software Engineer?” and three buttons, “Yes”, “No” and “Posting”, when “Yes” is clicked then the job application status is updated to “I’ve received a response” and the notification box is closed and will not appear again, when “No” is clicked, then the notification will appear after another week if the job posting has still not been updated and the notification box will close, when “Posting” is clicked, then I will be redirected to the “Canva Software Engineer” job posting.

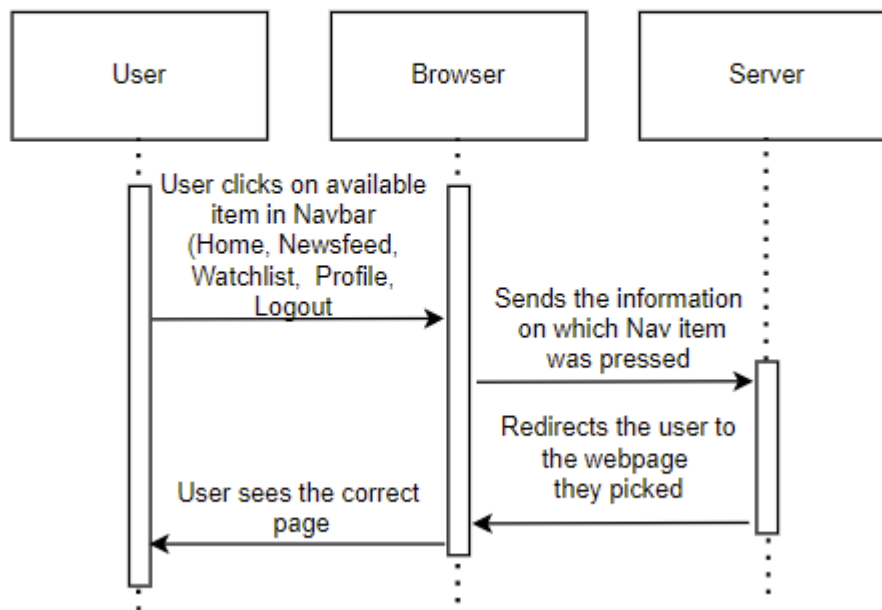
Notification for Job status



8. Navigation bar

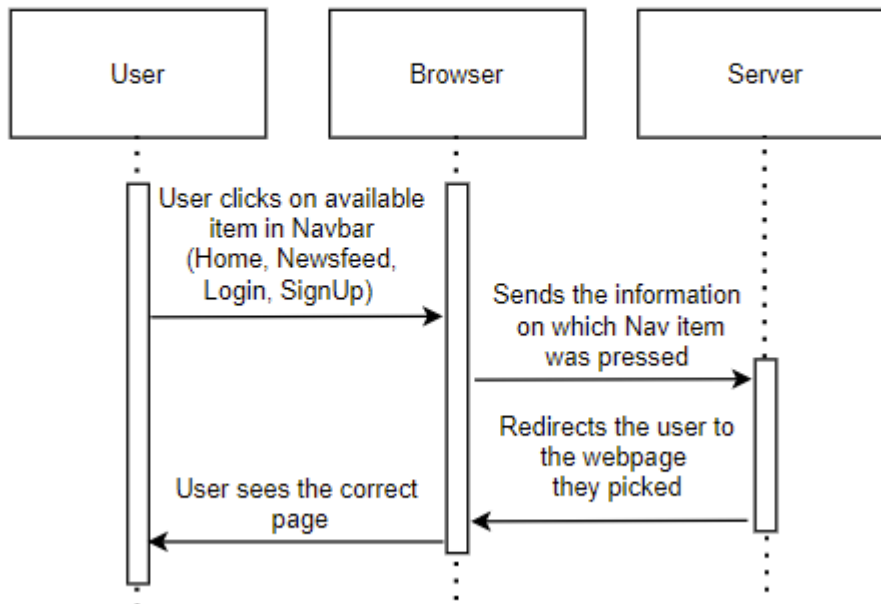
- a. As a job seeker, I want a navigation bar so that I can access different components of the website more easily such as home page, watchlist, newsfeed and profile.
- **Using the navigation bar after login:** Given that I am logged in and on any page, when I click on "Home" in the navigation bar then I am able to navigate to the "Home" page, when I click on "Profile" in the navigation bar then i am able to navigate to the "Profile" page, when I click on "Newsfeed" in the navigation bar then i am able to navigate to the "Newsfeed" page, when I click on "Watchlist" in the navigation bar then i am able to navigate to the "Watchlist" page, when I click on "Log out" in the navigation bar then I will be redirected to Home page and "Watchlist" and "Profile" will be removed and replaced with "Login" and "Sign up" options in the navigation bar

Navigation bar after login



- **Using the navigation bar before login:** Given that I am not logged in and on any page, when I click on “Home” in the navigation bar then I am able to navigate to the “Home” page, when I click on “Newsfeed” in the navigation bar then i am able to navigate to the “Newsfeed” page, when I click on “Login” in the navigation bar then i am able to navigate to the “Login” page, when I click on “Sign Up” in the navigation bar then i am able to navigate to the “Sign Up” page.

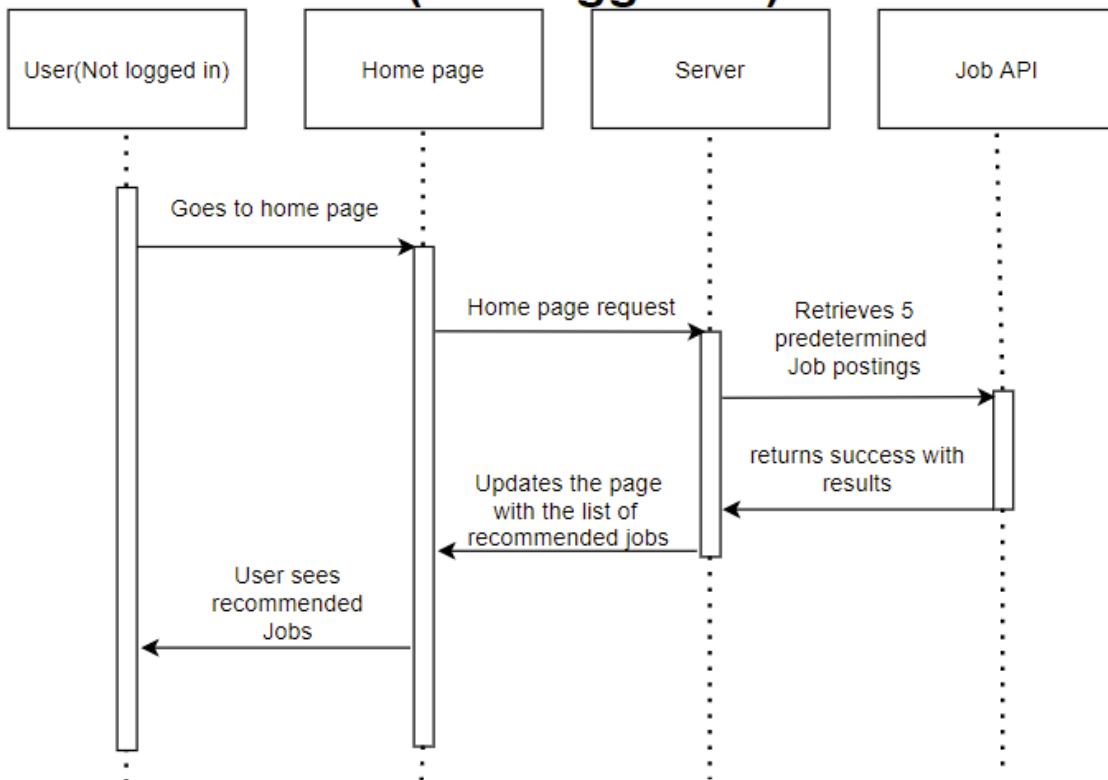
Navigation bar before login



9. Recommended job postings

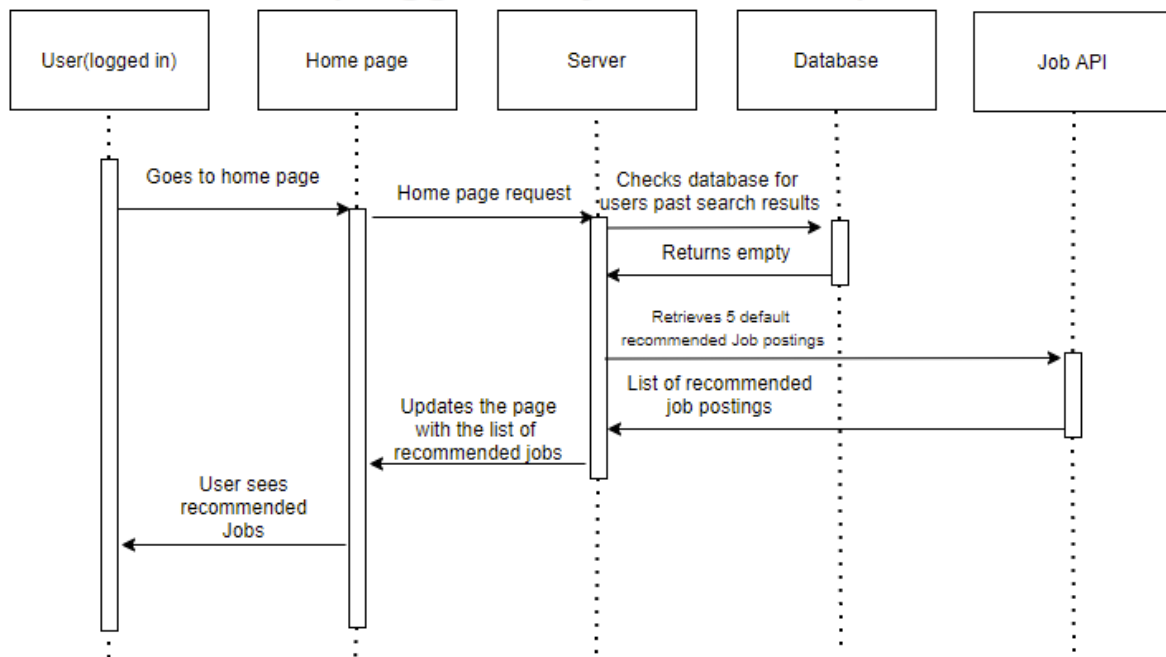
- a. As a job seeker, I want to be recommended for job postings so that I can apply for job postings that are of most interest to me.
- **View recommended job postings when not logged in:** Given that I am on the home page, when I scroll down to "Recommended Jobs", then 5 default software job postings will appear under the "Recommended jobs" heading.

Recommended Jobs (Not logged in)



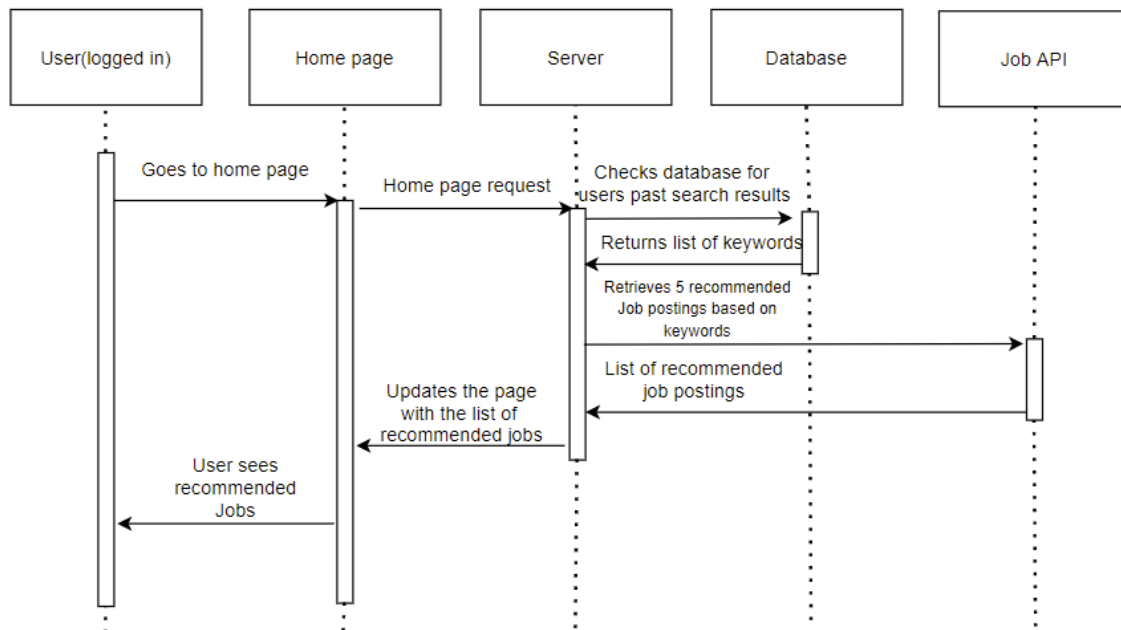
- **View recommended job postings when logged in and have not used the search bar in home, newsfeed or results page:** Given that I am on the home page and have not used any search bars, when I scroll down to “Recommended Jobs”, then 5 default software job postings will appear under the “Recommended jobs” heading.

Recommended Jobs (Logged in, yet to search)



- **View recommended job postings when logged in and have used the search bar in home, newsfeed or results page:** Given that I am on the home page and my most recent searched keyword is "Retail", when I scroll down to "Recommended Jobs", then 5 job postings that are based on "Retail" will appear under the "Recommended jobs" heading.

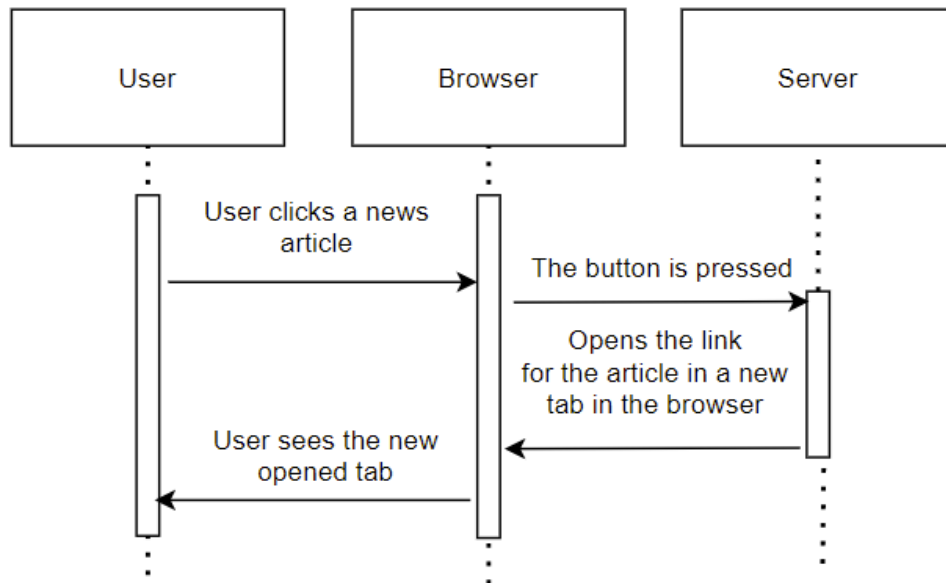
Recommended Jobs (Logged in, searched before)



10. Recommended Newsfeed

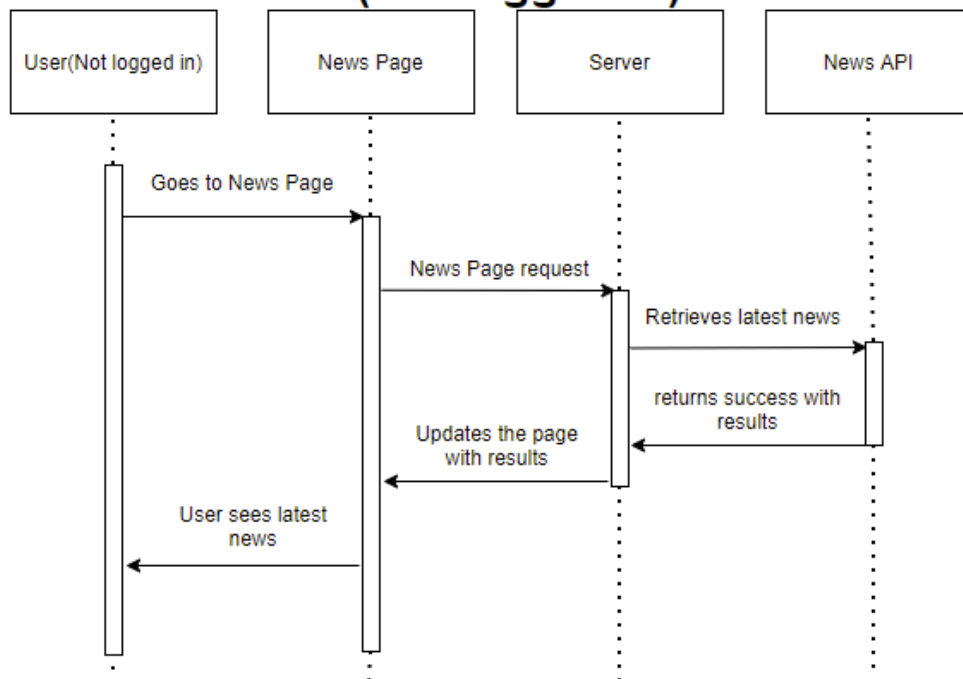
- a. As a job seeker, I want to see all the relevant news about the latest employment and job intake/outtake.
- **Read a news article from the newsfeed:** Given that I am on the news feed page, then I can see a list of the most recent news articles and each article will have a title, thumbnail, date, and short description, when I click into an article then a new tab on the specified article will be opened.

Viewing an article



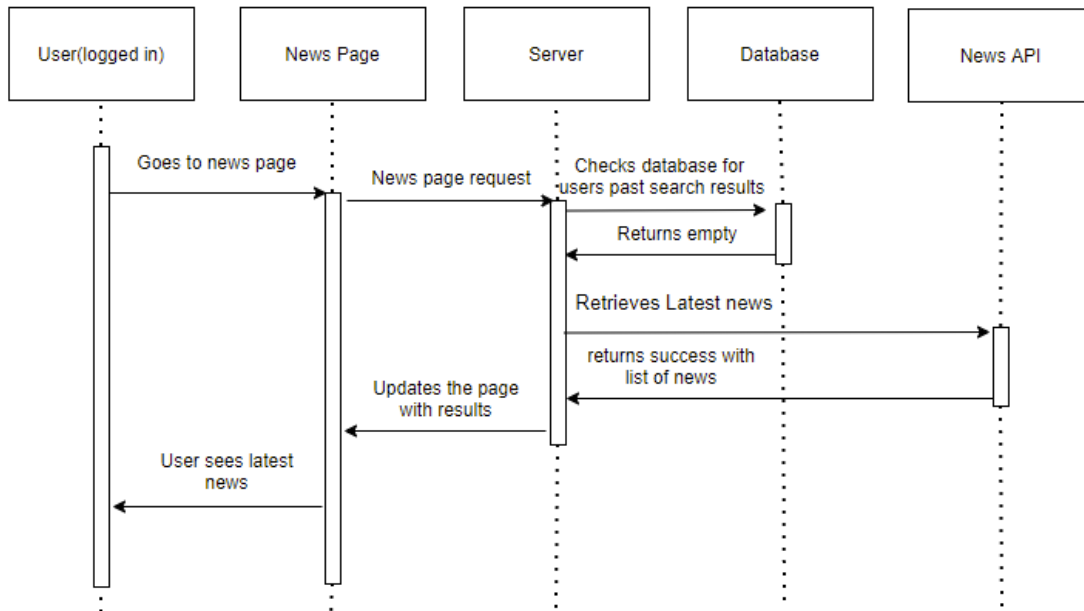
- **View recommended newsfeed when not logged in:** Given that I am on the newsfeed page, then a list of news articles on "Australian jobs" posted within 3 days of the current day will be displayed.

Recommended News (Not logged in)



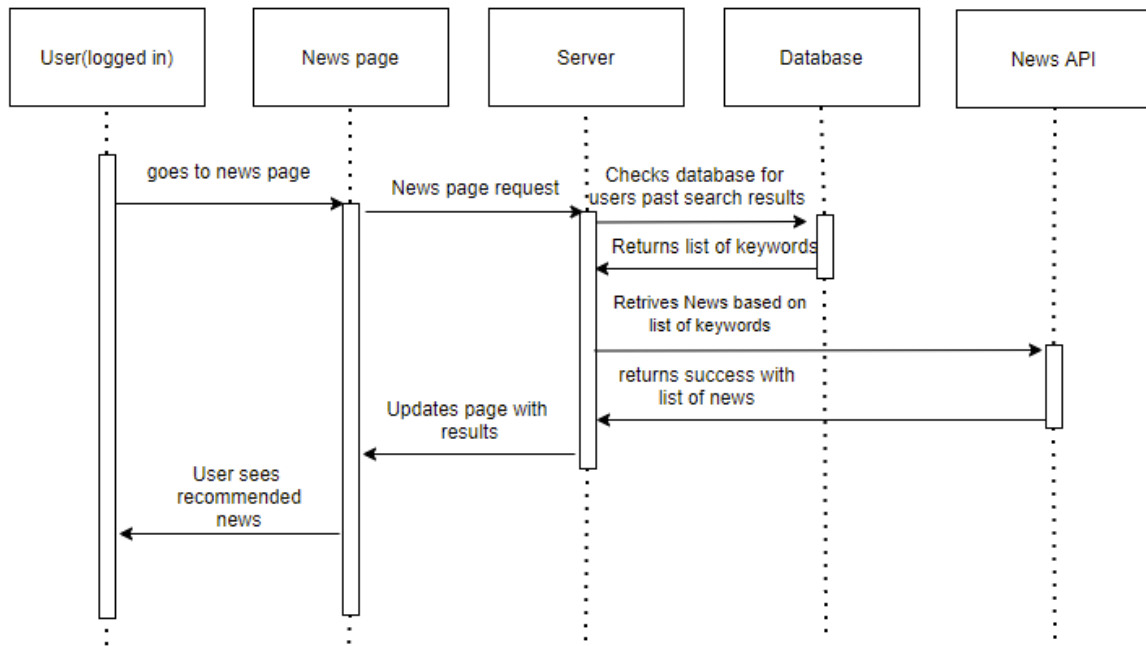
- **View recommended newsfeed when logged in and have not used the search bar in home, newsfeed or results page:** Given that I am on the newsfeed page, then a list of news articles on “Australian jobs” posted within 3 days of the current day will be displayed.

Recommended News (Logged in, yet to search)



- **View recommended newsfeed when logged in and have used the search bar in home, newsfeed or results page:** Given that I am on the home page and my previously searched keywords are “Retail”, “Software” and “Coffee” in that order, then a list of news articles based on “Coffee”, followed by “Software” then “Retail” will be displayed.

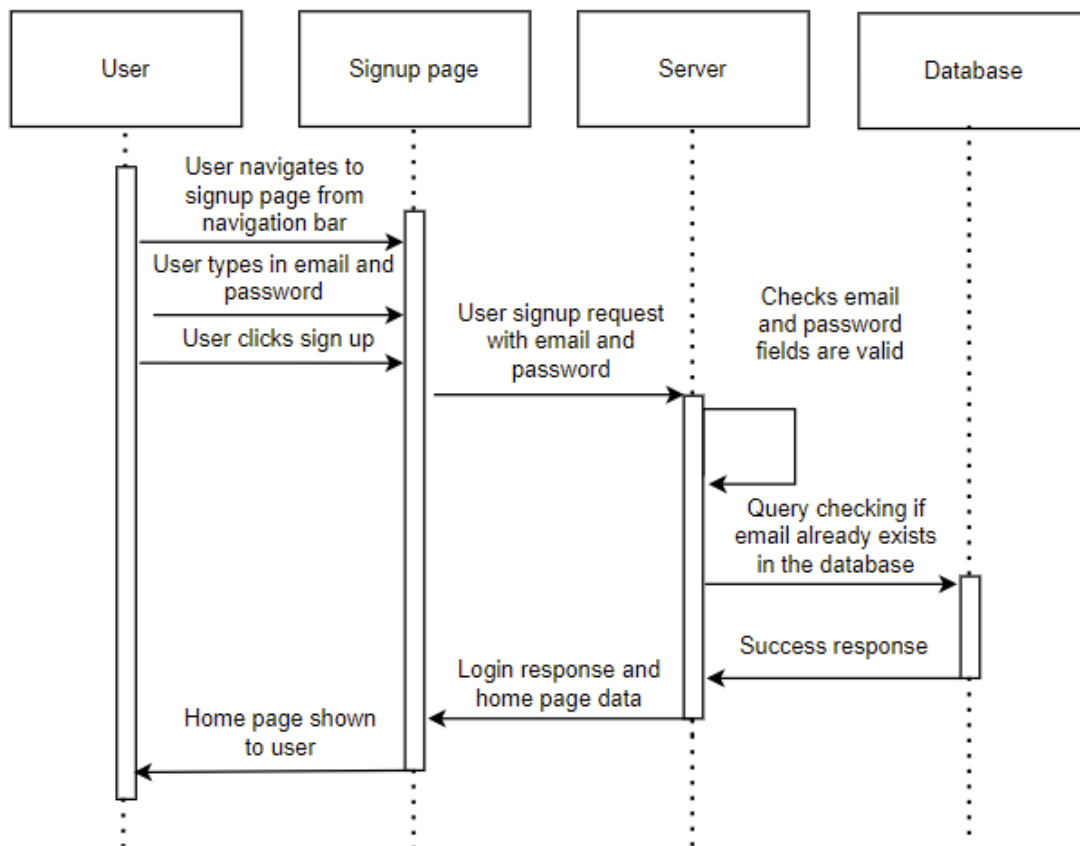
Recommended News (Logged in, searched before)



11. Register

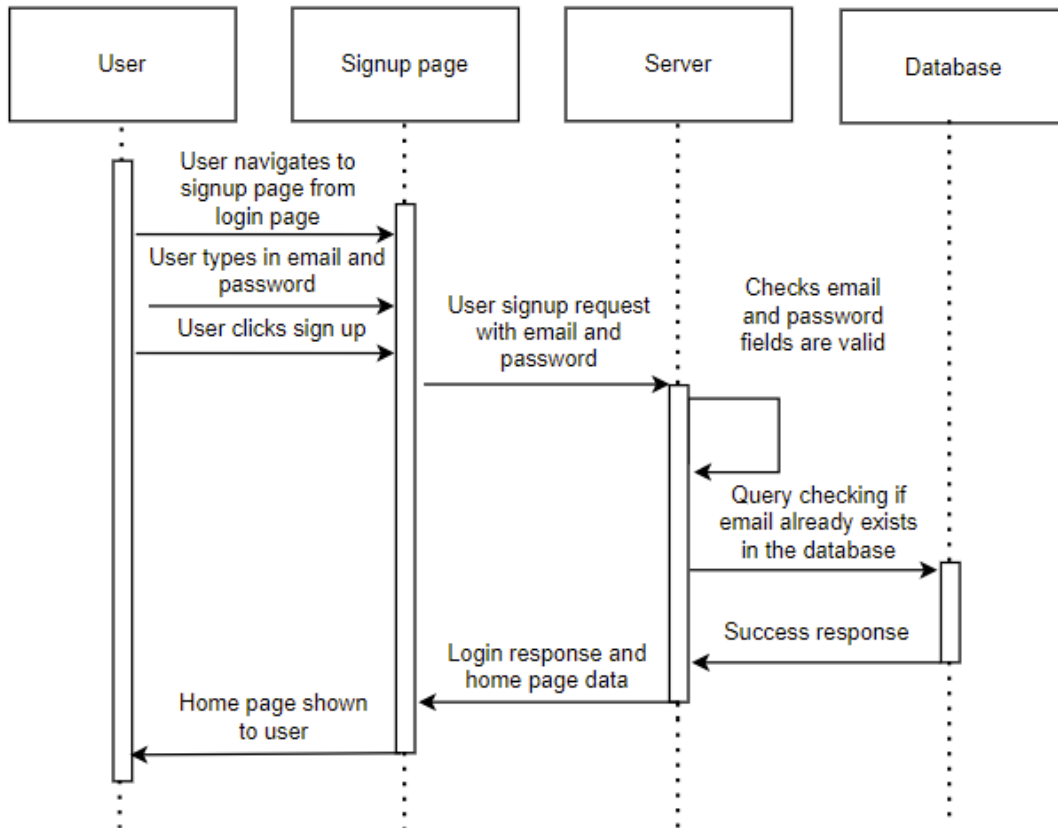
- a. As a job seeker, I want to be able to register an account so that I can save job postings to my personal watchlist
- **Register a new account via nav bar:** Given that I am on the home page, when I click the "Sign up" button from the navigation bar then I will be directed to the register page, when I enter a valid email, password and confirm password input and click the "Register" button, then I will be directed to the home page and am able to access my personal watchlist and profile page from the navigation bar.

Signup (Navigation bar)



- **Register a new account via login page:** Given that I am on the login page, when I click the "Register" button under the "Login" button then I will be directed to the register page, when I enter a valid email, password and confirm password input and click the "Register" button, then I will be directed to the home page and am able to access my personal watchlist and profile page from the navigation bar.

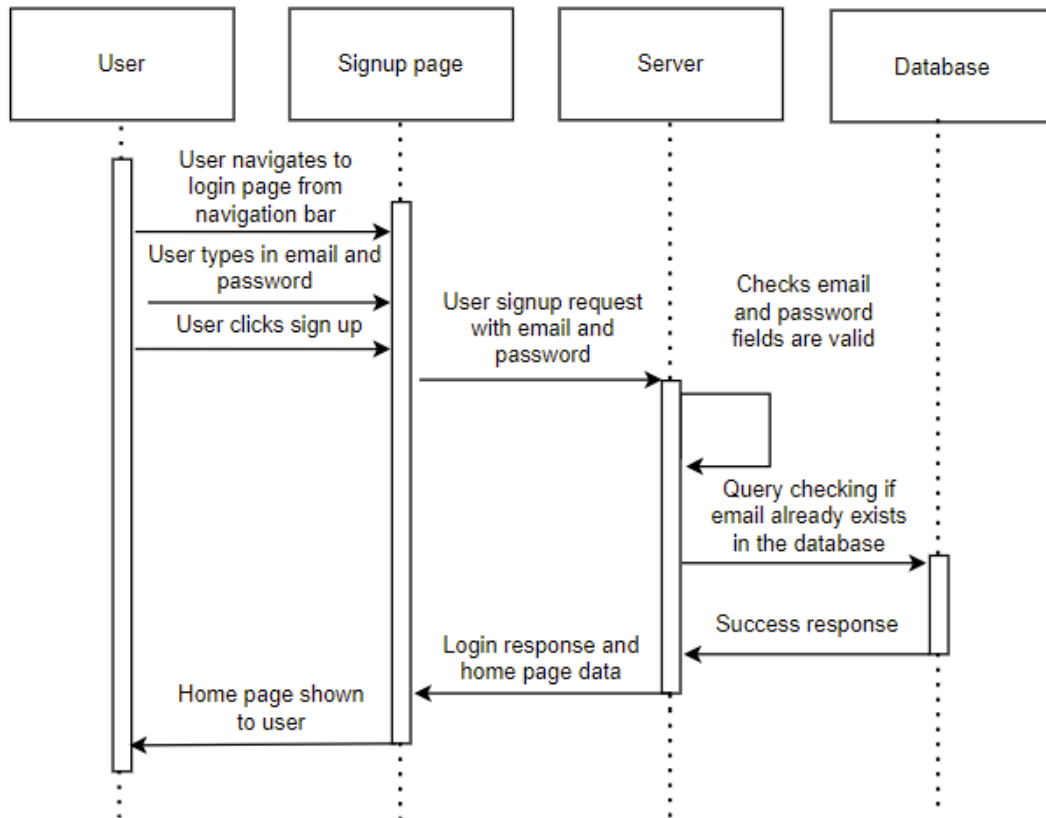
Signup (login page)



12. Log in and log out

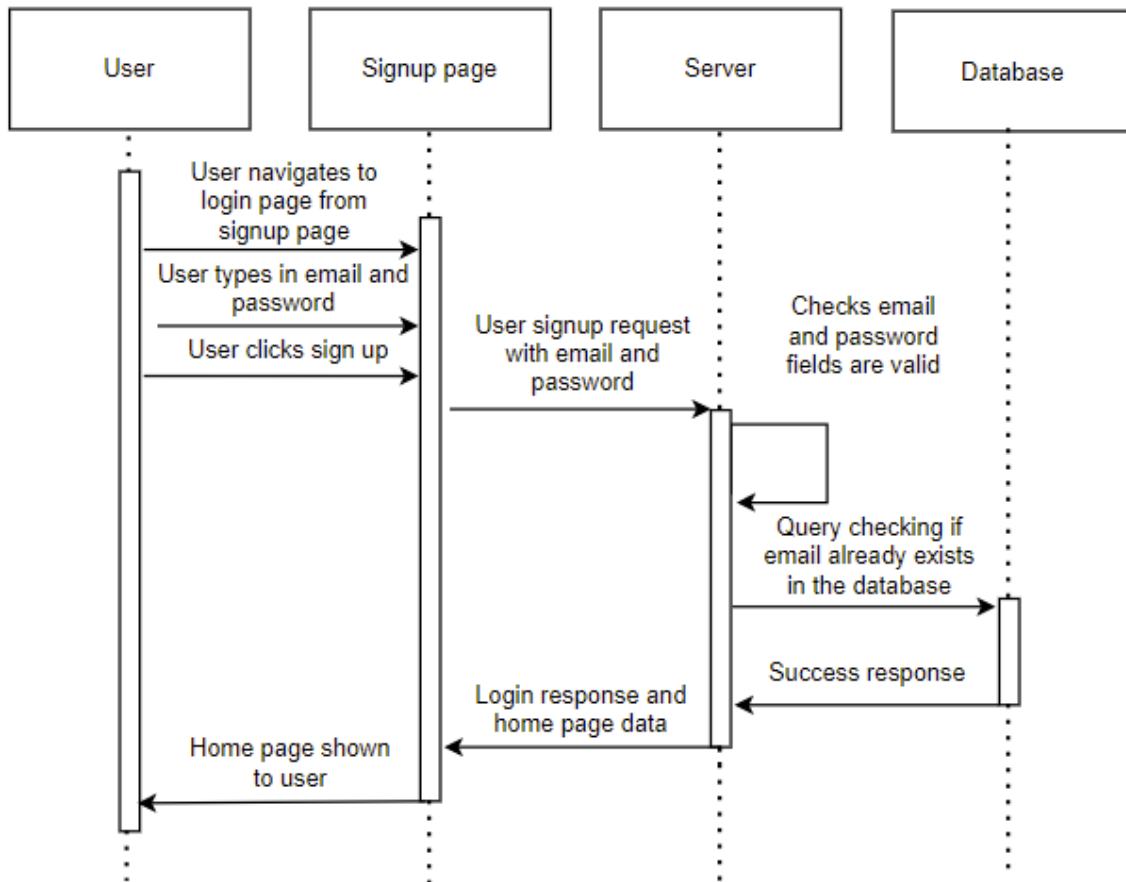
- a. As a job seeker i want to be able to log into my personal account so that all my data is saved from where i left it.
- **Log in to personal account via nav bar:** Given that I am on the home page, when I click the "Login" button from the navigation bar then I will be directed to the login page, when I type in my email and password correctly and click the "Login" button, I will be directed to the home page and am able to access my personal watchlist and profile page from the navigation bar.

Login



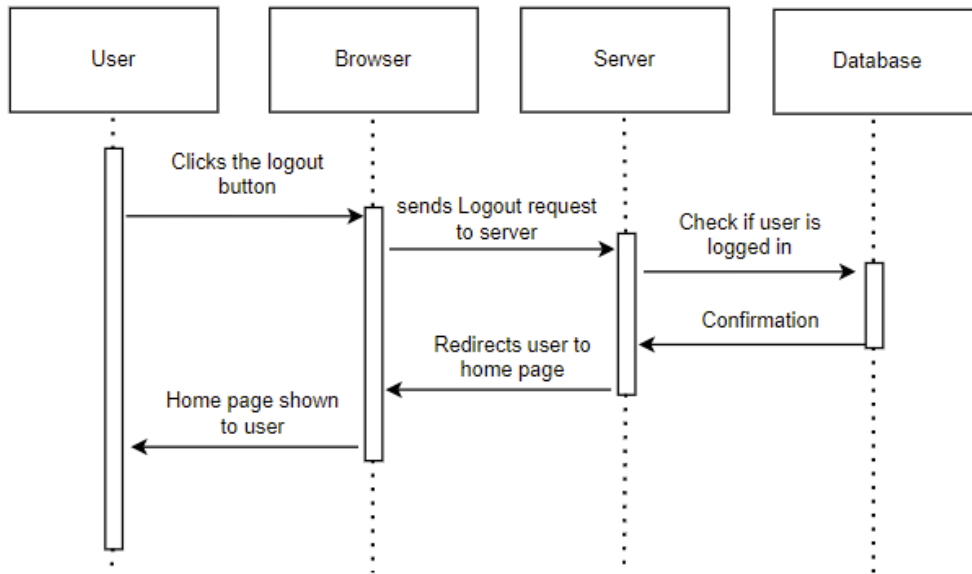
- **Log in to personal account via register or reset password page:** Given that I am on the register or reset password page, when I click the “Login” link then I will be directed to the login page, when I type in my email and password correctly and click the “Login” button, I will be directed to the home page and am able to access my personal watchlist and profile page from the navigation bar.

Login



- b. As a job seeker i want to be able to log out of my personal account so all my data can be saved for later.
- **Log out of personal account when logged in:** Given that I am on any page and logged in, when I click on the “Logout” button from the navigation bar then I am redirected to the home page and can no longer access a personal watchlist or a profile option in the navigation bar and will not have a personalised newsfeed or job list.

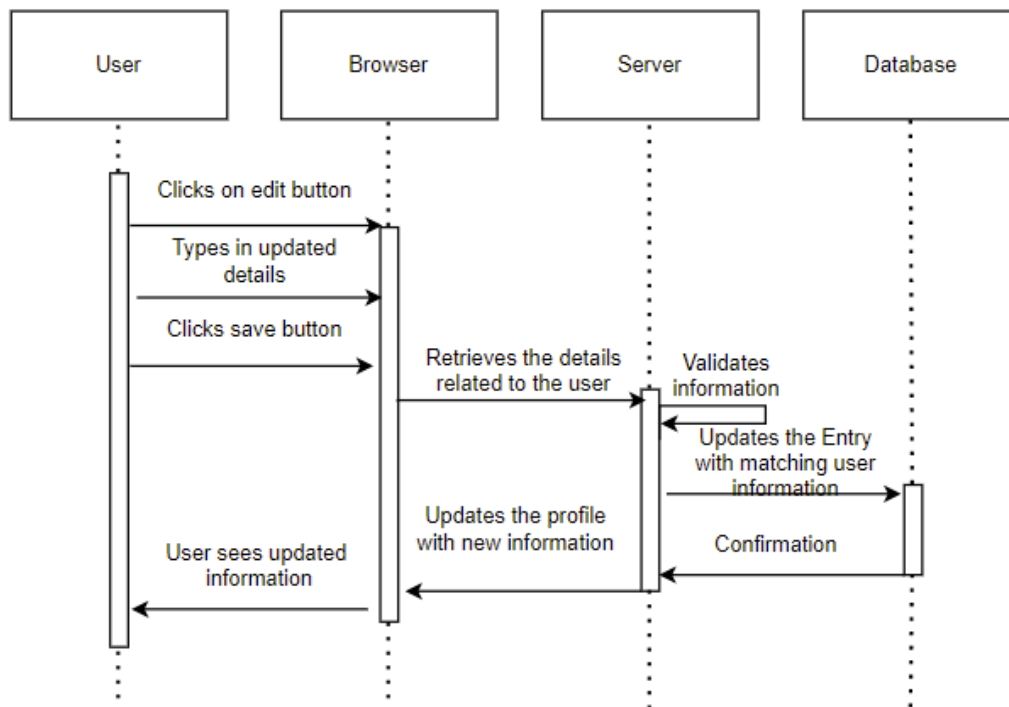
Logout



13. Profile page

- a. As a jobseeker, I want to be able to view my profile details so that I can change or update any information.
- **Edit personal details:** Given that i am on the profile page, when i click “Edit profile”, then I can input my new first name, last name or email and then when I click “Save Changes”, those changes are saved for my profile.

Profile Page



14. Reset password

- a. As a jobseeker, I want to be able to reset my password so that I can still access the data associated with my account with a new preferred password or when I have forgotten my password
- **Reset password:** Given that I am on the login or profile page, when I click the “Reset password” link, then I am redirected to the “Change password” page and there will be one input field for email and a “Send Email” button, when I enter my email address and click the “Send Enter” button, then an email will be sent to my email address with the verification token in the format, “Verification token *token* If you have not requested a password reset, simply ignore this message. Sincerely, JobHunta”, and a token input field and “Verify Token” button will appear once the email was sent successfully, when I copy the *token* from the email correctly and enter it in the token field then press the “Verify Token” button, then a password input field and “Change password” button will appear, when I type “new password” then the new password for my account is “new password”.

Final Interfaces

Home page (not logged in)



JOB-HUNTA

Search

Only show jobs where



Recommended Jobs

Software Manager | Talent International | Full Time

Deakin, South Canberra

...Subject Matter Expert software asset & contract management six month contract with two six month extension options Australian Citizen with Negative Level 1 Our Client Our client ... Client is seeking to engage a Software Manager Specifically, you wil...

Posted on: 2021-04-18T08:37:57Z

Add to watchlist

Software Engineer | Peoplebank | Full Time

The Rocks, Sydney

...This is an urgent position for an initial 3 months contract. Our client is needing a Software Engineer to join their team. The Software engineer is responsible for feature ... development, support and continuous improvements to existing & new in-hous...

Posted on: 2021-04-14T03:38:07Z

Add to watchlist

Software Developer | EP&T Global Pty Ltd | Full Time

The Rocks, Sydney

...SOFTWARE DEVELOPER - SYDNEY, AUSTRALIA Exciting opportunity to join a global technology company in the sustainability / energy efficiency sector Sydney based with opportunity ... to travel Dynamic team culture & environment Training provided Salary: ...

Posted on: 2021-04-14T03:38:49Z

Add to watchlist

Software Engineer | Job2Go Pty Ltd | Full Time

Bayswater, Bayswater Area

...Position: Software Engineer Position Type : Full-Time Salary: \$92,000.00 plus superannuation per annum Location: Perth WA 6000 Our client is seeking an experienced Software ... Engineer to join their team located in Perth. Tasks required include: Bus...

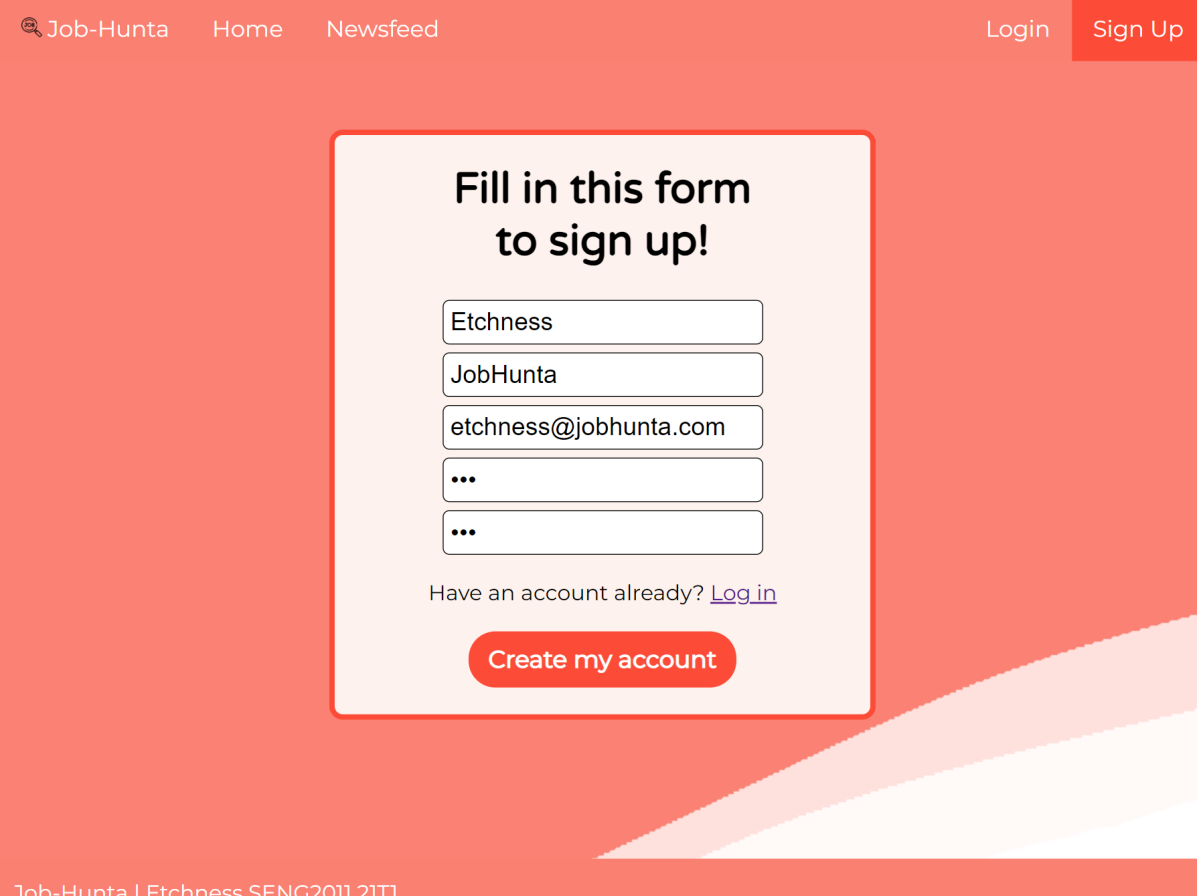
Posted on: 2021-03-27T06:00:37Z

Add to watchlist

software engineer | Guru Tek Pty Ltd | Full Time

Clyde North, Cardinia Area

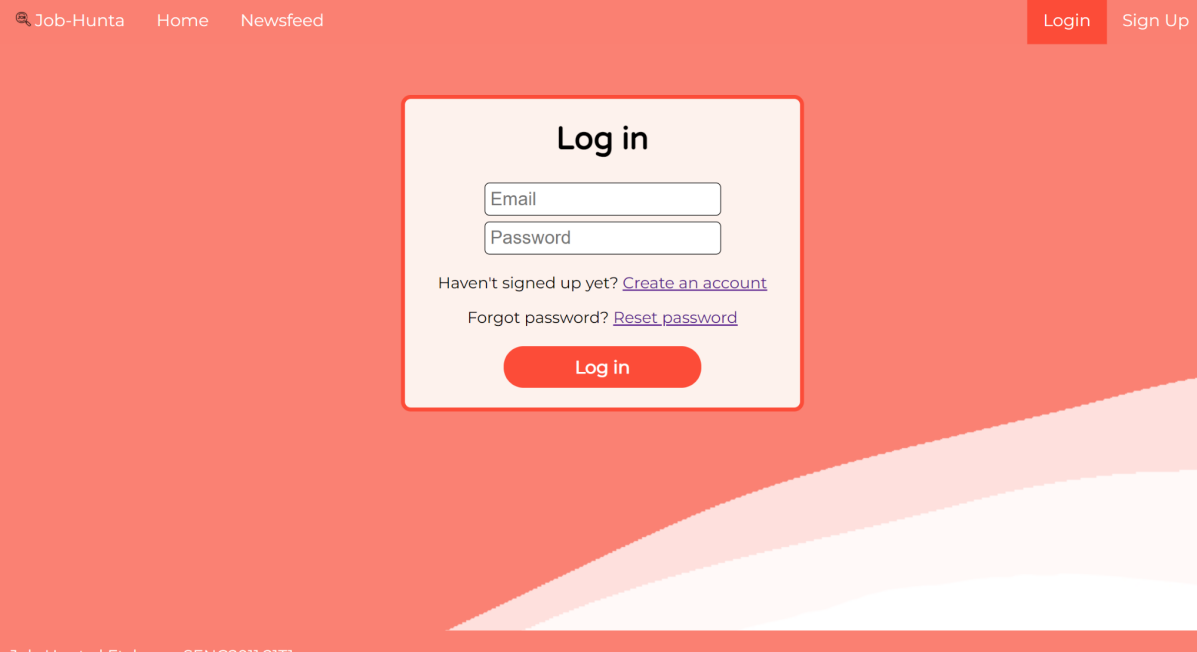
Sign up page



The sign up page features a red header with a magnifying glass icon, 'Job-Hunta', 'Home', 'Newsfeed', 'Login', and a red 'Sign Up' button. The main content area has a red background with a white box containing the sign up form. The form has the title 'Fill in this form to sign up!' and five input fields: 'Etchness', 'JobHunta', 'etchness@jobhunta.com', and two fields with three dots. Below the fields is a link 'Have an account already? [Log in](#)' and a red 'Create my account' button. The footer is red with the text 'Job-Hunta | Etchness SENG2011 21T1'.

Job-Hunta | Etchness SENG2011 21T1

Login page



The login page features a red header with a magnifying glass icon, 'Job-Hunta', 'Home', 'Newsfeed', a red 'Login' button, and a 'Sign Up' button. The main content area has a red background with a white box containing the login form. The form has the title 'Log in' and two input fields: 'Email' and 'Password'. Below the fields are two links: 'Haven't signed up yet? [Create an account](#)' and 'Forgot password? [Reset password](#)'. At the bottom is a red 'Log in' button. The footer is red with the text 'Job-Hunta | Etchness SENG2011 21T1'.

Job-Hunta | Etchness SENG2011 21T1

Home page with notification (logged in)



Search

Only show jobs where



Have you received a response from Senior Java Backend Engineer

Yes

No

Posting

Home page (logged in)



JOB-HUNTA

Only show jobs where



Recommended Jobs

Software Manager | Talent International | Full Time

Deakin, South Canberra

...Subject Matter Expert software asset & contract management six month contract with two six month extension options Australian Citizen with Negative Level 1 Our Client Our client ... Client is seeking to engage a Software Manager Specifically, you wil...

Posted on: 2021-04-18T08:37:57Z

Software Engineer | Peoplebank | Full Time

The Rocks, Sydney

...This is an urgent position for an initial 3 months contract. Our client is needing a Software Engineer to join their team. The Software engineer is responsible for feature ... development, support and continuous improvements to existing & new in-hous...

Posted on: 2021-04-14T03:38:07Z

Software Developer | EP&T Global Pty Ltd | Full Time

The Rocks, Sydney

...SOFTWARE DEVELOPER - SYDNEY, AUSTRALIA Exciting opportunity to join a global technology company in the sustainability / energy efficiency sector Sydney based with opportunity ... to travel Dynamic team culture & environment Training provided Salary: ...

Posted on: 2021-04-14T03:38:49Z

Software Engineer | Job2Go Pty Ltd | Full Time

Bayswater, Bayswater Area

...Position: Software Engineer Position Type : Full-Time Salary: \$92,000.00 plus superannuation per annum Location: Perth WA 6000 Our client is seeking an experienced Software ... Engineer to join their team located in Perth. Tasks required include: Bus...

Posted on: 2021-03-27T06:00:37Z

software engineer | Guru Tek Pty Ltd | Full Time

Profile page

The screenshot shows the 'Profile' page of a web application. The background is a solid coral color. At the top, there is a navigation bar with a magnifying glass icon and the text 'Job-Hunta', followed by links for 'Home', 'Newsfeed', 'Watchlist', and 'Profile' (which is highlighted with a red background). On the far right of the navigation bar is a 'Logout' link. In the center of the page, there is a white rounded rectangle with a red border. Inside this rectangle, the word 'Profile' is centered at the top. Below it are three input fields: the first contains 'Etchness', the second contains 'JobHunta', and the third contains 'etchness@jobhunta.com'. Below the input fields are two red rounded buttons: 'Save Changes' and 'Reset password'. At the bottom left of the page, there is a footer that reads 'Job-Hunta | Etchness SENG2011 21T1'.

Job-Hunta | Etchness SENG2011 21T1

Reset password page part 1

The screenshot shows the 'Change Password' page. The background is a solid coral color. In the center, there is a white rounded rectangle with a red border. Inside, the title 'Change Password' is centered at the top. Below the title, there is a paragraph of text: 'Enter the email you created your account with and a verification token will be sent'. Below this text is an input field containing the email 'etchness@jobhunta.com'. Below the input field is a red rounded button labeled 'Send Email'. At the bottom of the white rectangle, there is a link that says 'Have an account already? [Log in](#)'. At the bottom left of the page, there is a footer that reads 'Job-Hunta | Etchness SENG2011 21T1'.

Job-Hunta | Etchness SENG2011 21T1

Reset password page part 2

Job-Hunta

Home

Newsfeed

Login

Sign Up

Change Password

Enter the email you created your account with and a verification token will be sent

Send Email

Verify Token

Have an account already? [Log in](#)

Job-Hunta | Etchness SENG2011 21T1

Reset password page part 3

Job-Hunta

Home

Newsfeed

Login

Sign Up

Change Password

Enter the email you created your account with and a verification token will be sent

Change Password

Have an account already? [Log in](#)

Job-Hunta | Etchness SENG2011 21T1

Search results page

Search Results

Retail

Search

Only show jobs where

Min salary

Job type

State

Suburb

« 1 2 3 4 5 6 »

Retail Manager | Wemoto Australia | Full Time

Bomaderry, Nowra-Bomaderry

...RETAIL MANAGER WEMOTO AUSTRALIA PTY LTD WEMOTO AUSTRALIA is a well-established motorcycle retail business looking for an experienced and dedicated Retail Manager to join ... the operations of establishments which provide retail services Controlling s...

Posted on: 2021-04-22T16:08:31Z

Add to watchlist

Watchlist page

Watchlist

Software Manager | Talent International | Full Time

Deakin, South Canberra

...Subject Matter Expert software asset & contract management six month contract with two six month extension options Australian Citizen with Negative Level 1 Our Client Our client ... Client is seeking to engage a Software Manager Specifically, you wil...

Posted on: 2021-04-18T08:37:57Z

Remove from watchlist

Software Engineer | Peoplebank | Full Time

The Rocks, Sydney

...This is an urgent position for an initial 3 months contract. Our client is needing a Software Engineer to join their team. The Software engineer is responsible for feature ... development, support and continuous improvements to existing & new in-hous...

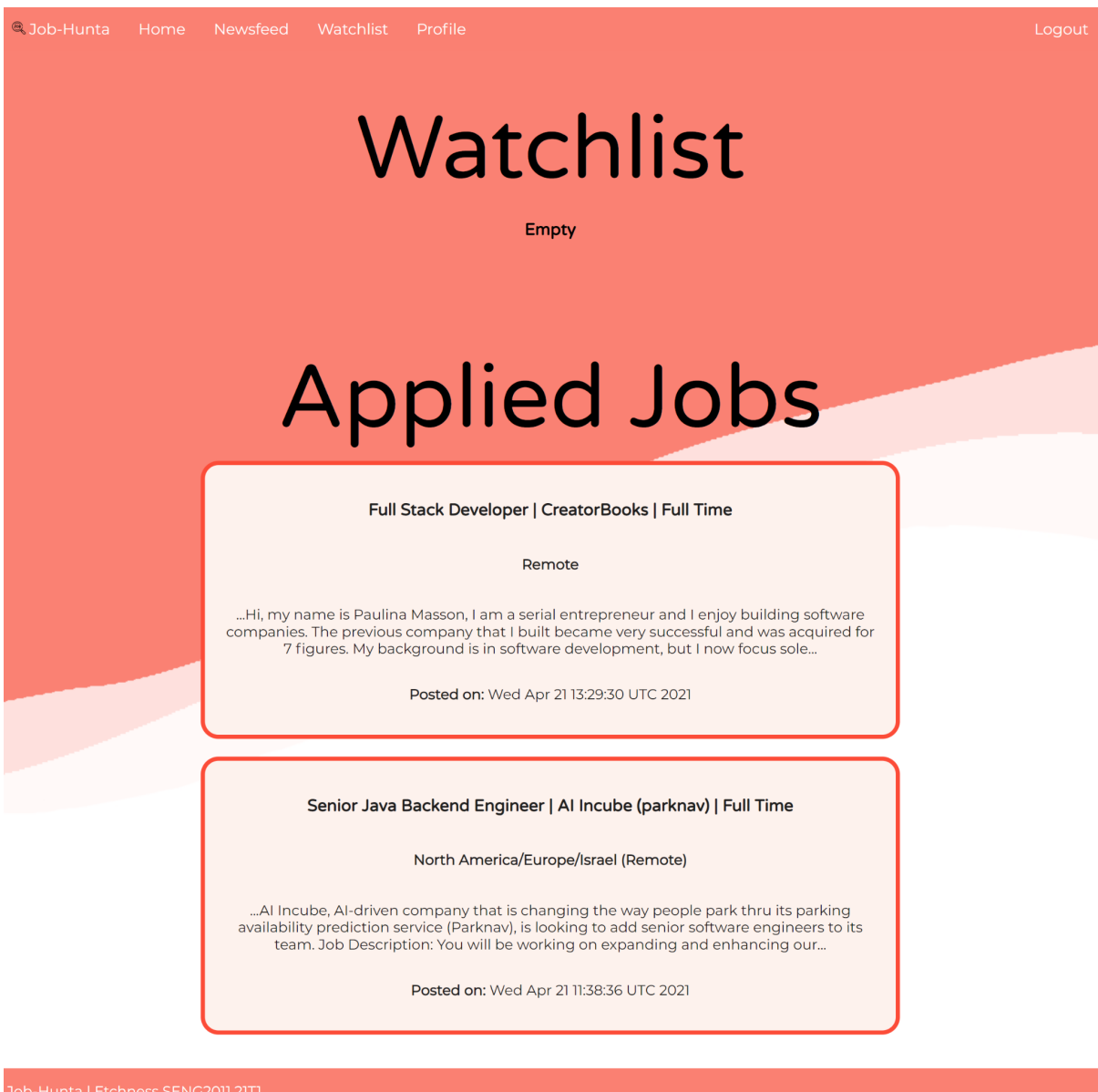
Posted on: 2021-04-14T03:38:07Z

Remove from watchlist

Applied Jobs

Empty

Watchlist page with applied jobs list



Design

List of technologies used

APIS

Github Jobs API, Adzuna API, CareerJet API

The team has decided to use multiple job APIs for the website to collaborate all the possible jobs available and give the user the best options from a wide range of options. Our system will be accessing Github Jobs, Adzuna and CareerJet to sort through all options and find the most suited job for the user. Additionally, the APIs chosen are all free to use which will let us sustain our business more easily.

NewsAPI

The website utilises NewsAPI which will allow the website to show the latest news relevant to job intake and give the user a great amount of insight on what's happening in regards to getting hired.

Software components used and their relevant programming languages

Web browser: Chrome, Safari, Firefox, Opera and Edge

Frontend: Our frontend is developed with vanilla javascript with bootstrap framework and JQuery as well in addition to HTML and CSS.

Backend: Our backend server will be developed through the use of the Flask framework, as such Python would be the language for the backend.

The backend server will be hosted through AWS as our user base grows. The backend is coded

Web Hosting: Our webpage will be done with dedicated web hosting via HostGator.

Database: Database will be hosted on AWS and be accessed via sqlite3 in python.

Key benefits/achievements

Python → Python is used as it is a simple programming language that is easy to learn and utilise. Additionally, most of our chosen APIs have a python wrapper that will allow us to more easily integrate them into our web-app.

HTML + CSS + JS (With bootstrap framework) → Required for front-end web dev. We chose vanilla javascript over react and other options as a team, we are not familiar with react and others. We've also decided to use bootstrap for some of our UI components as well as bootstrap provides many templates that will be very useful for creating the front-end.

APIs → Picked API's that were relevant to our website and were the easiest to integrate into our platform with python.

SQL(sqlite3) database → We chose to use the sqlite3 db-api to store our information as it allows us to easily access and update the database through python.

Database hosted on AWS → We chose to host our database on AWS over hosting it on a home server as AWS allows us to use Amazon's massive infrastructure including their computing and storage power. It also allows to scale our website based on current demand as AWS includes auto scaling

- **Flask** → We chose Flask over Django because it is designed for more complex web-apps, therefore python was our choice. Flask gives us more control over our project, since you can choose which components to use and how you interact with them.
- **MacOS/ Windows** → We chose to design/create our web app around these popular, mainly used systems as it allows us to reach a wide user base.

Team Organisation

Responsibilities/Roles of team member

The roles and responsibilities of the team were mainly decided on how comfortable everyone was with the technology that we needed in order to create the project.

Coding/Technical and Design

General coding and the core code was assigned to Michael, Sarah and Tony as they were the most familiar with JavaScript and HTML. Sarah and Tony designed and created the UX UI for the webpage and connected the interface to our backend server. The tasks related to our database were done solely by Michael. He made the schema and functions in order to connect our server to the database which made the process to connect the frontend and backend more smooth for Sarah and Tony.

Business/ Project information

In regards to the business and project information, Jade and Gidon were primarily in charge. They would rely on the rest of the team to give them a direction on what languages/ other changes that changed the jobhub website. The tasks that were given were completed from a business mentality, using Gidon's strong knowledge of the business world as well as Jades life experience building and selling websites. This had a huge impact, as throughout the project, the business model was always at the frontend of the project, rather than being an afterthought.

In the end, all team members assisted each other with their parts as Jade and Gidon helped with some website features and Tony, Michael and Sarah contributed work towards the parts of the reports that Jade and Gidon weren't sure of. Teamwork was needed for us to complete the website in a smooth process.

How did the project go

The project started out great as the whole team met several times at the start before development had begun to think of ideas. We each had thought many ideas through a brainstorming session and decided on one single idea we were all happy with. Research was done, roles were assigned and development was about to begin.

When the actual development phase began, many issues listed below had begun to occur and affect our development speed. This was solved towards the later half of the project as we had meetings to fix this problem.

Overall, we can all agree that the project went smoothly as possible to the best of our abilities.

Issues that we encountered

API Research

Since our website was about a combination of the results of many different Job APIs, we should have done further research about how compatible each was with each other. Before we had started implementing the APIs, we had found many APIs that were free and readily available for us to use but we had not thought about how the API was going to be used in combination with each other. This problem cost us a lot of valuable time during development.

Communication

We had some issues with communication at the beginning of our project as the business part and the technical part weren't communicating with each other effectively and coherently and some tasks were left until the last moment to finish. However we had a meeting about this topic and towards the end of the project, communication had improved drastically and tasks were done by each member.

Time management

At the start of the project, we had not set proper deadlines for each task and in combination with communication issues, many tasks were left to days before the due date. However, like with communication this was fixed by the end of the project and we were able to smoothly finish the project.

What we would do differently

Backend framework



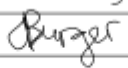

The backend aspect of the course would be done with a framework such as React instead of vanilla JavaScript as the process of designing the user interface and perfecting the user experience would be much easier.

Peer assessment

Table A: Different levels of contribution agreed upon

Instructions

- Column 1: print the Student ID
- Column 2: print the name of each team member
- Column 3: print their contribution (a percentage out of 100%)
- Column 4: each team member then signs against their own name

Student ID	Name of Team Member	Contribution	Signature
z5259804	Tony Liao	100%	
z5255211	Michael Chen	100%	
z5254781	Sarah Leung	100%	Sarah Leung
z5207617	Jade Burger	90%	
	Gidon Zimmerman	95%	

Member declaration:

I declare that my peer group rating shown in the table above has been explained to the other members in the presence of the full group. The rating is based solely on my assessment of each member's contribution of effort, quality of work and participation at team meetings/activities for the assignment.

Member's Student ID	z5259804	z5254781	z5255211	z5209483	z5207617
Member Name	Tony Liao	Sarah Leung	Michael Chen	Gidon Zimerman	Jade Burger
Member Signature	