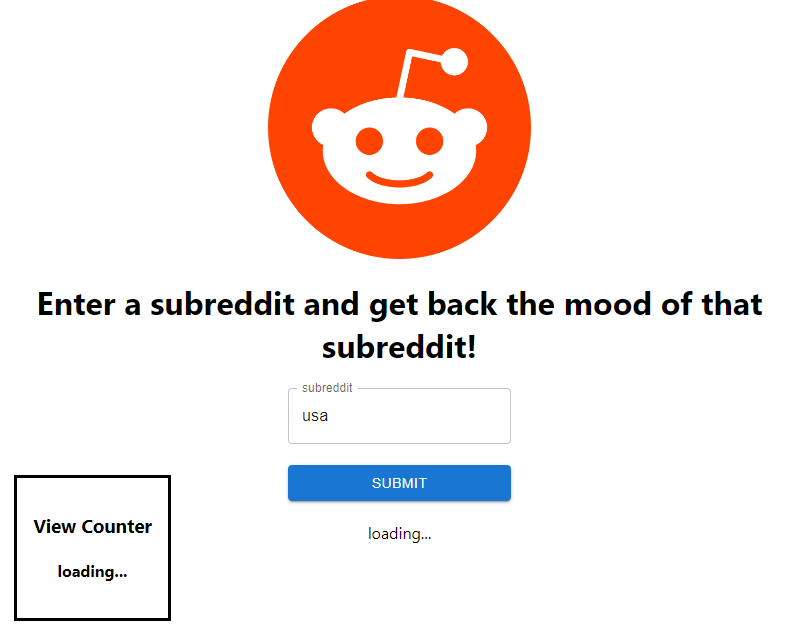
2022

<student name/s>

<student number/s>

8/12/2022

Reddit mood analyzer



Replace image with one with some relevance to your application here

CAB432 Assignment 1



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*This is a template for your assignment report. It is not compulsory to use it, but it will save a lot of effort if you do. Some of these sections may not be very long, but you should make sure that you cover the key sections describing the application functionality and implementation.*

*Throughout this document, you should assume that black text in italics is there as guidance and you should read it, follow the instructions and then* ***delete it*** *when you have entered your own text. Some examples are not italicized, but should obviously be replaced by your own material. It doesn’t look good when we mark it if the guide text is still there.*

*There is a mix here between the sections of an ordinary software development report – descriptions of the use cases, technologies used, architecture and testing – and a section in which we ask you to analyse your application based on some prompts that we give you. These two components attract the same number of possible marks.*

*This report should be around 10-15 pages including screenshots, but this is a guide only – we will not be enforcing a page limit or marking you down for submitting something with 16 pages instead. But be sensible, we really don’t want something that is 25 pages or more.*

*[Our thanks to the students who allowed us to use images from earlier reports as examples here and in the template for Assignment 2.]*

## Introduction

### Mashup Purpose & description

Reddit mood analyzer uses open ai to make a judgement on the overall mood of a particular subreddit based on the most popular 10 posts of that day.

For instance, on most days, checking the USA subreddit returns angry, despair, depressed etc. whereas the Australia subreddit returns, cheerful, cheeky, hopeful etc.

### 

### Services used

#### Reddit API - SnooWrap

The reddit API allows me to get the 10 hottest posts based on a given subreddit, SnooWrap provides a convenient wrapper to make interacting with this API in JavaScript easier

Endpoint: <https://www.reddit.com/dev/api/>

Docs: <https://www.reddit.com/dev/api/> https://not-an-aardvark.github.io/snoowrap/

#### Open AI GPT3

Using GPT-3 I pass the phrase “describe in 3 words the mood of a subreddit based on these posts made by users:” ~followed by the posts"

The API then makes a judgement call based on its natural language capabilities and returns something like

*happy, content, proud*

which is then returned to the request to be displayed to the user.

Endpoint https://api.openai.com/v1/completions

#### Persistence Service

Amazon s3 bucket stores a number, when page is loaded a use Effect calls an endpoint to download the value, displays it +1 then uploads the new updated value to s3

## Mashup Use Cases and Services

#### Restaurant Search in a Foreign City

|  |  |
| --- | --- |
| As a | Traveler |
| I want | To find the mood of a city |
| So that | I can avoid it if they are unhappy |

#### US 2

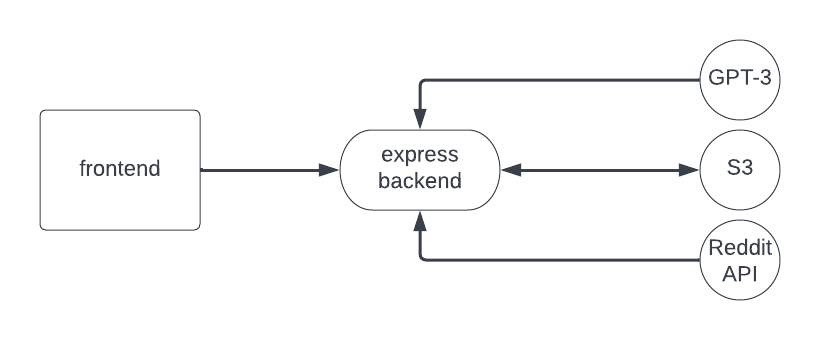
|  |  |
| --- | --- |
| As a | Reddit user |
| I want | To be able to see what subreddits are happiest |
| So that | I can participate in them |

### Technical breakdown and Architecture and Data Flow

The frontend is a react application built with CRA that makes first a call to the backend to get the counter from AWS on the initial page load via a use Effect hook getting then incrementing the counter.

then when the user makes a search, a request is sent to the backend, the backend asks the reddit API for the top 10 posts of the searched subreddit, then it sends a fetch to GPT-3 to ask for it’s opinion on the mood sentiment of the top 10 posts, once the backend receives this data the response is sent containing the output of the open ai query.

The biggest issue in development was that the AWS keys kept changing automatically every hour, but luckily this was fixed



### Deployment and the Use of Docker

The frontend and backend are built then pushed into docker hub, a docker compose file downloads these images then deploys them in the environment

### Test plan

|  |  |  |  |
| --- | --- | --- | --- |
| Task | Expected outcome | Result | Screenshot appendix |
| Valid subreddit retrieves successfully | Result is displayed | Subreddit is retrieved successfully | 1 |
| Invalid subreddit displays error | Error is displayed in message field |  |  |
| Subreddit with no posts | Error message, no posts |  |  |
| Submit an empty field |  |  |  |

Difficulties / Exclusions / unresolved & persistent errors /

Issues with aws keys, issues with getting docker compose on aws

## Extensions (Optional)

Let the user search for mood on a particular date

## User guide

*Tell us how to use your application. You may re-use some of the screenshots from the use case descriptions, but this is more about how to use the app. As long as we can find what we need to do to use your application, this need not be all that long.*

*But either way, screenshots are your friend.*

## Analysis

*In this section we ask you look at your application and to analyse it in response to a couple of prompts we supply below. The marking is based on the quality of the analysis and not on the length of your response. There are two questions. In each case, there is an overall question, and then a series of bullet points that help you respond. A good answer can be no more than a couple of sentences in response to each of them. Say more if you have more to say, but don’t waffle. Say it quickly and get on with the next one. This exercise is comparatively straightforward but there is a corresponding task in Assignment 2 which will be far more difficult.*

### Question 1: Vendor Lock-in

*Looking at your mashup as it stands, how dependent are you on the people who provide the services that you use? In a commercial context, the APIs, the data and the cloud services all matter to you. How hard would it be to change?*

*In your response, you should consider the following prompts:*

* *How hard would it be to replace the APIs that you are working with? Could you easily replace them if they were shut down suddenly or their terms of service changed? Consider each of them in turn and explore the domain of the API and tell us about obvious competitors or their absence.*

*(4 marks)*

* *How hard would it be to change the persistence service you have used to one supplied by another vendor? Identify equivalent alternatives and discuss briefly how that might affect your approach.*

*(2 marks)*

### Question 2: Container Deployment

*The mashup you have created as part of this assignment is a very limited application by commercial standards. Without getting too carried away, I want you now to think of a more substantial application which has similar characteristics – drawing mainly on external services, perhaps extending to include some user accounts and security, adding in some additional persistence services like those discussed in the weeks leading up to the assignment submission.*

*Working with this more substantial application, what are the advantages and disadvantages of the container-based deployment? This new context will in practice involve scaling and load balancing. You don’t yet have direct experience of these services, so I want you to focus on the deployment of the application through software containers. You should refer to earlier notes about the trade-offs between containers and ‘full’ VMs and consider which might apply here, and which might not.*

*In your response, you should consider the following prompts:*

* *Assuming that we have access to a service to manage container deployment and communication, are there any disadvantages to a container-based deployment for this application? Would we consider deployment of the application directly to a virtual machine i.e. one instance of the application for each instance of the EC2 or Azure Linux VM?*

*(2 marks)*

* *Drawing upon the discussions of cloud architectures in the early lectures and the material on persistence from week 5 onwards, what persistence options would you consider if the application were to be deployed at scale using a collection of software containers? You may consider more than one level.*

*(2 marks)*

## References

*Use a standard approach to referencing – see the guidance at* [*https://www.citewrite.qut.edu.au/cite/*](https://www.citewrite.qut.edu.au/cite/)*.*

## Appendices

*Stuff you want to include, but is too long or too complex to include in the main report text. The full Docker file, some longer excerpt from API docs. Whatever helps.*