Fortnite: Nakib Abedin, David Deng, Weichen Liu, Eric Sohel
SoftDev pd08
P05 – Twitter Clone
2023-06-01
Time Spent: 1.3 hrs
Target Ship Date: June 13, 2023
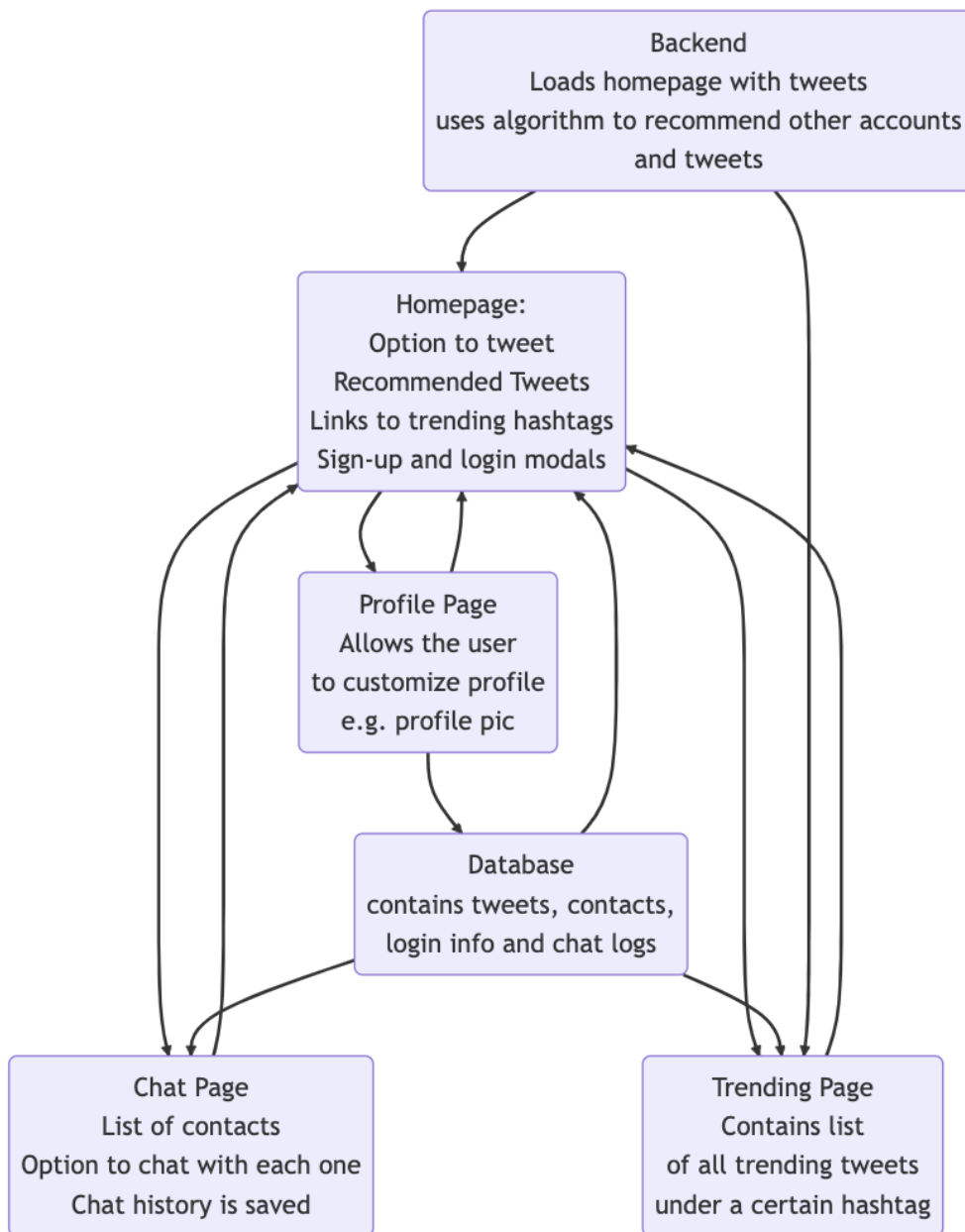
Project Description:
        We want to create a clone of the website for Twitter. We plan on having a website where you can see tweets from other people, message them via twitter DMs, see posts that are trending, and make your own tweets.

Program Components:
1) Frontend (Home Page)
    a) Will contain a long list of tweets. Some of these tweets will be pulled from the twitter API and some of them will be posts that the twitter user has made themselves.
    b) Will have the option for the user to make a tweet real time
    c) On the sides, there will be a list of other accounts the user can follow as well as other items that are trending
2) Frontend (Chat Feature)
    a) Will use websockets in order to have real-time messaging going on
    b) Will enable communication between two different accounts
3) Backend
    a) Will make API calls to get tweets from the twitter API and send them to the frontend
    b) REACH: We will try to implement algorithms which will recommend the user tweets to see and profiles that they can view
4) Database
    a) One database will contain login information
    b) One database will contain tweets from the user
    c) One database will contain list of contacts
    d) One database will contain chat message log

Component Map:

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                        ┌─────────────────────────────────┐
                        │            Backend              │
                        │    Loads homepage with tweets   │
                        │ uses algorithm to recommend     │
                        │      other accounts and tweets  │
                        └─────────────────────────────────┘

                        ┌─────────────────────────────────┐
                        │           Homepage:             │
                        │        Option to tweet          │
                        │       Recommended Tweets        │
                        │     Links to trending hashtags  │
                        │     Sign-up and login modals    │
                        └─────────────────────────────────┘

                        ┌─────────────────────────────────┐
                        │          Profile Page           │
                        │        Allows the user          │
                        │      to customize profile       │
                        │        e.g. profile pic         │
                        └─────────────────────────────────┘

                        ┌─────────────────────────────────┐
                        │           Database              │
                        │    contains tweets, contacts,   │
                        │     login info and chat logs    │
                        └─────────────────────────────────┘

  ┌──────────────────────────┐        ┌──────────────────────────┐
  │        Chat Page         │        │      Trending Page       │
  │     List of contacts     │        │       Contains list      │
  │ Option to chat with each │        │   of all trending tweets │
  │           one            │        │   under a certain hashtag│
  │   Chat history is saved  │        └──────────────────────────┘
  └──────────────────────────┘
```

Login Information:

Username	Password

Tweets:

PostID	Post Text	Post Time	Post Likes

Contacts:

Contact Name	Contact Profile Picture	Contact ChatID

ChatID:

Chat ID	Chat History

Site Map:
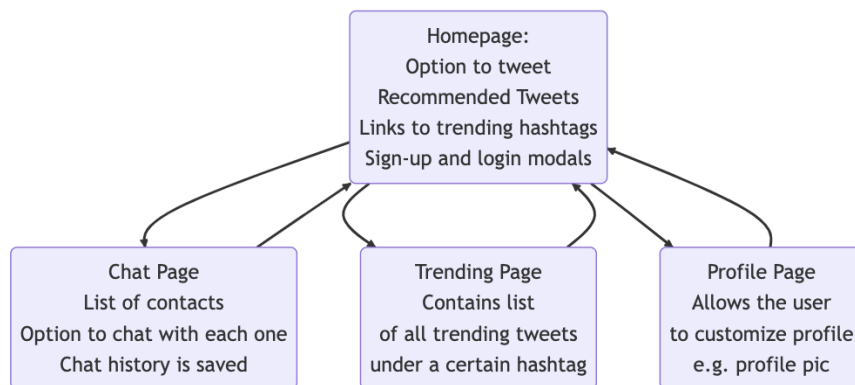
API:

Twitter API
- Will be used in order to get real tweets

Duck API
- Will be used to generate random profile pictures for new accounts instead of sticking to the npc default picture used by twitter

Framework:

Bootstrap:

- As a whole, this is the front end framework that the team is most familiar with and the one we believe is most conducive to good clean programming

Task Delegation:

Nakib Abedin → Project Manager; Fullstack Developer
- In charge of staying up to date with instructions from Mr. Mykolyk
- Will attempt to setup the linkages between frontend, backend, and database needed to have tweets from the twitter API show up and will implement the tweeting feature

David Deng → Backend Engineer
- Will develop the chat feature using websockets
- Will attempt to create recommendation algorithm to find new tweets and other profiles

Eric Sohel → Database Manager
- Will develop the databases to ensure that chat history is saved and that user tweets are stored
- Will work on the likes, comments, and retweets features as they need to be stored in the database

Weichen Liu → Frontend Engineer
- Will attempt to make the website look like the actual twitter website
- Will work on the account registration features and will create animations for things like likes, retweets, and comments.