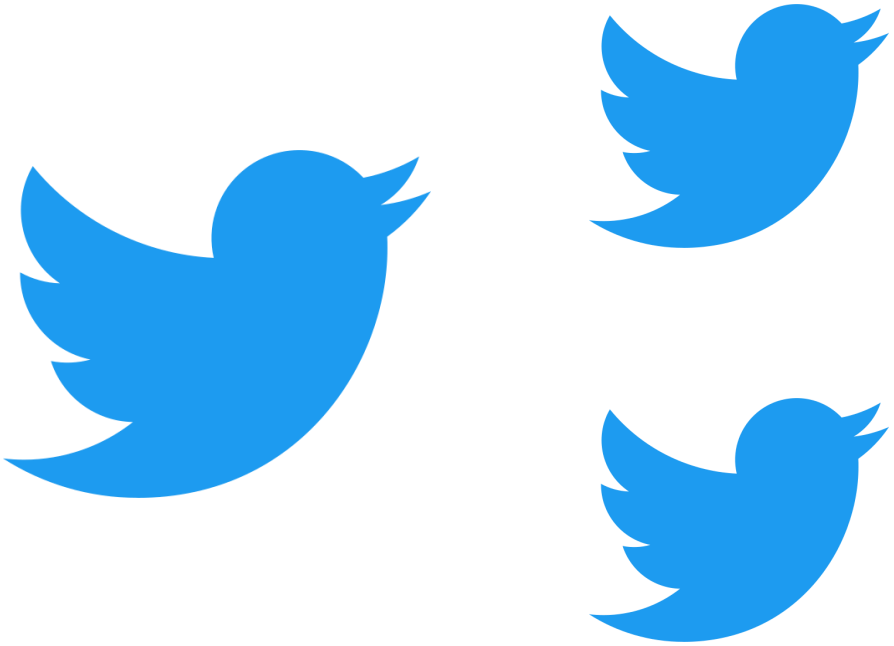
RECREATING TWITTER: OUR PROCESS

A project by Amir Sharifi, Edgar Townsend, Kristy Hoffman, Ilnaz Alizadeh Ghannad, and Hossein Parsa

BACKGROUND: HIGH-LEVEL VIEW



The purpose of our project, Twitter clone, was to build the microblogging and social networking platform from scratch.

In the real world, Twitter exists to give people the opportunity to share messages with large audiences and connect with others.

SOLUTION OVERVIEW

Features and functionalities

Users may sign in (Google), write and post tweets, delete tweets (DEL ... Ye must learn this function 👀), and comment on the tweets of others.

SOLUTION OVERVIEW

Other capabilities include, but are not limited to:

Bookmarking posts 📄
Profile editing 👩♀👩👩♂👩♀👩♀👩
Following others (and being followed!) 👭♀

TWEETING

Home

Search Twitter

Home
Explore
Notifications
Messages
Bookmarks
Lists
Profile
More
Tweet

← My pic is of a rly cute basset hound

Tweet

amir sharifi @amirsharifi - 11 hours ago
hi amir

H Parsa @hparsa - 11 hours ago
I am not hossein
1

Kristy Hoffman @kristyhoffman - 11 hours ago
i am not Kristy
2 1

amir sharifi @amirsharifi - 11 hours ago
Something new

Whats happening

Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse' - CNBC
CNBC

Fed's Powell calms recession jitters with rebuff of 75-basis point rate hike - Fox Business
Fox Business

Buffett's Berkshire buys more Occidental shares - Fox Business
Fox Business

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Who to follow

orangepeacock284
Antonio Méndez
Follow

crazyduck223
Kars Van den Eijkel
Follow

happyduck779
غزل گلشن
Follow

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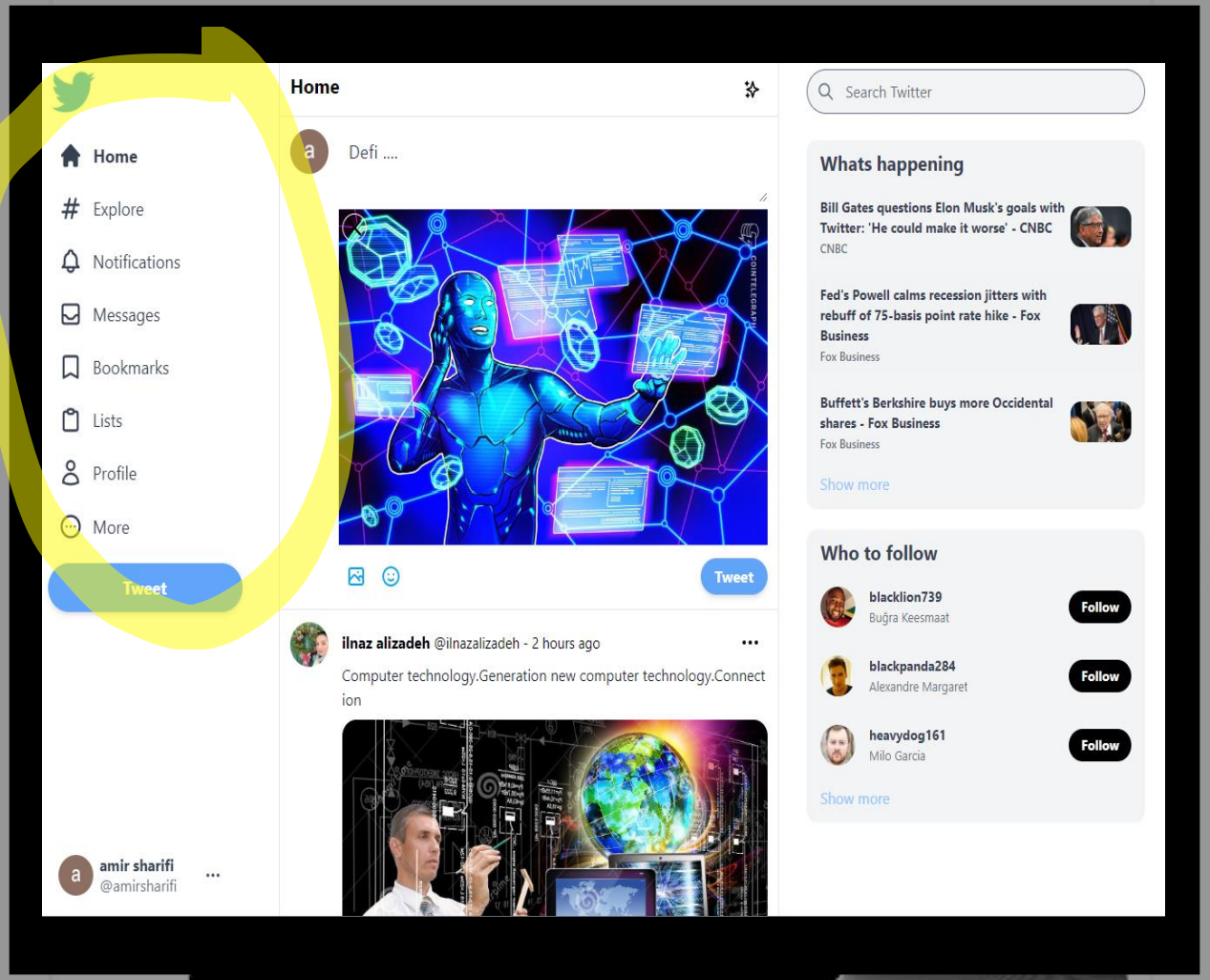
SIGNING IN



Home
Explore
Sign in
Search Twitter
Whats happening
Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse' - CNBC
CNBC
Fed's Powell calms recession jitters with rebuff of 75-basis point rate hike - Fox Business
Fox Business
Buffett's Berkshire buys more Occidental shares - Fox Business
Fox Business
Show more
Who to follow
redcat226
Victor Brar
Follow
heavyladybug415
John West
Follow
blackgorilla883
Djalma das Neves
Follow

GOOGLE SIGN IN

This app is created for my final project

Sign in with Google

COMMENTING

Home
Explore
Notifications
Messages
Bookmarks
Lists
Profile
More
Tweet

Tweet

Search Twitter

ilnaz alizadeh @ilnazalizadeh - 7 days ago

Winter is the coldest season of the year in polar and temperate climates. It occurs after autumn and before spring. The tilt of Earth's axis causes seasons; winter occurs when a hemisphere is oriented away from the Sun. Different cultures define different dates as the start of winter

1 2

Kristy Hoffman @kristyhoffman - a few seconds ago

Wow so pretty 😍

Whats happening

Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse' - CNBC
CNBC

Fed's Powell calms recession jitters with rebuff of 75-basis point rate hike - Fox Business

Berkshire buys more ... - Fox Business
Fox Business

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Who to follow

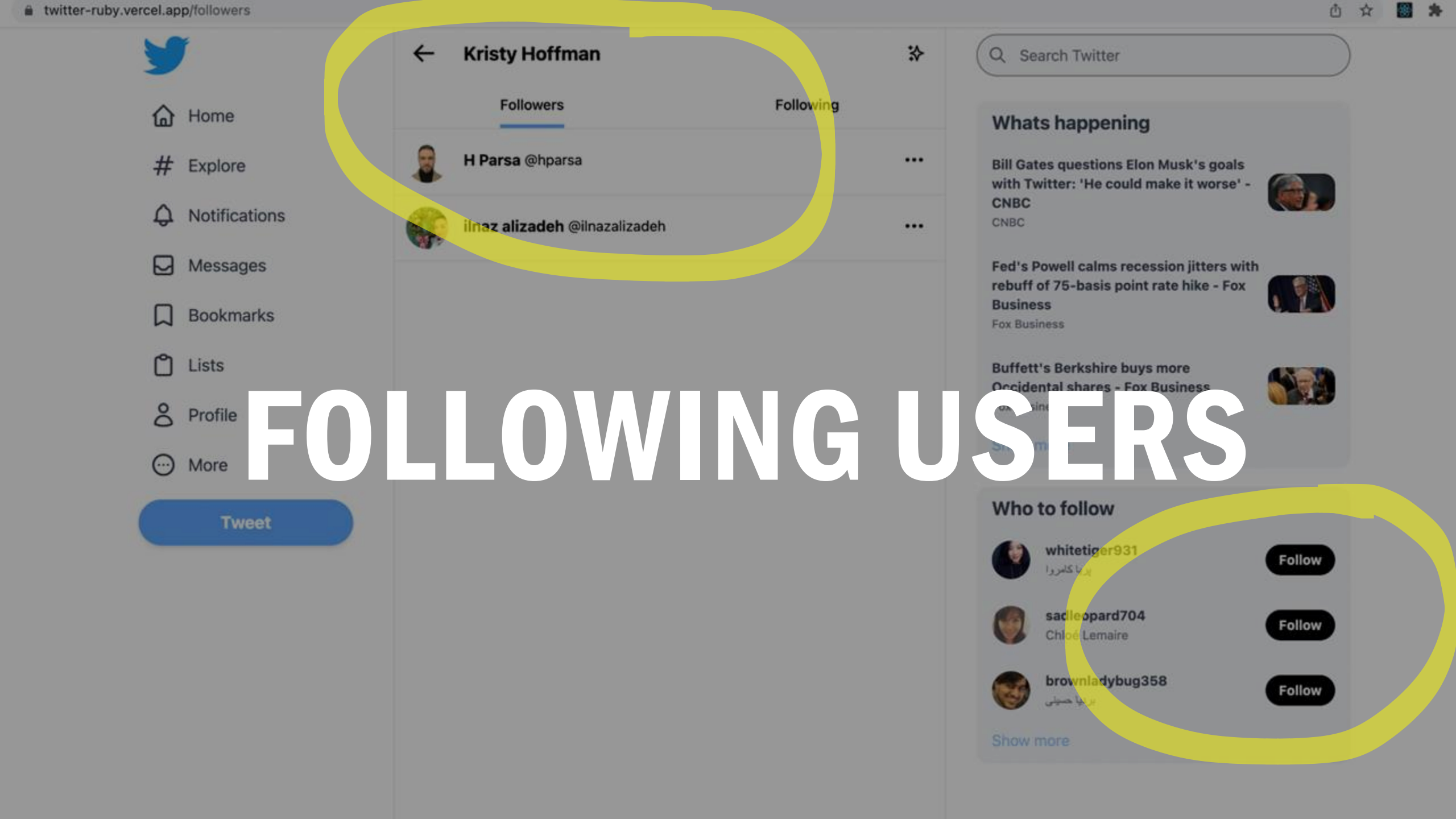
whitetiger931
پریا کنورا
Follow

sadleopard704
Chloé Lemaire
Follow

brownladybug358
برنیا حسینی
Follow

Show more

twitter-ruby.vercel.app/profile
Kristy Hoffman
Search Twitter
Home
Explore
Notifications
Messages
Bookmarks
Lists
Profile
More
Tweet
Edit profile
Save
Name
Kristy Hoffman
Bio
Âllo, c'est moi Kristy
Location
Montreal
Website
UPDATE PROFILE
Follow
Follow
Follow


twitter-ruby.vercel.app/followers
Home
Explore
Notifications
Messages
Bookmarks
Lists
Profile
More
Tweet
Kristy Hoffman
Followers
Following
H Parsa @hparsa
ilnaz alizadeh @ilnazalizadeh
Search Twitter
Whats happening
Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse' - CNBC
CNBC
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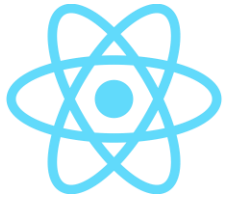
Fox Business
Buffett's Berkshire buys more Occidental shares - Fox Business
Who to follow
Follow
Follow
Follow
Show more
FOLLOWING USERS

TECHNOLOGIES USED

Firebase

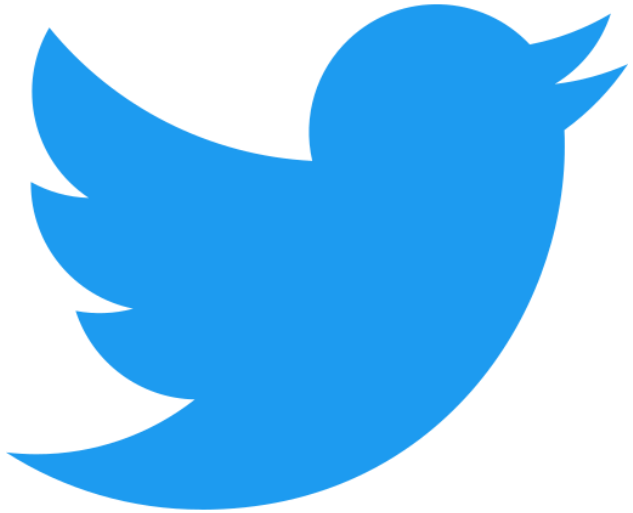


React

Recoil

CHALLENGES AND SOLUTIONS

We used several interesting technologies that challenged us, and ultimately helped us grow as developers.



Unit Testing (Jest & React Testing Library)

```jsx
import React from 'react'
import {render} from '@testing-library/react'
import UserRow from '../components/userRow'


describe('userRow', () => {
    it('renders a user', () => {
        const user = {
            id:'55555',
            img:'/avatar.png',
            name:'Admin',
            username:'@Admin01'
        }

        const _render = render(<UserRow user={user}/>);
        const text =  _render.getByText('Admin')
        expect(text).toBeInTheDocument()

    })
})
```

```jsx
import React from 'react'
import {timeConverter} from "../util/util";



describe('timeConvertor', () => {
    it('convert unix base time to date', () => {
        const seconds = 1669688658
        const result = timeConverter(seconds)
        expect(result).toBe('28 Nov 2022')

    })
})
```

```
PS F:\john abbott\FinalProject\Twitter> npm run test

> twitter@0.1.0 test
> jest

 PASS  __tests__/timeConvertor.test.js
 PASS  __tests__/UserRow.test.jsx

Test Suites: 2 passed, 2 total
Tests:       2 passed, 2 total
Snapshots:   0 total
Time:        5.207 s
Ran all test suites.
```

Unit Testing

Whats happening

Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse' - CNBC

CNBC

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Fox Business

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Fox Business

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TECH

Bill Gates questions Elon Musk's goals with Twitter: 'He could make it worse'

PUBLISHED THU, MAY 5 2022•3:17 AM EDT | UPDATED THU, MAY 5 2022•1:31 PM EDT

Sam Shead
@SAM_L_SHEAD

SHARE

KEY POINTS

- The Microsoft co-founder said at the Wall Street Journal's CEO Summit Wednesday that it's unclear how Elon Musk will change Twitter if he takes ownership.
- The tech billionaire's comments come after Musk accused him of shorting Tesla stock last month.
- Musk also tweeted a crude joke about Gates.

CNBC TV
Fast Money Halftime Report WATCH LIVE
UP NEXT | The Exchange 01:00 pm ET Listen

In this article

TWTR +0.35 (+0.66%)

Follow your favorite stocks
CREATE FREE ACCOUNT

Speaking at the at the Wall Street Journal's CEO Summit Wednesday, Gates asked of Elon Musk: "How does he feel about something [on Twitter] that says 'vaccines kill people' or that 'Bill Gates is tracking people?'"

TRENDING NOW

This 28-year-old built a side hustle that brings in $30,000/month: 'I only have to work 6 hours a week'

The easiest way to travel full time? See what a 28-year-old paid for an apartment on a cruise ship

Carvana shares tank as bankruptcy concerns grow for used car retailer

Live updates Ukraine war: Putin says Russia's war could be 'lengthy'; Pope compares war to Nazis

Unit Testing

```
import React from 'react'
import {render} from '@testing-library/react'
import News from '../components/News'


describe('news', () => {
    it('render news row', () => {

        let article = {
            url : 'https://www.cnbc.com/2022/05/05/bill-gates-says-elon-musk-could-make-twitter-worse.html',
            title:'Bill Gates questions Elon Musk\'s goals with Twitter: \'He could make it worse\' - CNBC',
            source:{
                name:'cnbc'
            },
            urlToImage:'https://image.cnbcfm.com/api/v1/image/107017517-1645200499603-gettyimages-1236298089-jm1_6693.jpeg?v=1651738132&w=1920&h=
        }

        const _render = render(<News article={article}/>);

        const text =  _render.getByText('Bill Gates questions Elon Musk\'s goals with Twitter: \'He could make it worse\' - CNBC').closest('a')

        expect(text).toHaveAttribute('href', 'https://www.cnbc.com/2022/05/05/bill-gates-says-elon-musk-could-make-twitter-worse.html')

    })
})
```

```
> twitter@0.1.0 test
> jest

 PASS  __tests__/timeConvertor.test.js
 PASS  __tests__/UserRow.test.jsx
 PASS  __tests__/News.test.jsx

Test Suites: 3 passed, 3 total
Tests:       3 passed, 3 total
Snapshots:   0 total
Time:        4.975 s
Ran all test suites.
```

State Management

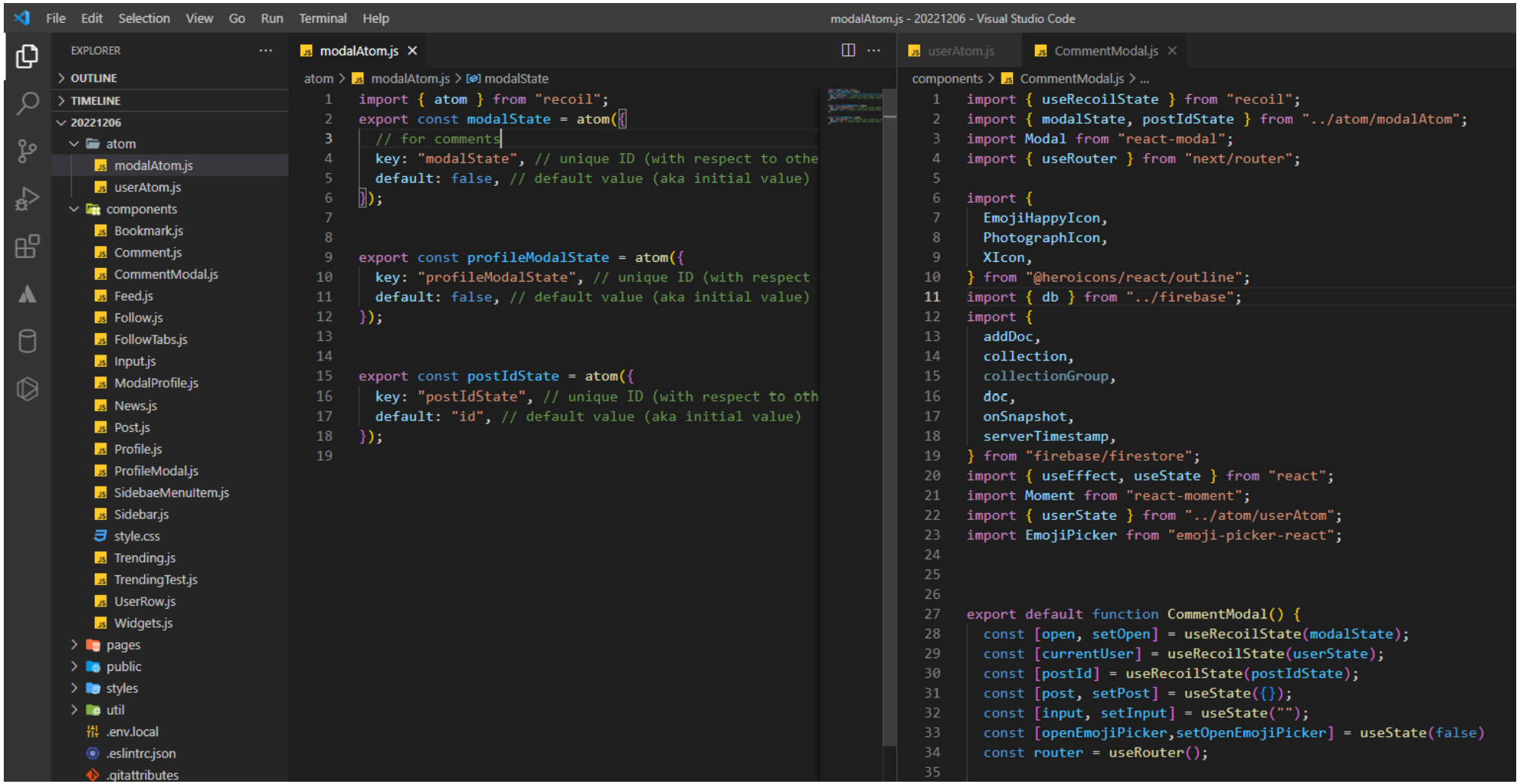
```
npm install recoil
```

_app.js

pages > _app.js > App

```
46      <SessionProvider session={session}>
47        <RecoilRoot>
48 >        <Head> ···
52          </Head>
53          <div className="flex">
54            <main
55              className={`flex min-h-screen mx-auto ${
56                router.pathname === "/auth/signin" && "justify-center"
57              }`}
58            >
59              {/* Sidebar */}
60              {router.pathname !== "/auth/signin" && <Sidebar />}
61              <Component {...pageProps} />
62
63              {/* Widgets */}
64              {router.pathname !== "/auth/signin" &&
65                newsResults &&
66                randomUsersResults && (
67                  <Widgets
68                    newsResults={newsResults.articles}
69                    randomUsersResults={randomUsersResults.results}
70                  />
71                )}
72              {/* Modal */}
73              <CommentModal />
74            </main>
75          </div>
76        </RecoilRoot>
77      </SessionProvider>
78    );
79  }
```

State Management



Tailwind CSS

Working with Tailwind CSS was an exercise in adaptation. It required us to differentiate between Tailwind-specific keywords and traditional CSS syntax:

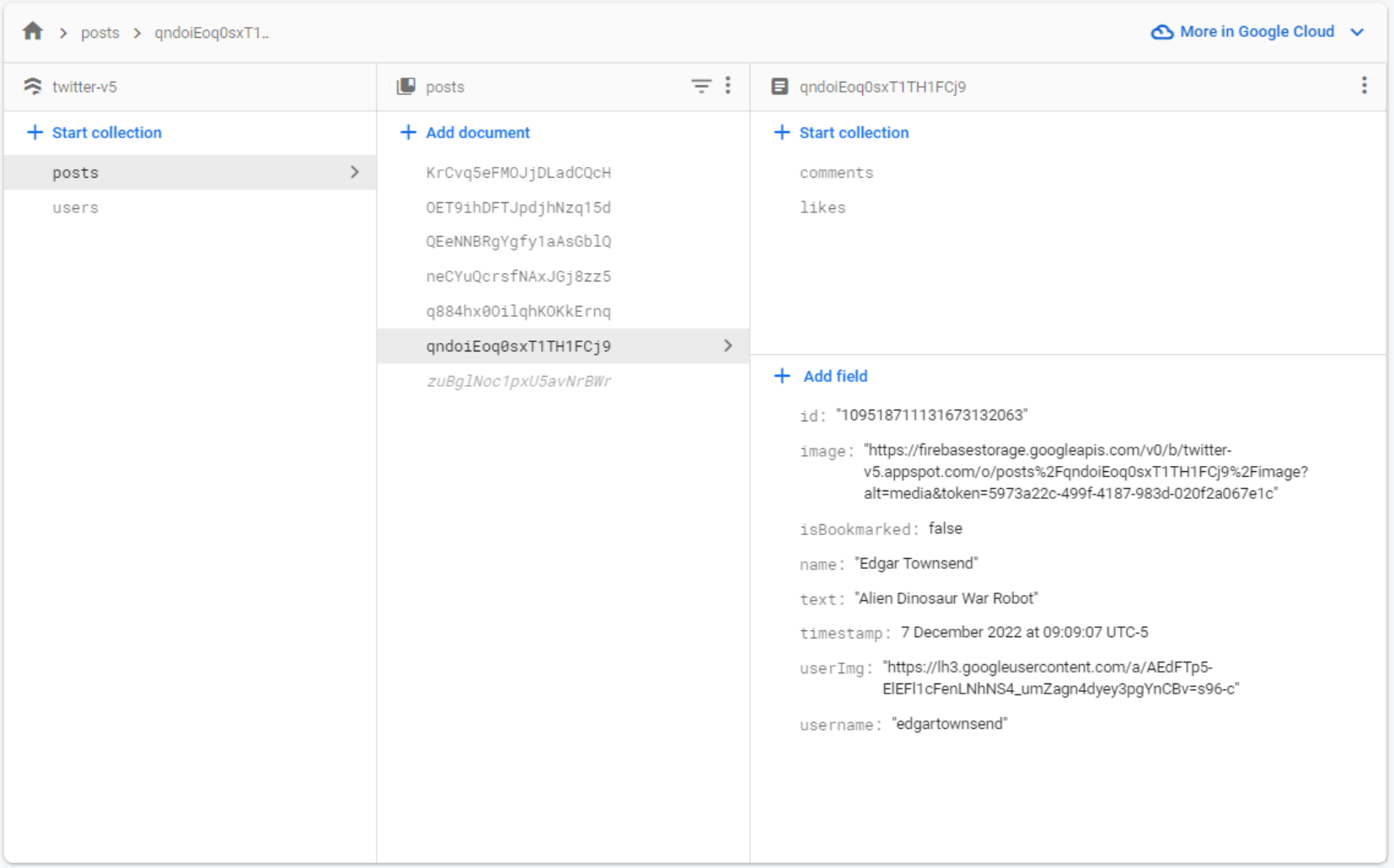
```css
.button {
  background-color: #4CAF50; /* Green */
  border: none;
  color: white;
  padding: 15px 32px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
  font-size: 16px;
}
```

Creating a button with traditional CSS

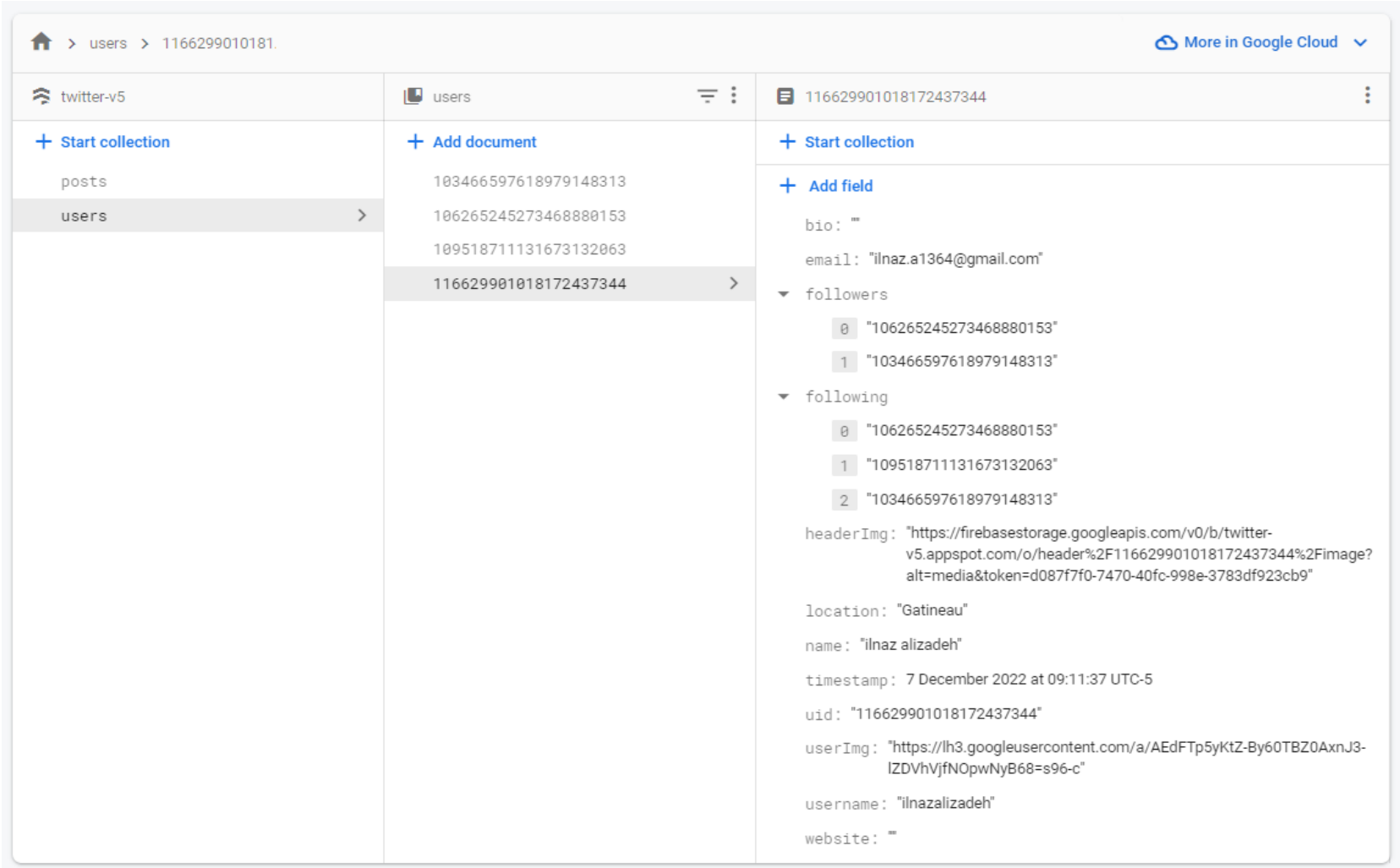
```
<button class="h-10 px-6 font-semibold rounded-md bg-black text-white" type="submit">
```

Creating a button with Tailwind CSS

Firebase


posts > qndoiEoq0sxT1..
More in Google Cloud
twitter-v5
Start collection
posts
users
posts
Add document
KrCvq5eFMOJjDLadCQcH
OET9ihDFTJpdjhNzq15d
QEeNNBRgYgfy1aAsGblQ
neCYuQcrsfNAxJGj8zz5
q884hx0OilqhKOKkErnq
qndoiEoq0sxT1TH1FCj9
zuBglNoc1pxU5avNrBWr
qndoiEoq0sxT1TH1FCj9
Start collection
comments
likes
Add field
id: "109518711131673132063"
image: "https://firebasestorage.googleapis.com/v0/b/twitter-v5.appspot.com/o/posts%2FqndoiEoq0sxT1TH1FCj9%2Fimage?alt=media&token=5973a22c-499f-4187-983d-020f2a067e1c"
isBookmarked: false
name: "Edgar Townsend"
text: "Alien Dinosaur War Robot"
timestamp: 7 December 2022 at 09:09:07 UTC-5
userImg: "https://lh3.googleusercontent.com/a/AEdFTp5-ElEFl1cFenLNhNS4_umZagn4dyey3pgYnCBv=s96-c"
username: "edgartownsend"

Firebase


users > 1166299010181.
More in Google Cloud
twitter-v5
users
1166299010181724373 44
Start collection
posts
users
Add document
103466597618979148313
106265245273468880153
109518711131673132063
116629901018172437344
Start collection
Add field
bio: ""
email: "ilnaz.a1364@gmail.com"
followers
0 "106265245273468880153"
1 "103466597618979148313"
following
0 "106265245273468880153"
1 "109518711131673132063"
2 "103466597618979148313"
headerImg: "https://firebasestorage.googleapis.com/v0/b/twitter-v5.appspot.com/o/header%2F116629901018172437344%2Fimage?alt=media&token=d087f7f0-7470-40fc-998e-3783df923cb9"
location: "Gatineau"
name: "ilnaz alizadeh"
timestamp: 7 December 2022 at 09:11:37 UTC-5
uid: "116629901018172437344"
userImg: "https://lh3.googleusercontent.com/a/AEdFTp5yKtZ-By60TBZ0AxnJ3-lZDVhVjfNOpwNyB68=s96-c"
username: "ilnazalizadeh"
website: ""

Authentication

We were using NextAuth.js, and it used session for authentication.

Our challenge was to pass the Google token, and our solution was to convert NextAuth.js to FirebaseAuth to retrieve it from the database.

We learned that the token is managed by Recoil, which treats login/logout as a “door.”

Authentication

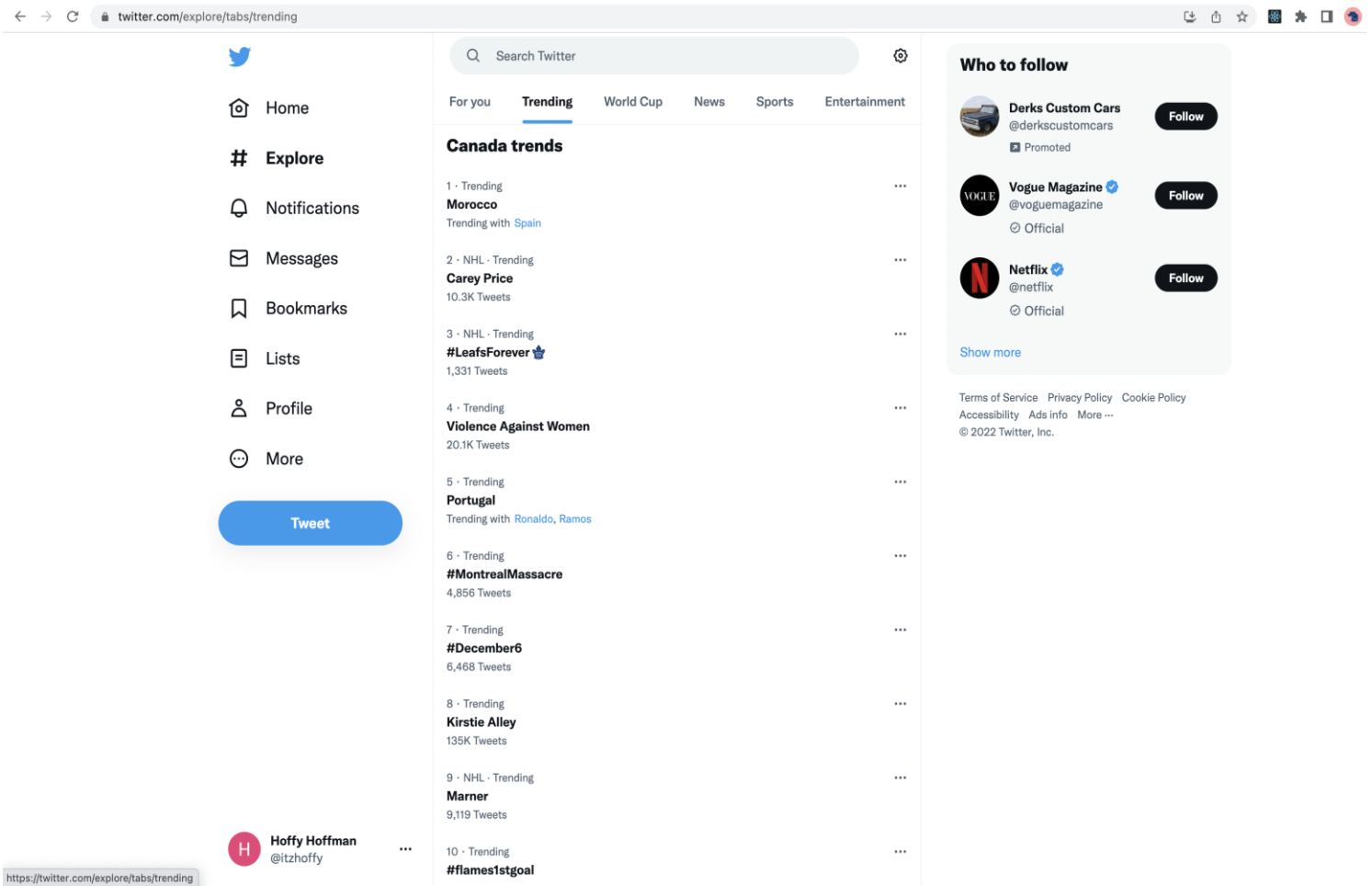
```
ages > api > auth > JS [...nextauth].js > default > callbacks > session
1   import NextAuth from "next-auth"
2   import GoogleProvider from "next-auth/providers/google"
3
4   export default NextAuth ({
5     // Configure one or more authentication providers
6     providers: [
7       GoogleProvider({
8         clientId: "911523746943-c6kj86knf5t57dflh73jv9oek7l7vbdo.apps.googleusercontent.com",
9         clientSecret: "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",
10      }),
11      // ...add more providers here
12    ],
13
14    pages:{
15      signIn:"/auth/signin",
16
17    },
```

```
2   import { getAuth, signInWithPopup, GoogleAuthProvider } from "firebase/auth";
3   import { doc, getDoc, serverTimestamp, setDoc } from "firebase/firestore";
4   import { useRouter } from "next/router";
5
6   export default function Signin() {
7
8     const router = useRouter();
9
0   const onGoogleClick = async()=> {
```

```
import { getAuth, signOut } from "firebase/auth";
import { useRecoilState } from "recoil";
import { userState } from "../atom/userAtom";
```

```
export default function Input() {
    const [currentuser, setCurrentUser] = useRecoilState(userState);
    const [input, setInput] = useState("");
    const [selectedFile, setSelectedFile] = useState(null);
    const [loading, setLoading] = useState(false);
    const filePickerRef = useRef(null);
    const auth = getAuth();
```

FUTURE WORK



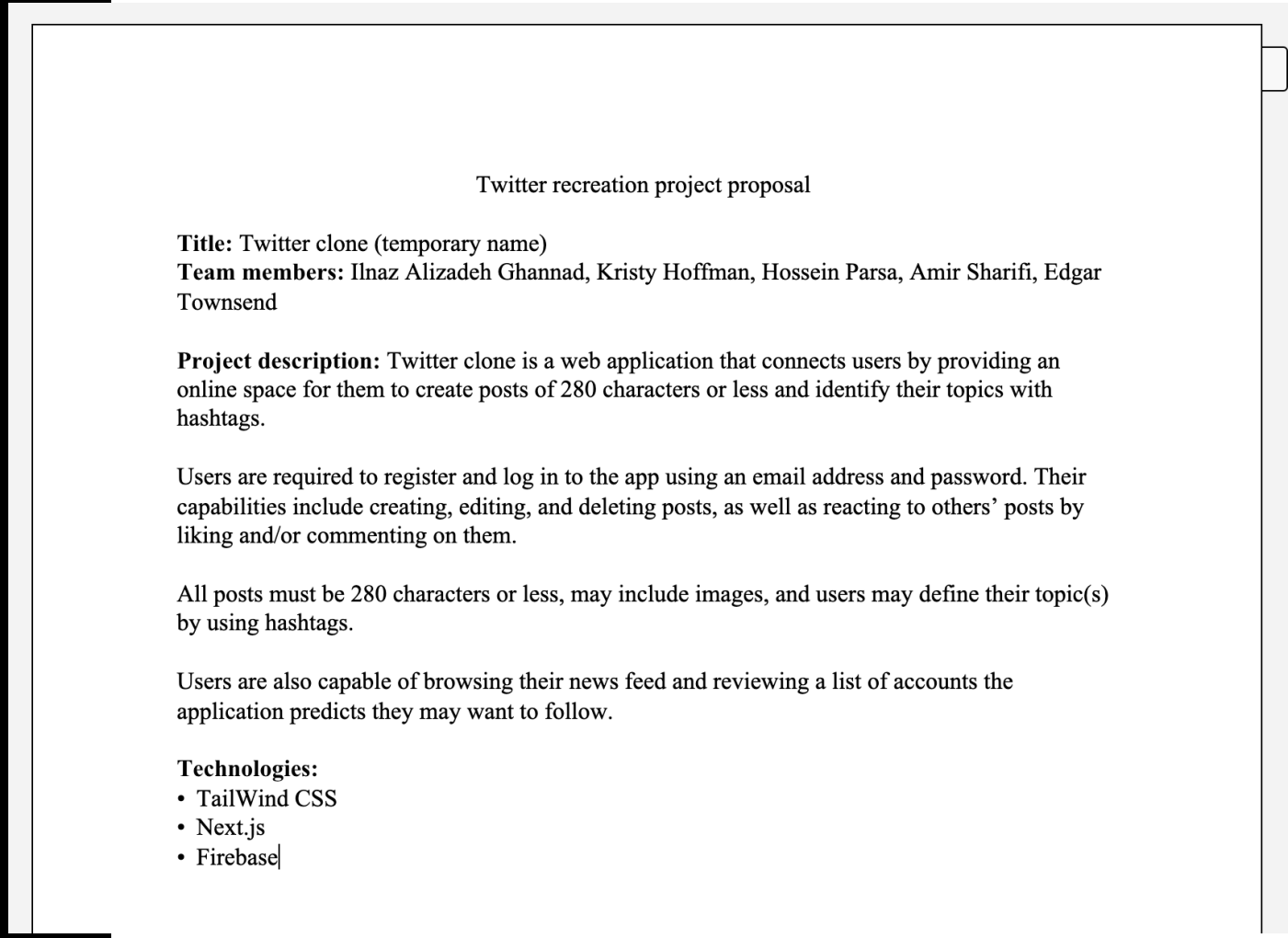
With more time, we would add the following:

Search by hashtag #
Private messaging 💬
Curating account recommendations based on users' interest and data 👀

SUMMARY

Originally, our team set out to build a near-exact replica of Twitter, the microblogging and social networking platform. We fulfilled most of our aspirations, and even added Google sign in capabilities.

In addition to the technologies, we anticipated needing, we also worked with React, Recoil, and Vercel.



Twitter recreation project proposal

Title: Twitter clone (temporary name)
Team members: Ilnaz Alizadeh Ghannad, Kristy Hoffman, Hossein Parsa, Amir Sharifi, Edgar Townsend

Project description: Twitter clone is a web application that connects users by providing an online space for them to create posts of 280 characters or less and identify their topics with hashtags.

Users are required to register and log in to the app using an email address and password. Their capabilities include creating, editing, and deleting posts, as well as reacting to others' posts by liking and/or commenting on them.

All posts must be 280 characters or less, may include images, and users may define their topic(s) by using hashtags.

Users are also capable of browsing their news feed and reviewing a list of accounts the application predicts they may want to follow.

Technologies:
- TailWind CSS
- Next.js
- Firebase