Review!
(and Design & Wireframing)

Akshaj Kadaveru
at 1:15

First: Review

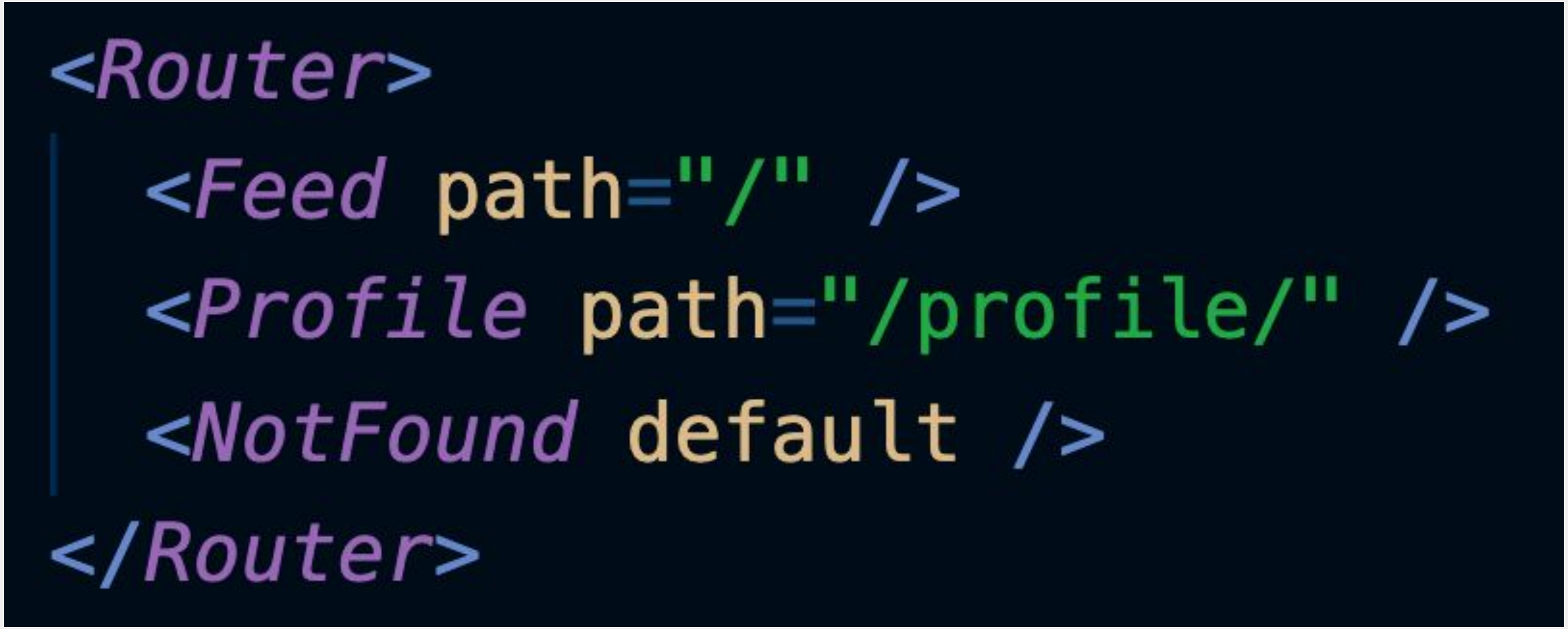
What we've learned in React

- Websites are divided into **components**
- components can have inputs, which are **props**
- components can have their own private, updatable information: **state**

What we've learned in React

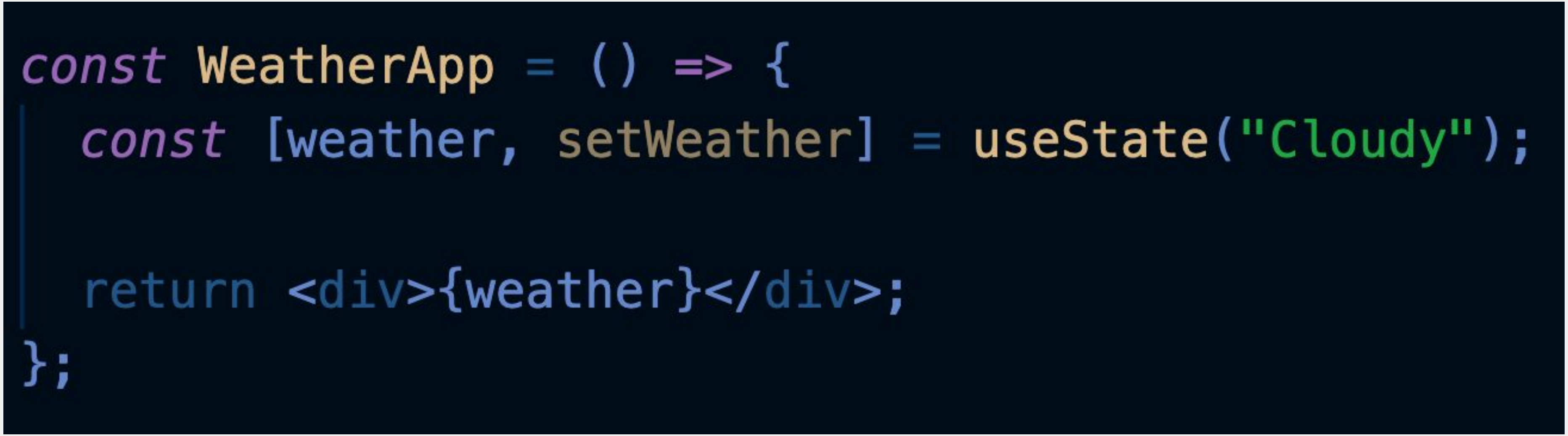
- Websites are divided into **components**
- components can have inputs, which are **props**
- components can have their own private, updatable information: **state**
- Components run their code **once at the beginning**, and then **once every time a prop or a state changes**
- To run something only once at the beginning, we use **useEffect**(function, [])
- **get**("/api/something", someData) does a get request to "/api/something", and gets back data (asynchronously)
- **post**("/api/something", someData) does a post request to "/api/something" (asynchronously)
- **Router** is our way of having different 'pages' (with their own URL) on your site

Router



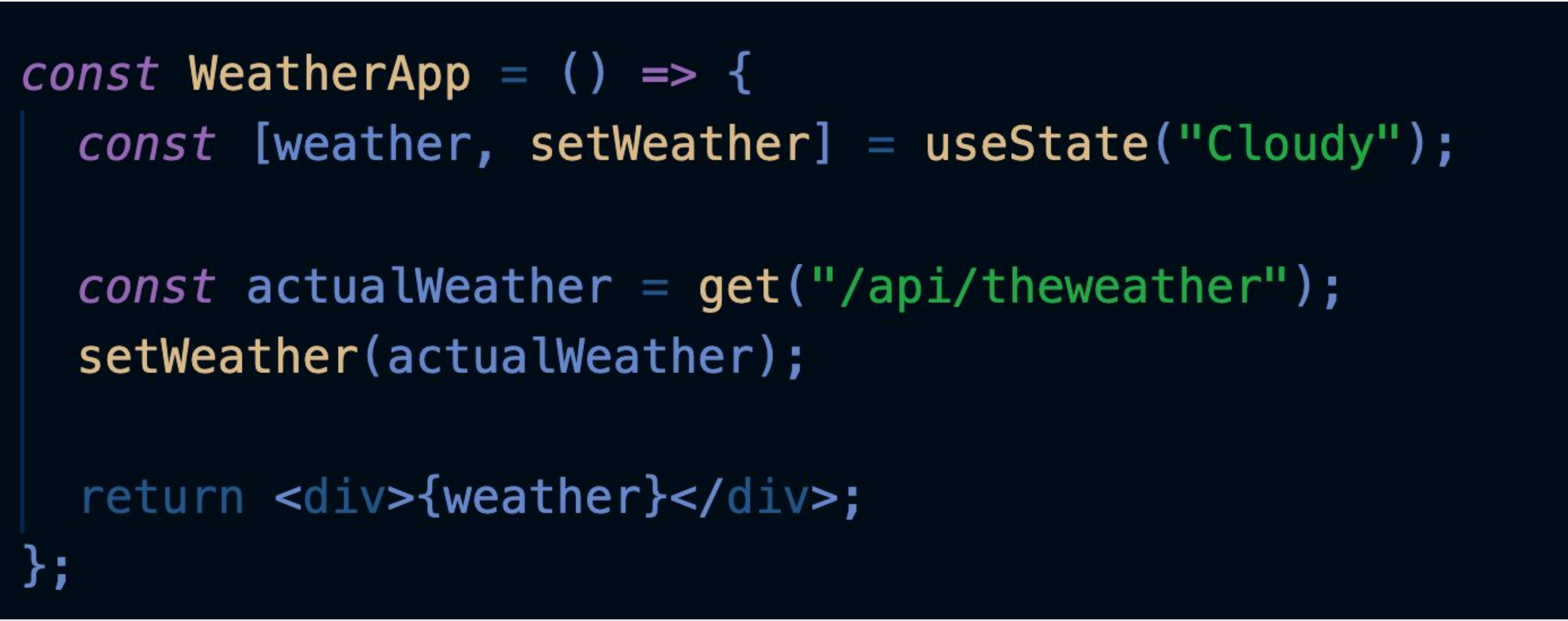
```
<Router>
  <Feed path="/" />
  <Profile path="/profile/" />
  <NotFound default />
</Router>
```

useEffect, get requests



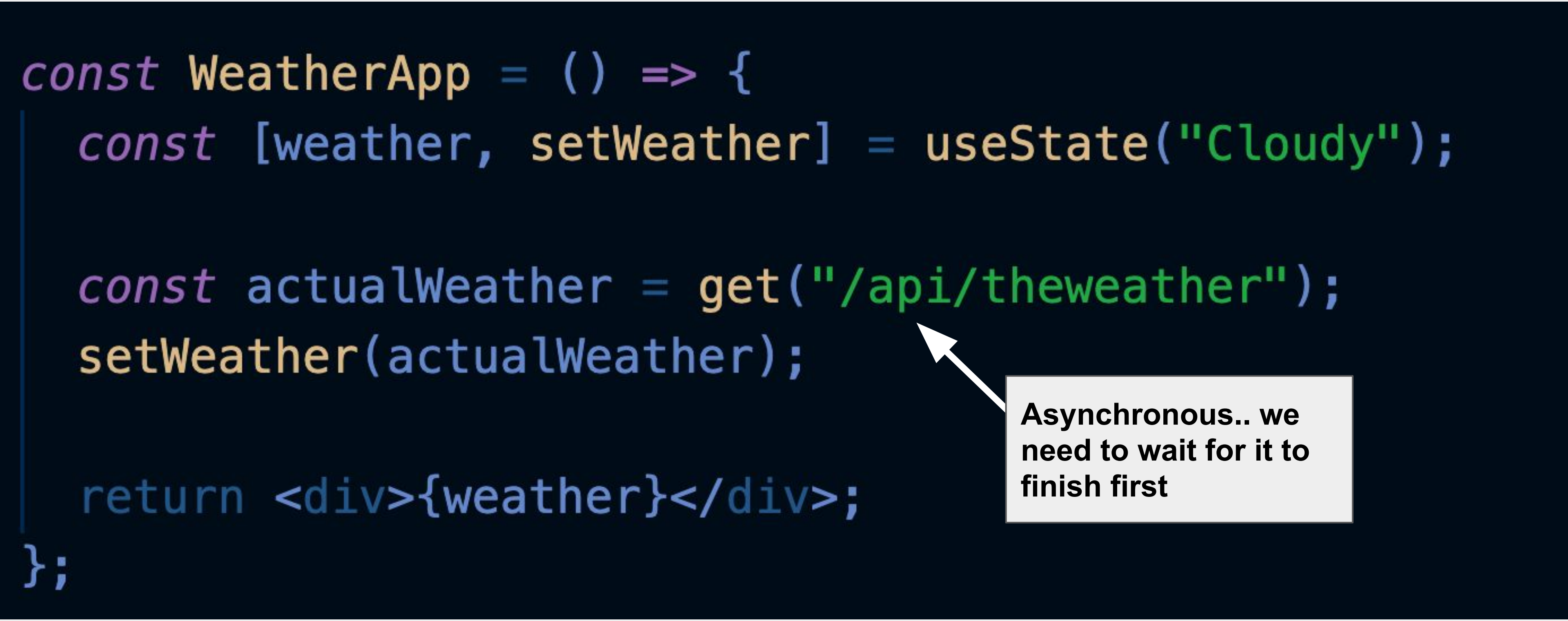
```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  return <div>{weather}</div>;
};
```

useEffect, get requests



```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  const actualWeather = get("/api/theweather");
  setWeather(actualWeather);

  return <div>{weather}</div>;
};
```

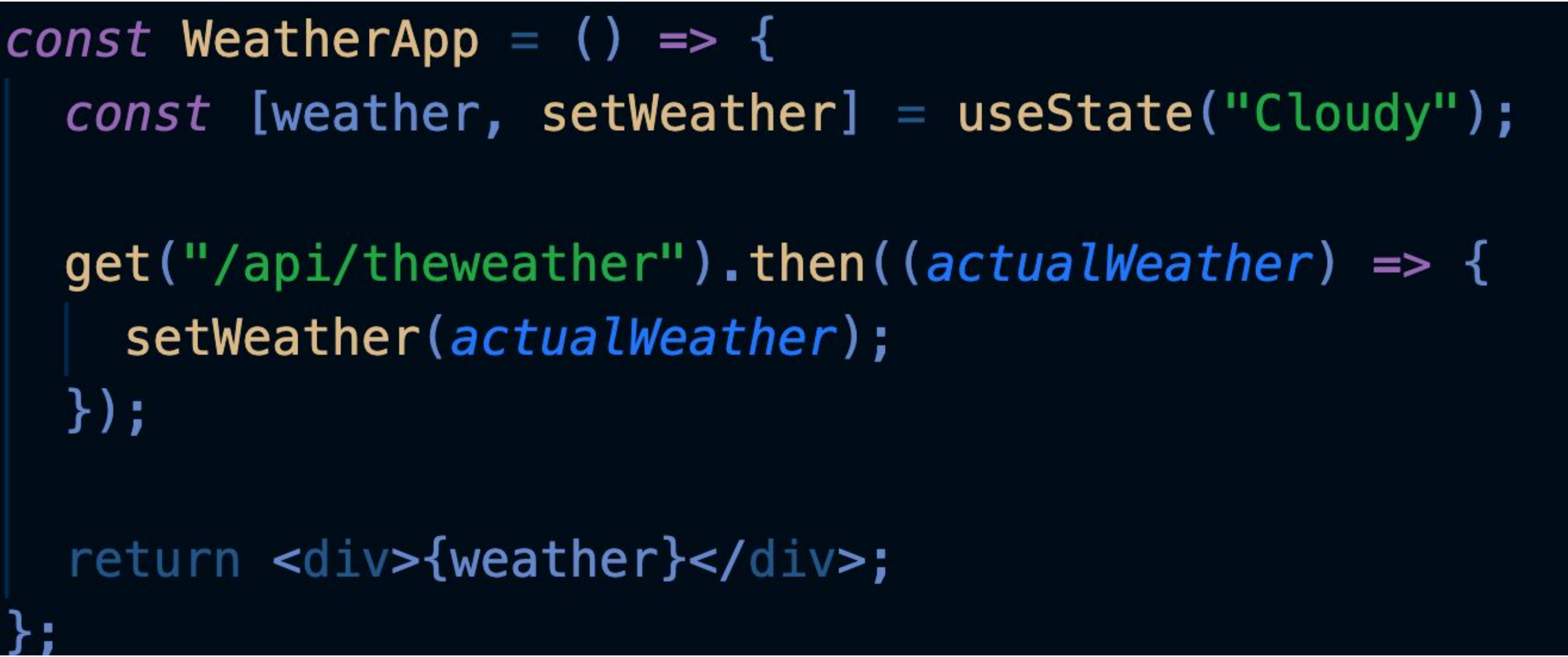
useEffect, get requests



```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  const actualWeather = get("/api/theweather");
  setWeather(actualWeather);

  return <div>{weather}</div>;
};
```

Asynchronous.. we need to wait for it to finish first

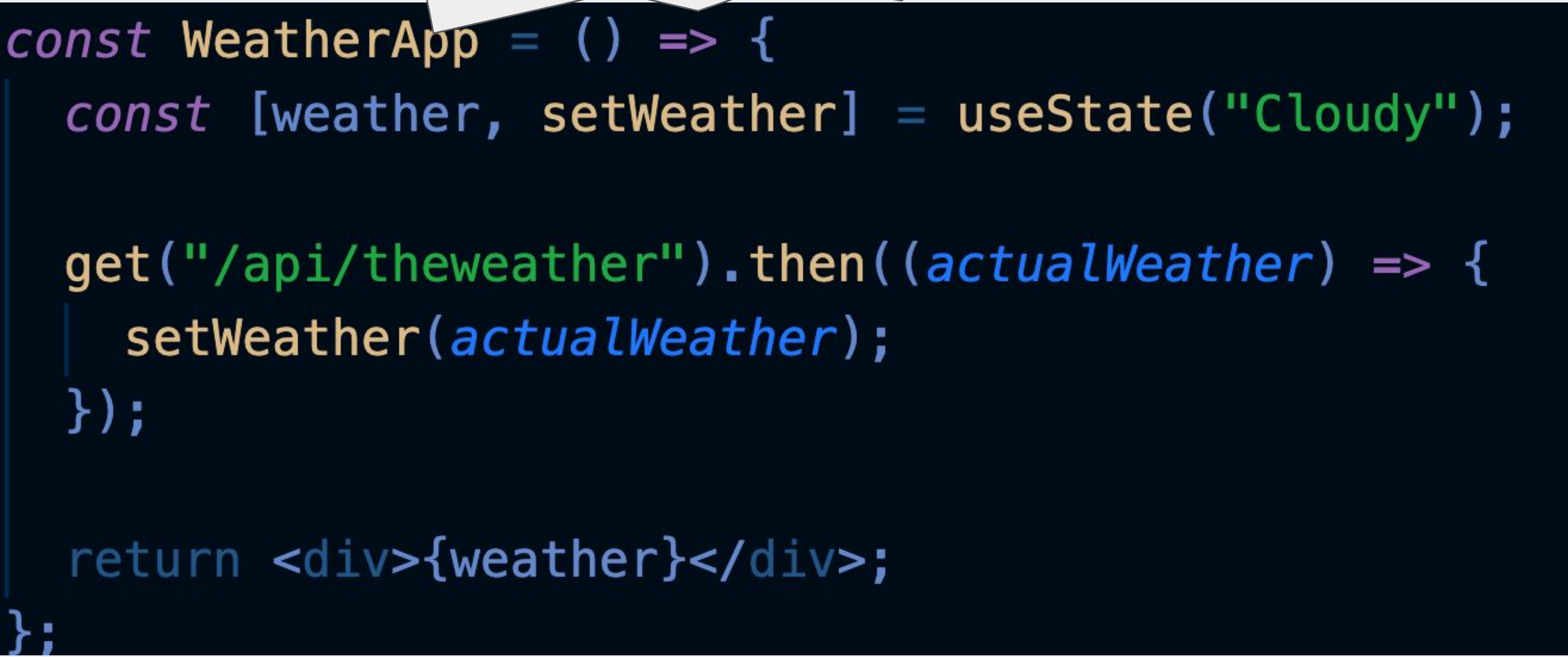
useEffect, get requests



```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  get("/api/theweather").then((actualWeather) => {
    setWeather(actualWeather);
  });

  return <div>{weather}</div>;
};
```

useEff

Components re-run their code whenever state or props changes



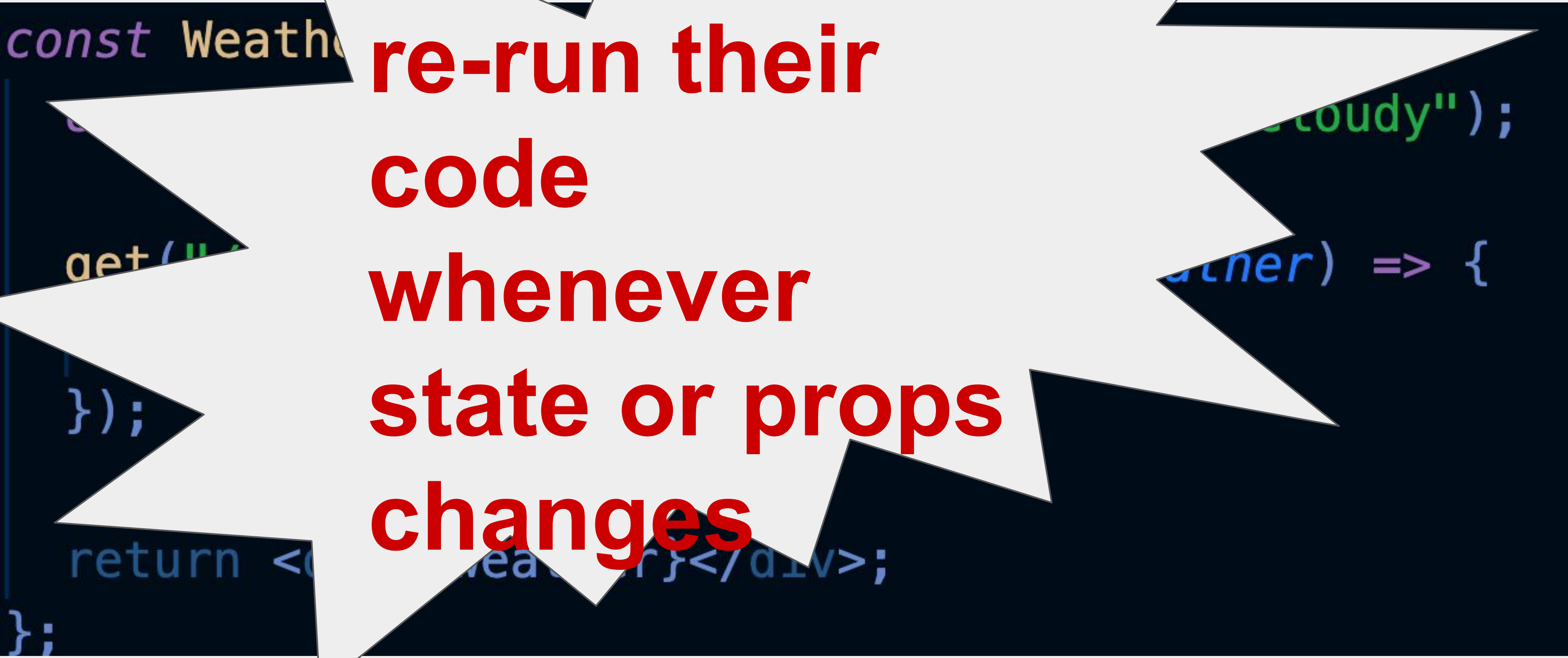
```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  get("/api/theweather").then((actualWeather) => {
    setWeather(actualWeather);
  });

  return <div>{weather}</div>;
};
```

useEffect, get request

```
const Weather
  cons                          "Cloudy");

  ge                           her) => {
    set                               ;
  });

  return <div>{weather}</div>;
};
```

Components re-run their code whenever state or props changes

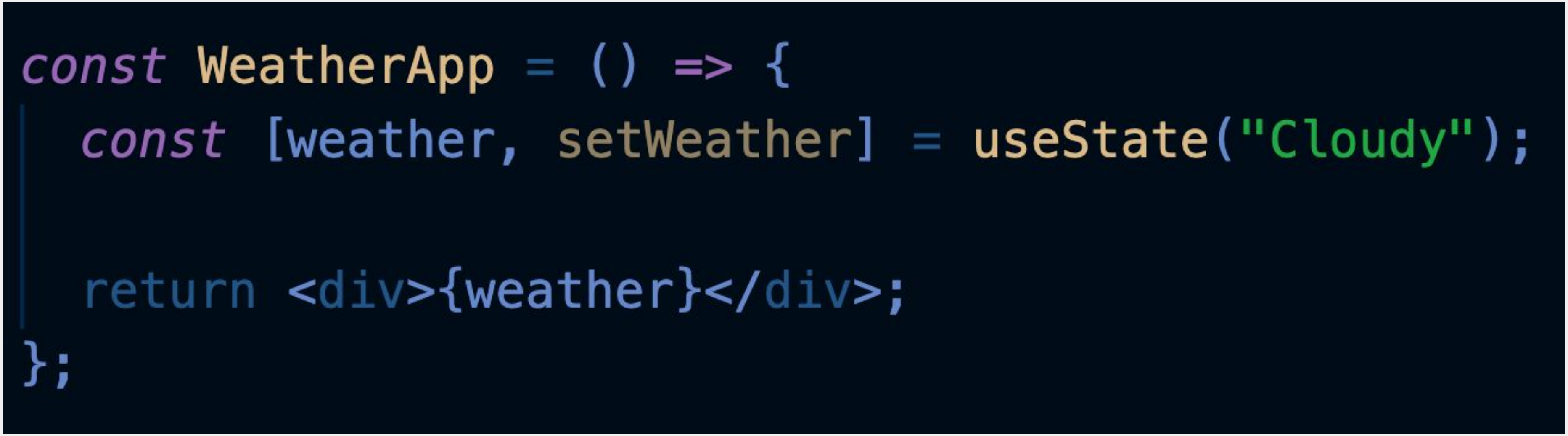
useEffect etique



```
const Weath
                                   oudy");

  get("/                          ather) => {

  });

  return <              eat     r}</div>;
};
```

Components re-run their code whenever state or props changes

Why do components re-run their code when state or props change?

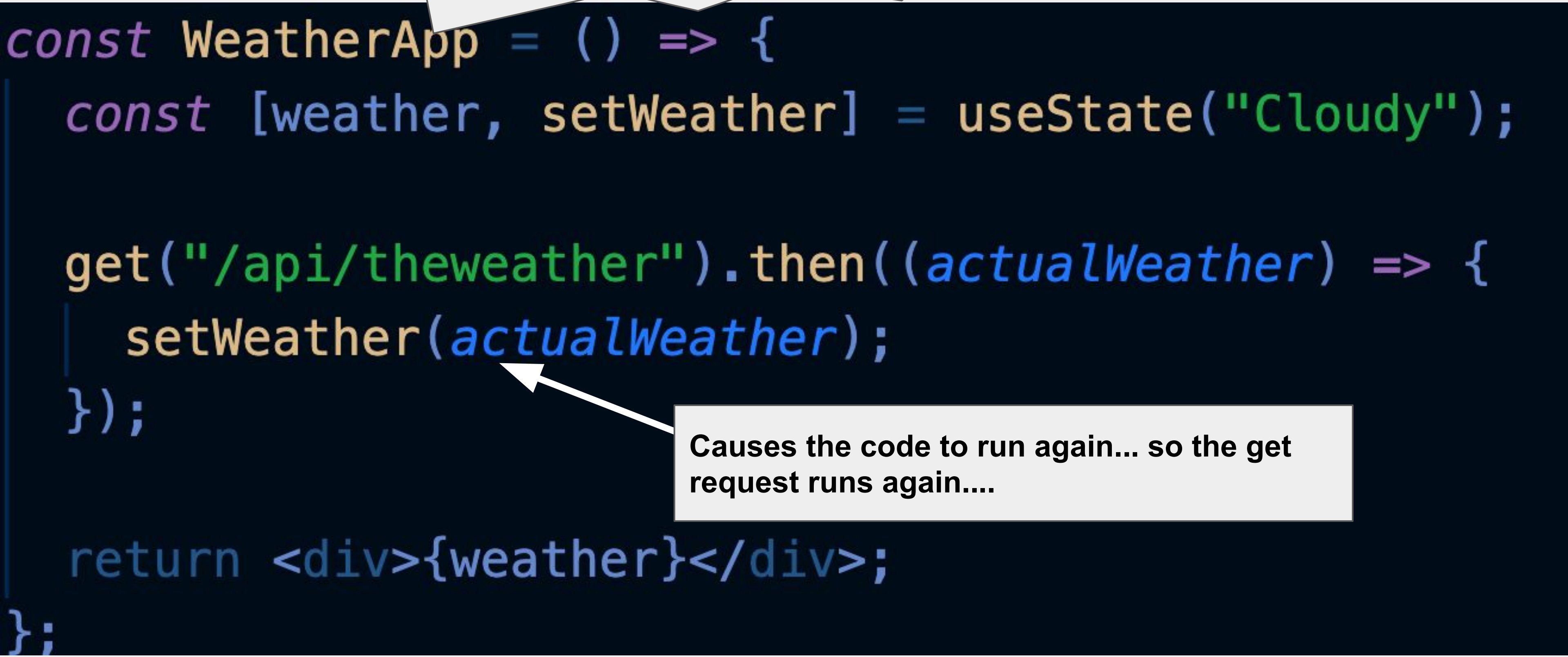


```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  return <div>{weather}</div>;
};
```

because when we **setWeather**, probably we want to re-run this code so that we display the new weather

useEffect

Components re-run their code whenever state or props changes

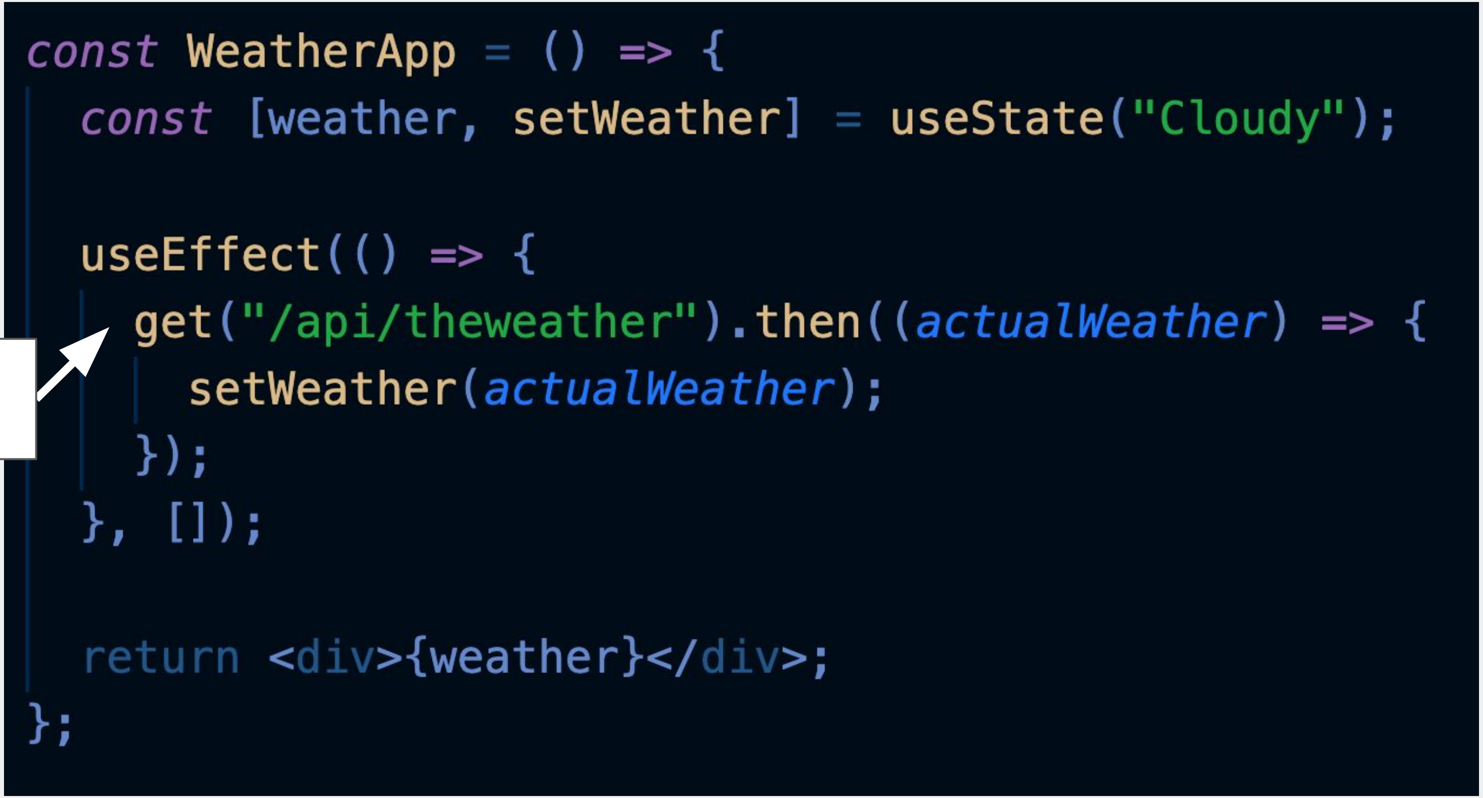


```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  get("/api/theweather").then((actualWeather) => {
    setWeather(actualWeather);
  });

  return <div>{weather}</div>;
};
```

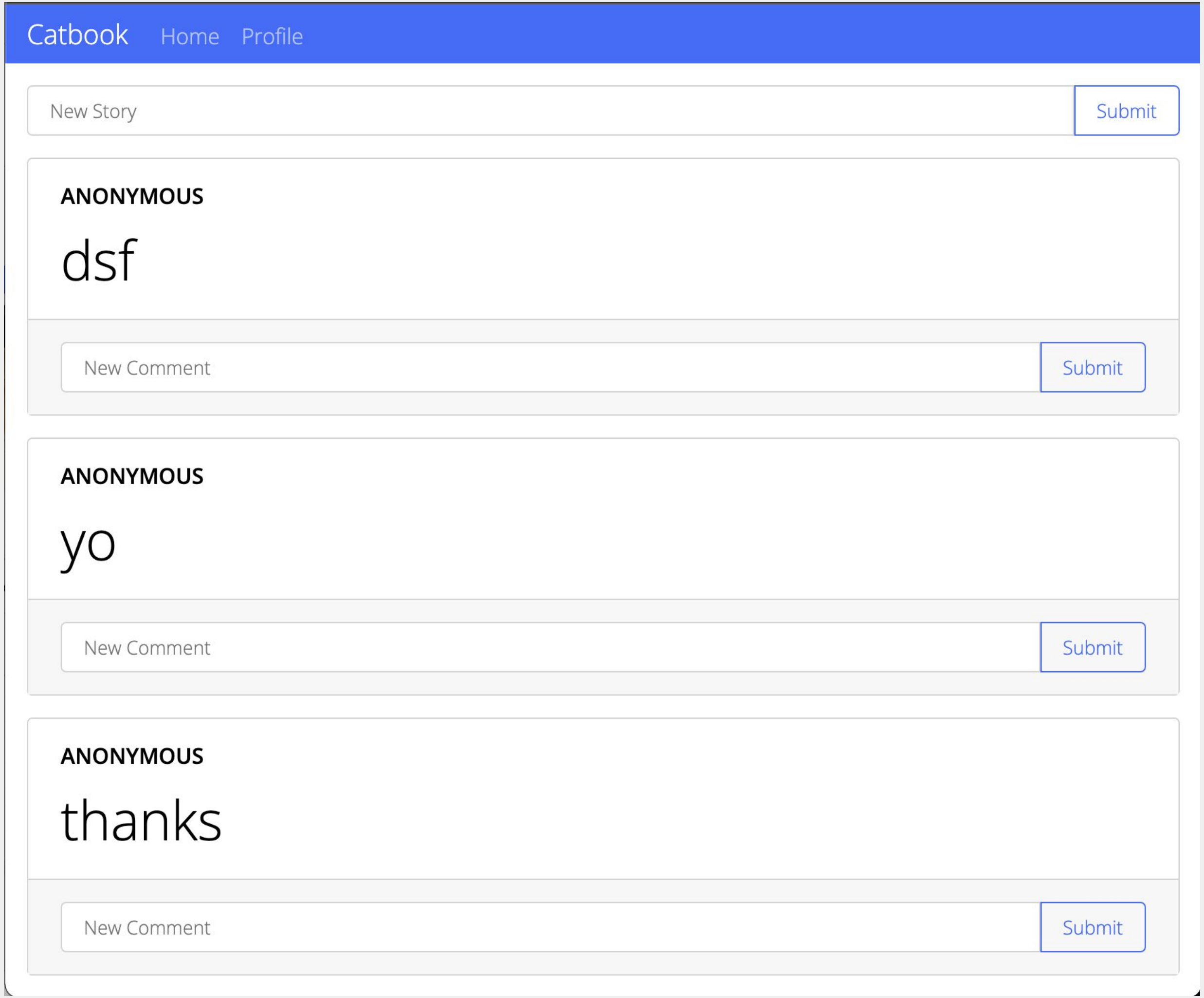
Causes the code to run again... so the get request runs again....

Solution: useEffect

runs only once now!



```
const WeatherApp = () => {
  const [weather, setWeather] = useState("Cloudy");

  useEffect(() => {
    get("/api/theweather").then((actualWeather) => {
      setWeather(actualWeather);
    });
  }, []);

  return <div>{weather}</div>;
};
```



ANONYMOUS

dsf

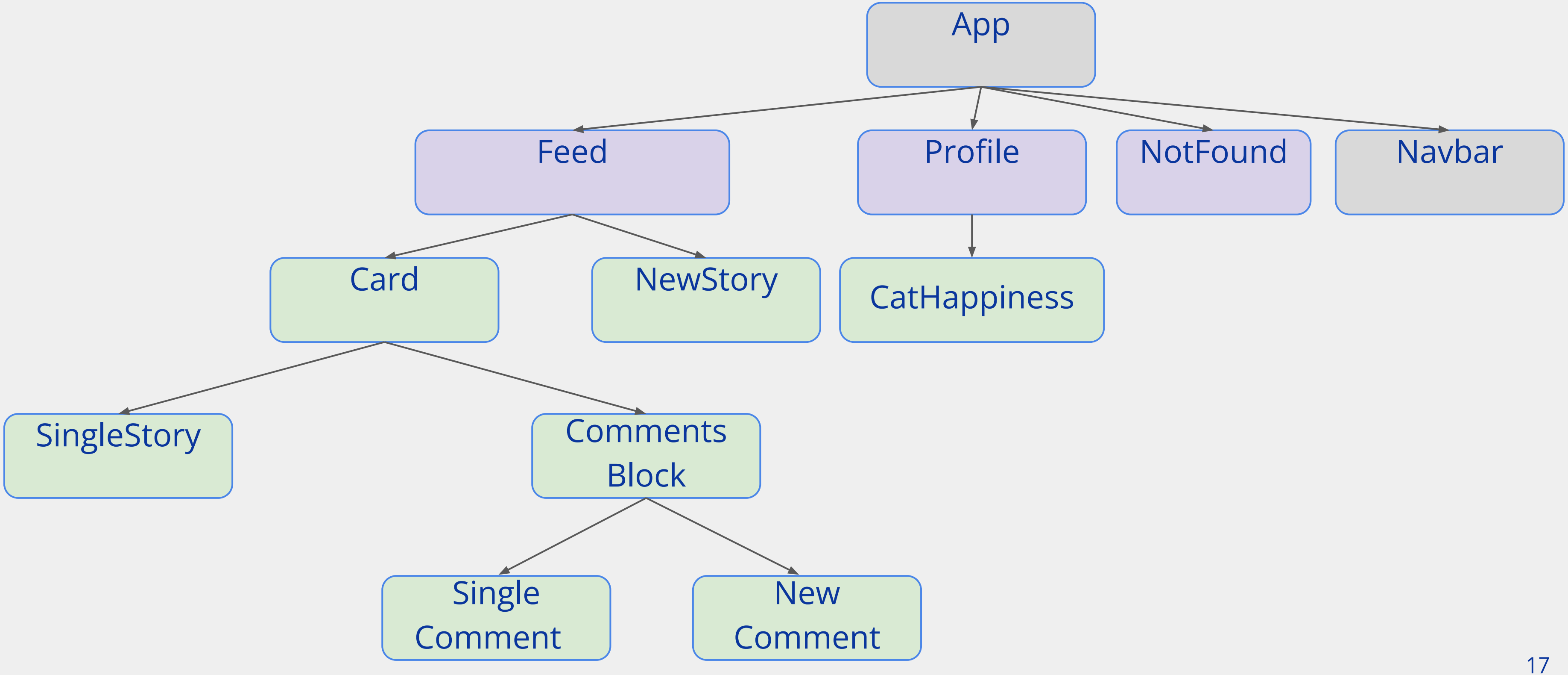
ANONYMOUS

yo

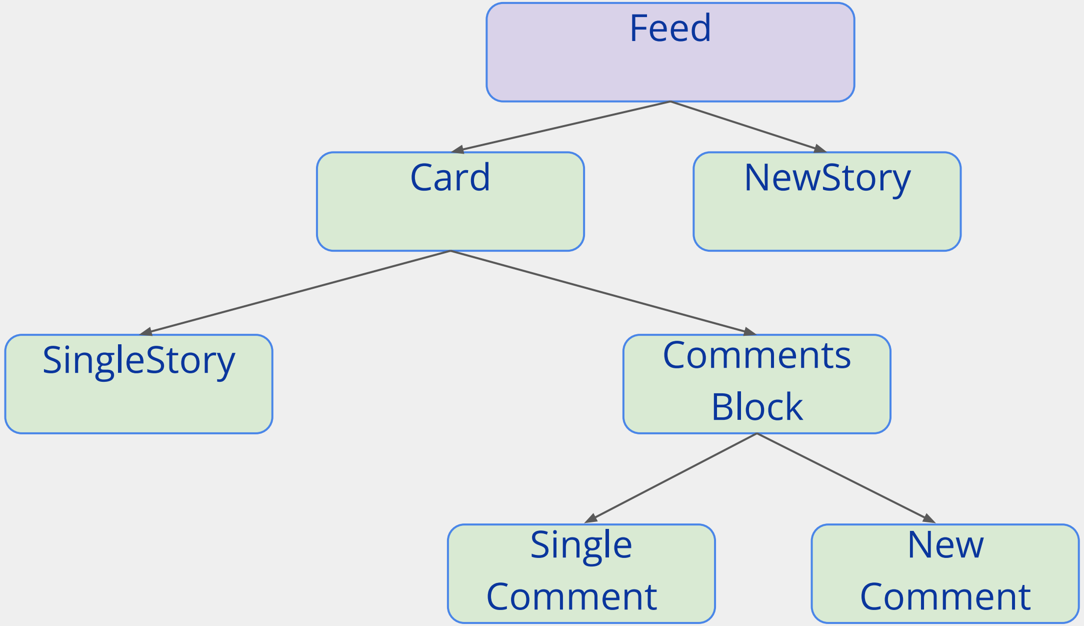
ANONYMOUS

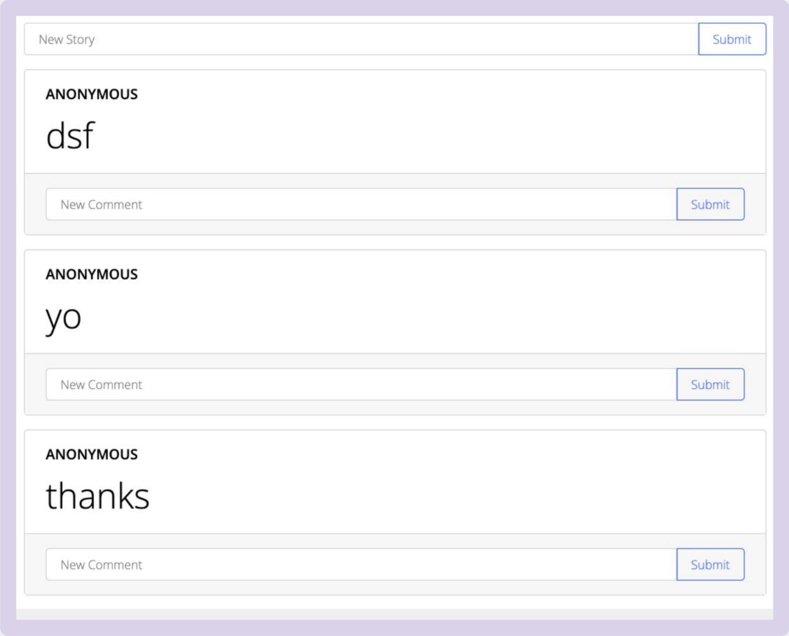
thanks

Component hierarchy after today!



Component hierarchy (new part)





ANONYMOUS

dsf

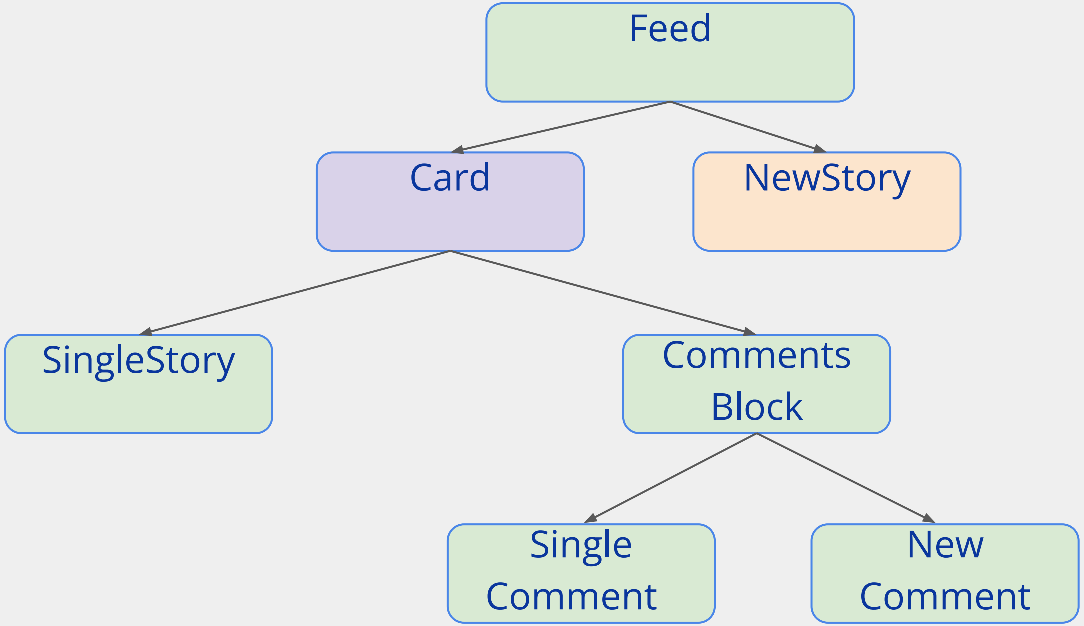
ANONYMOUS

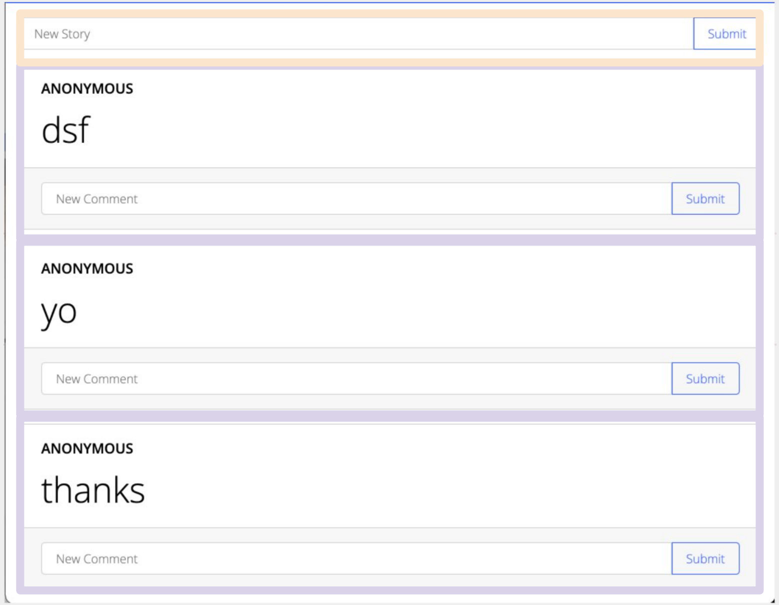
yo

ANONYMOUS

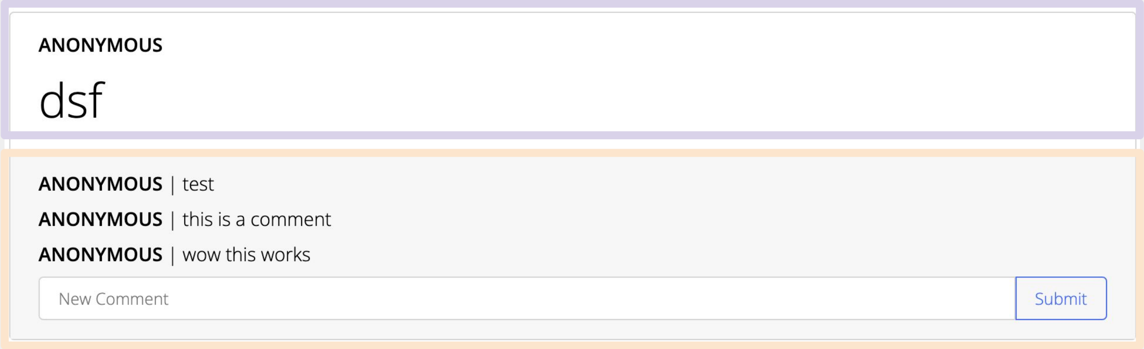
thanks

Component hierarchy (new part)





Component hierarchy



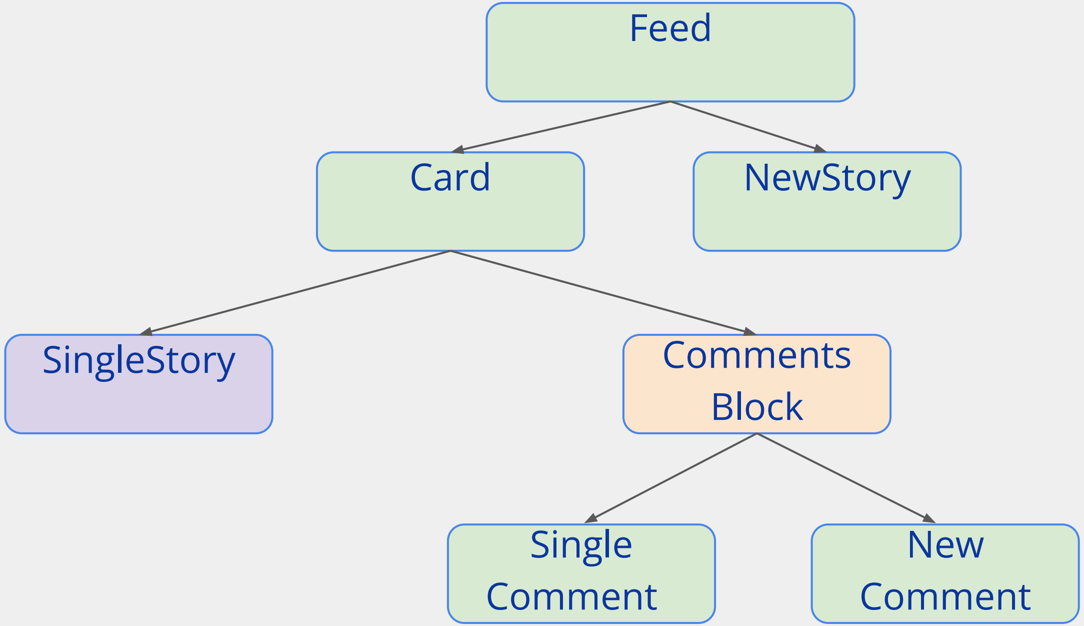
ANONYMOUS

dsf

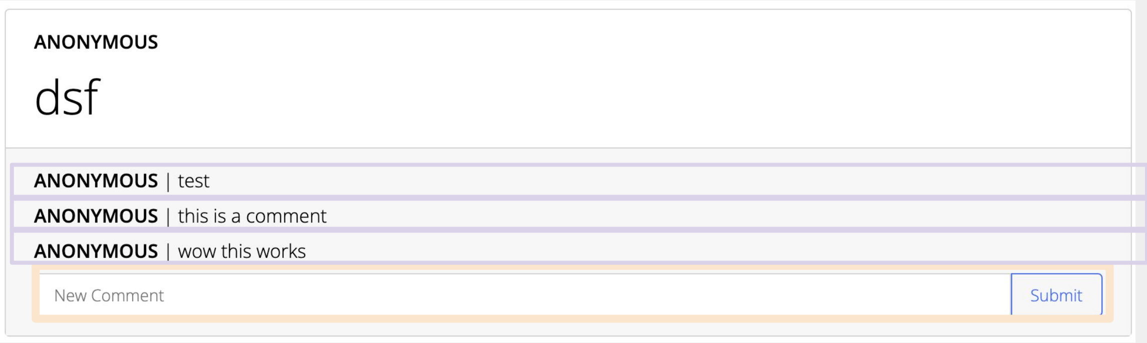
ANONYMOUS | test

ANONYMOUS | this is a comment

ANONYMOUS | wow this works



Component hierarchy



ANONYMOUS

dsf

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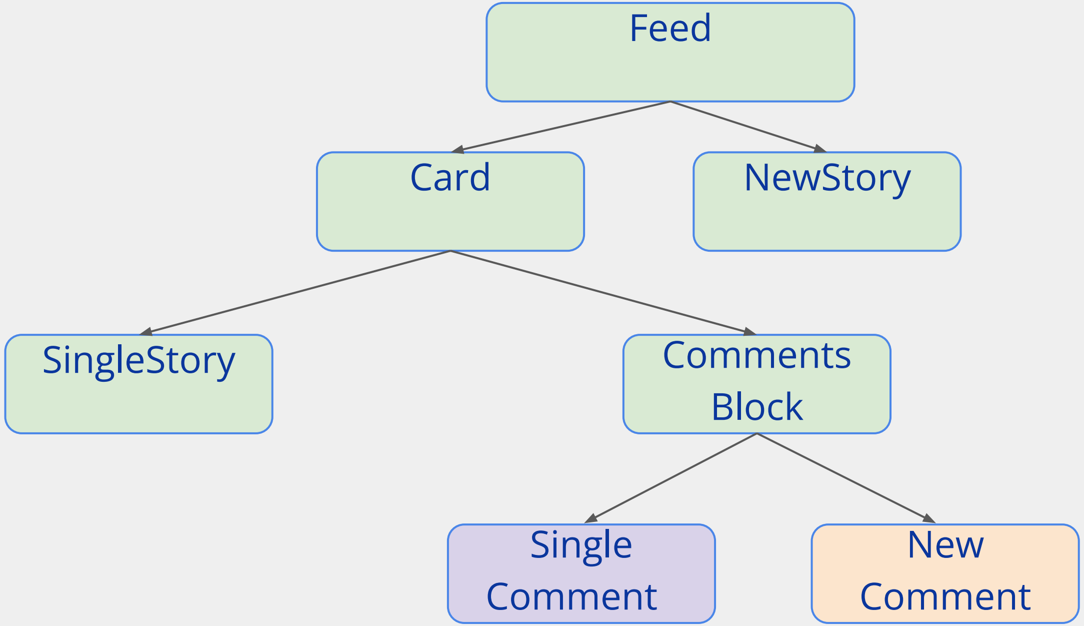
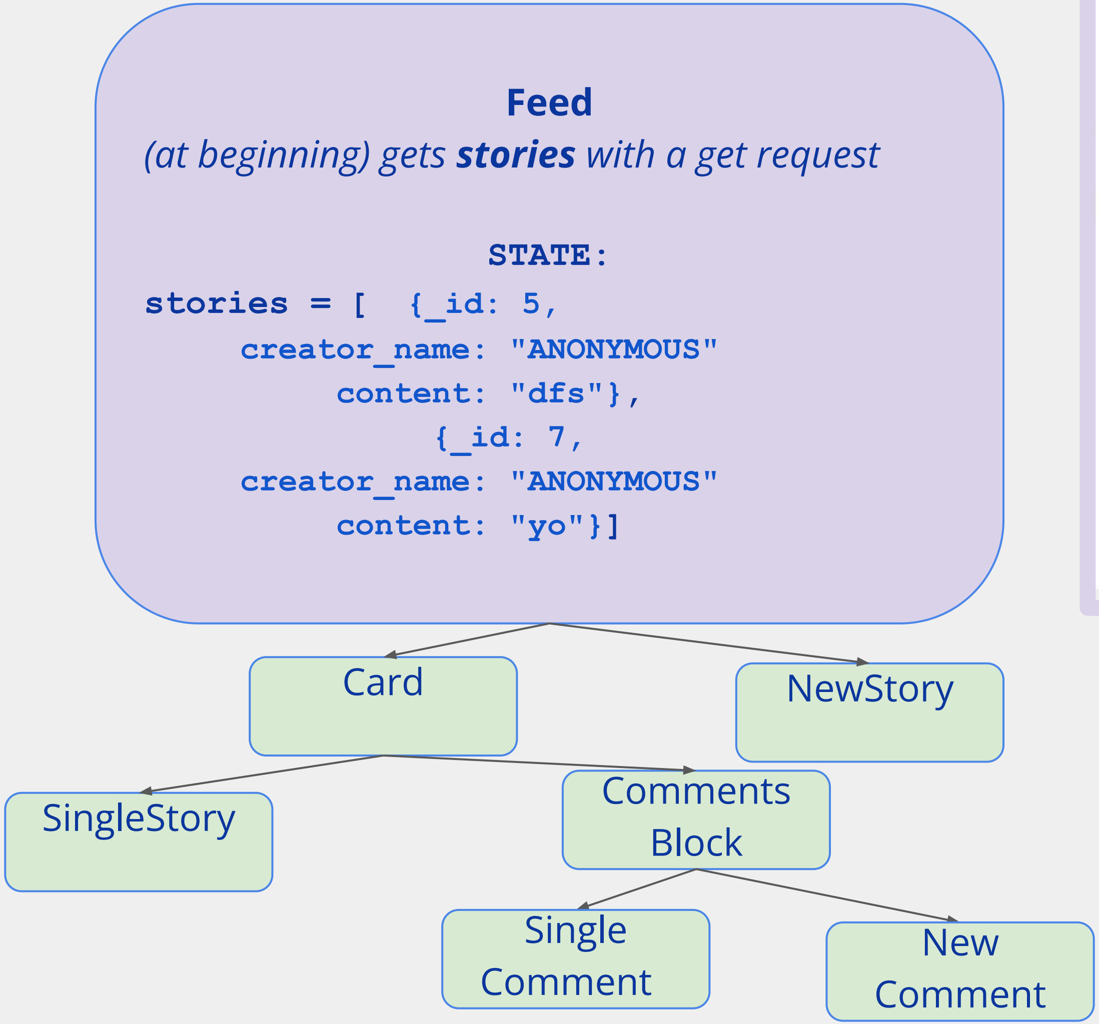


What about the props and states

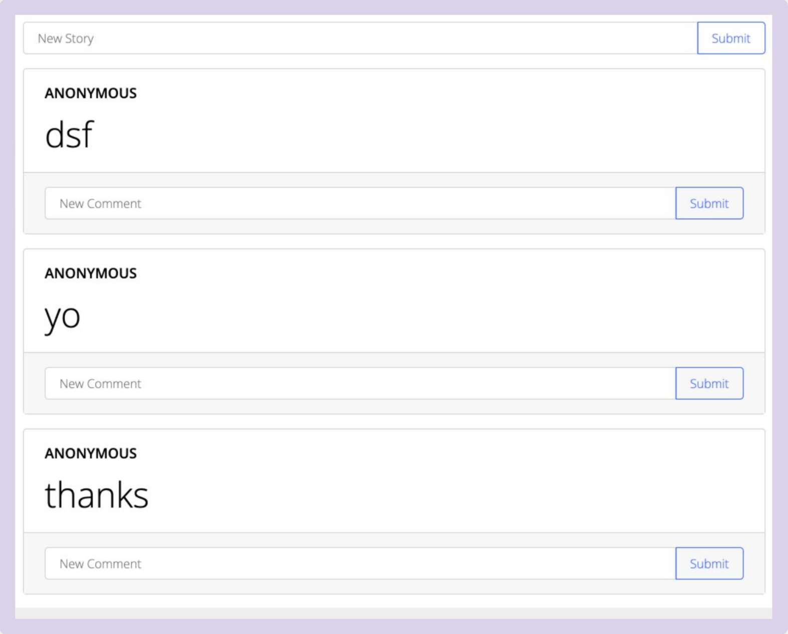


Feed

(at beginning) gets ***stories*** *with a get request*

STATE:

```
stories = [  {_id: 5,
     creator_name: "ANONYMOUS"
          content: "dfs"},
               {_id: 7,
     creator_name: "ANONYMOUS"
          content: "yo"}]
```



ANONYMOUS

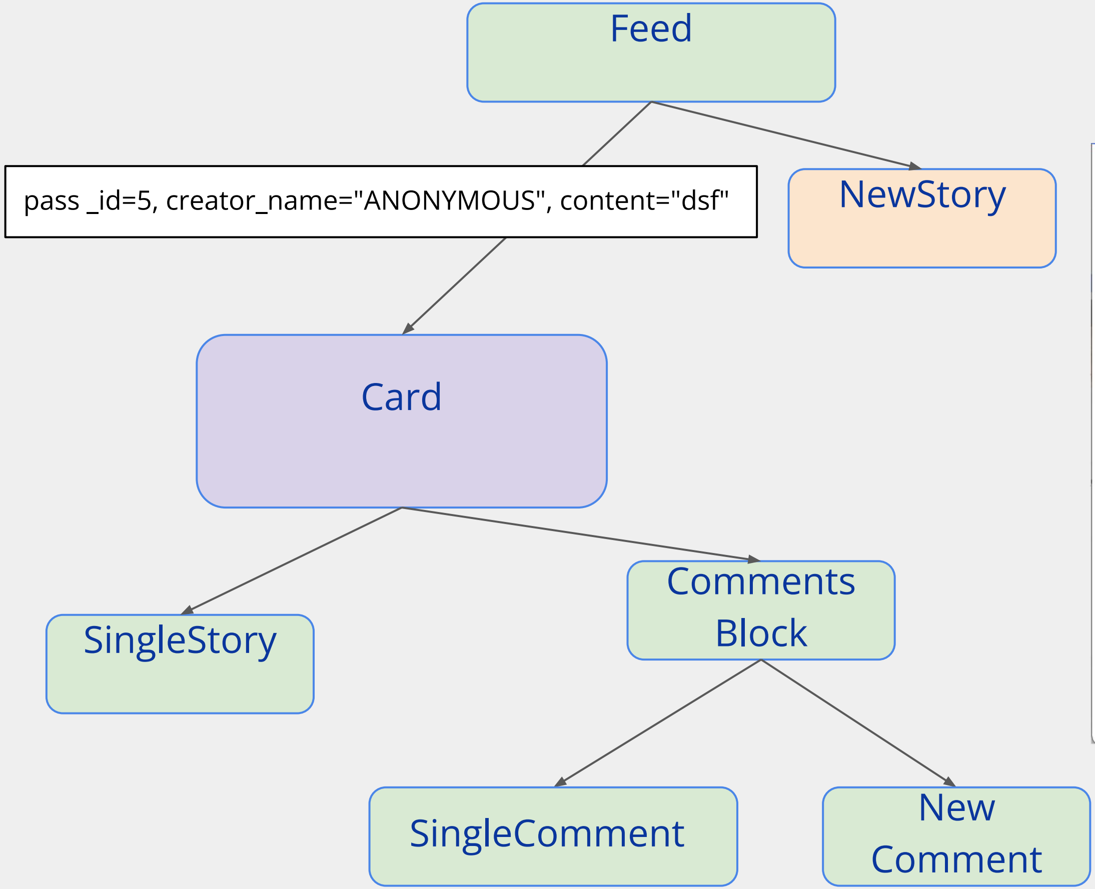
dsf

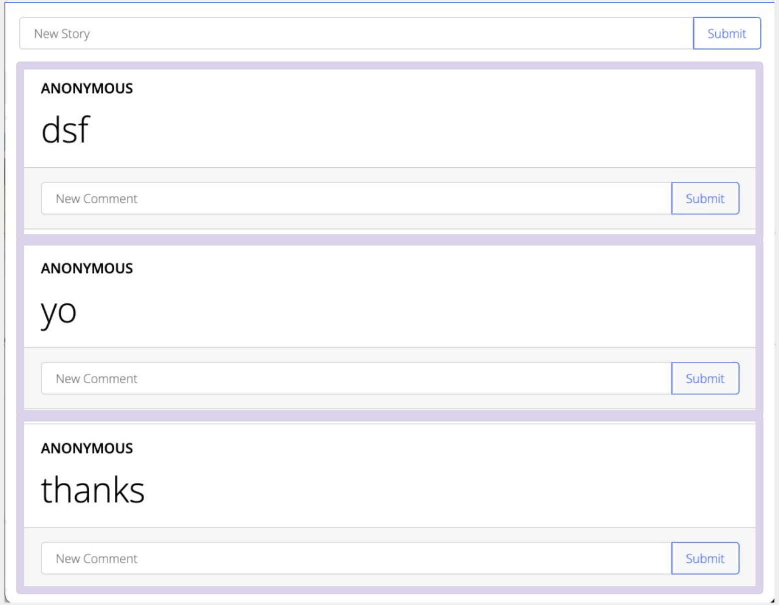
ANONYMOUS

yo

ANONYMOUS

thanks





ANONYMOUS

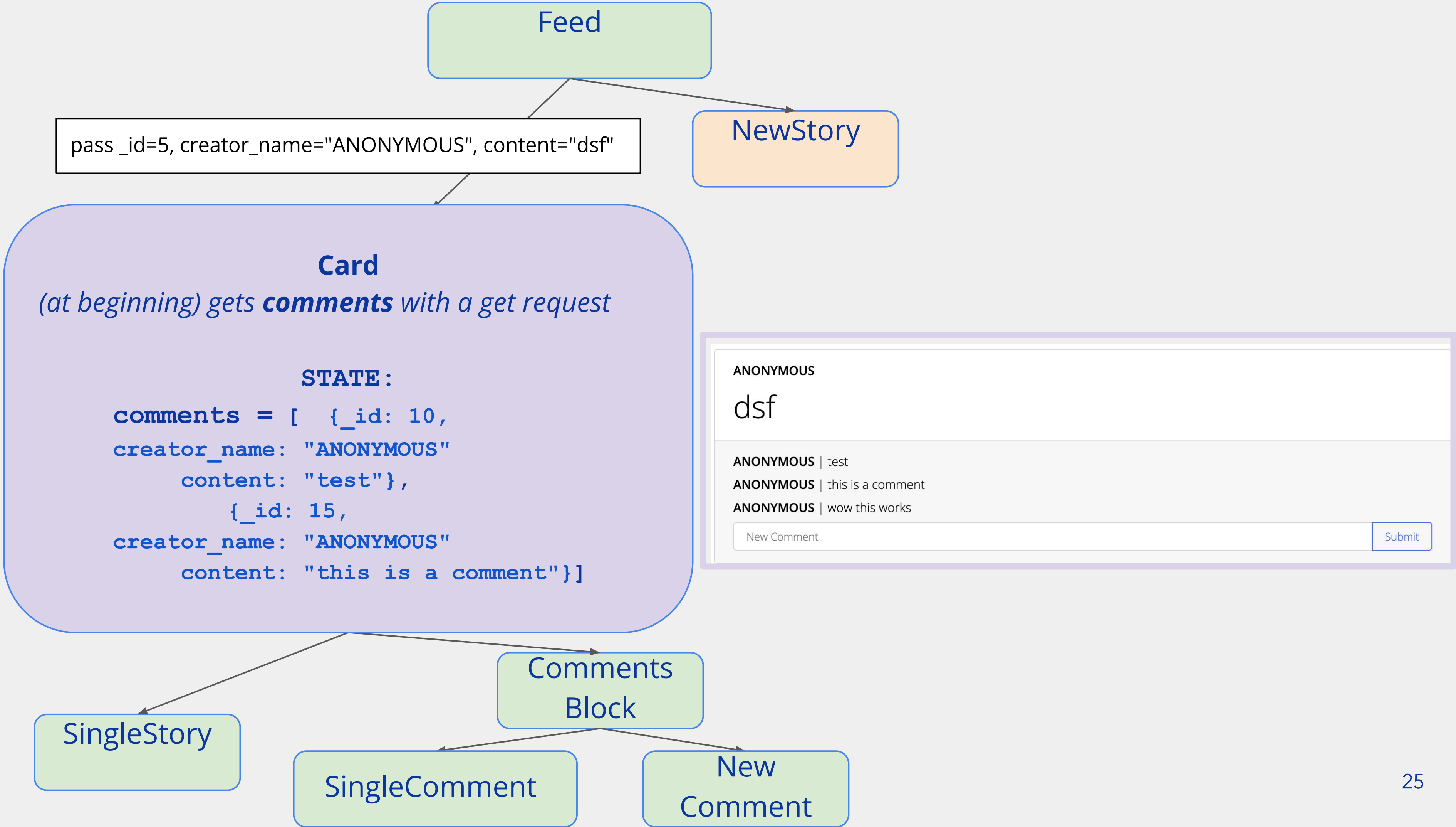
dsf

ANONYMOUS

yo

ANONYMOUS

thanks



pass _id=5, creator_name="ANONYMOUS", content="dsf"

Card

*(at beginning) gets **comments** with a get request*

```
                STATE:
comments = [  {_id: 10,
creator_name: "ANONYMOUS"
     content: "test"},
         {_id: 15,
creator_name: "ANONYMOUS"
     content: "this is a comment"}]
```

ANONYMOUS

dsf

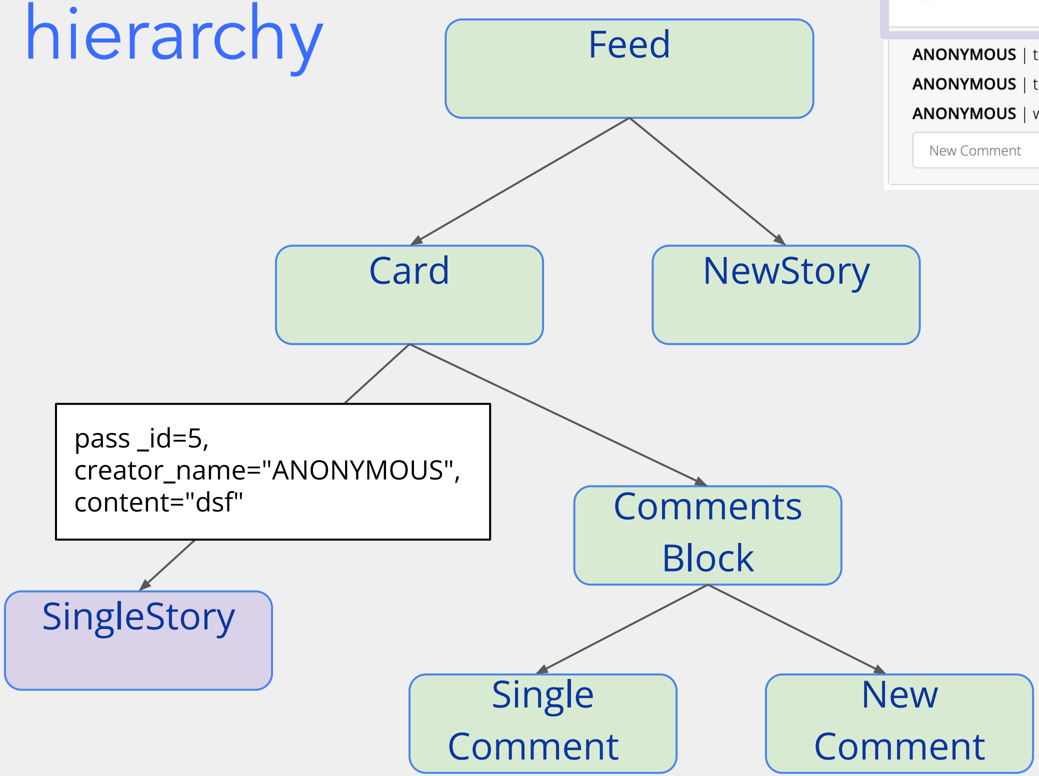
ANONYMOUS | test

ANONYMOUS | this is a comment

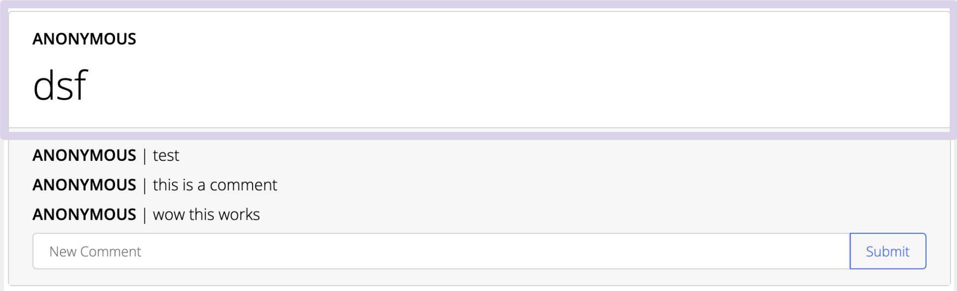
ANONYMOUS | wow this works

New Comment | Submit

Component hierarchy



pass _id=5,
creator_name="ANONYMOUS",
content="dsf"


ANONYMOUS

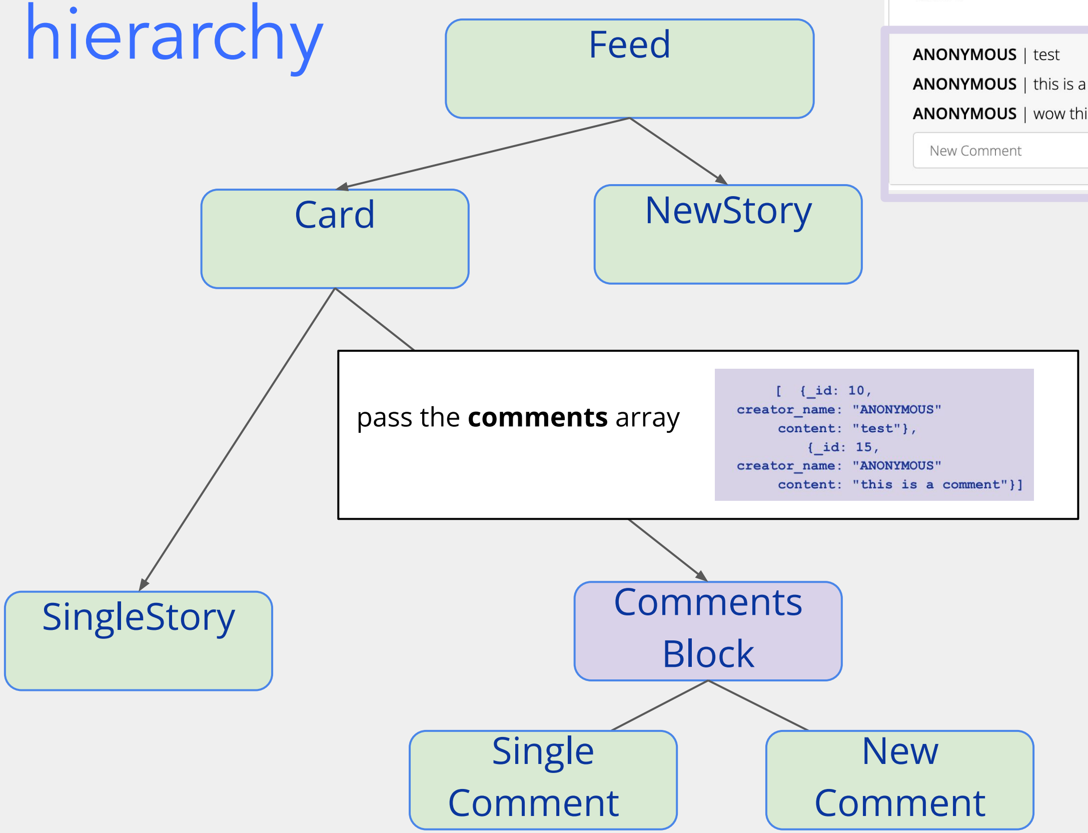
dsf

ANONYMOUS | test

ANONYMOUS | this is a comment

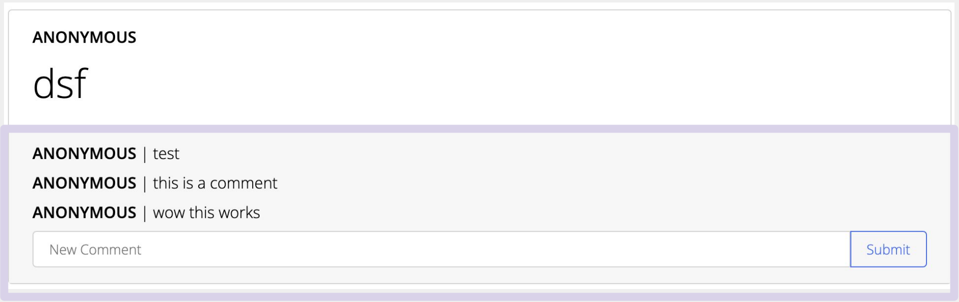
ANONYMOUS | wow this works

Component hierarchy



pass the **comments** array

```
    [  {_id: 10,
creator_name: "ANONYMOUS"
     content: "test"},
         {_id: 15,
creator_name: "ANONYMOUS"
     content: "this is a comment"}]
```



ANONYMOUS

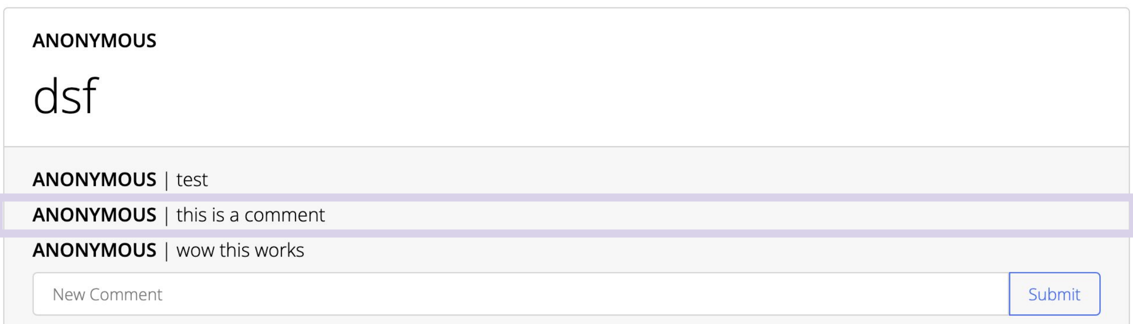
dsf

ANONYMOUS | test

ANONYMOUS | this is a comment

ANONYMOUS | wow this works

Component hierarchy



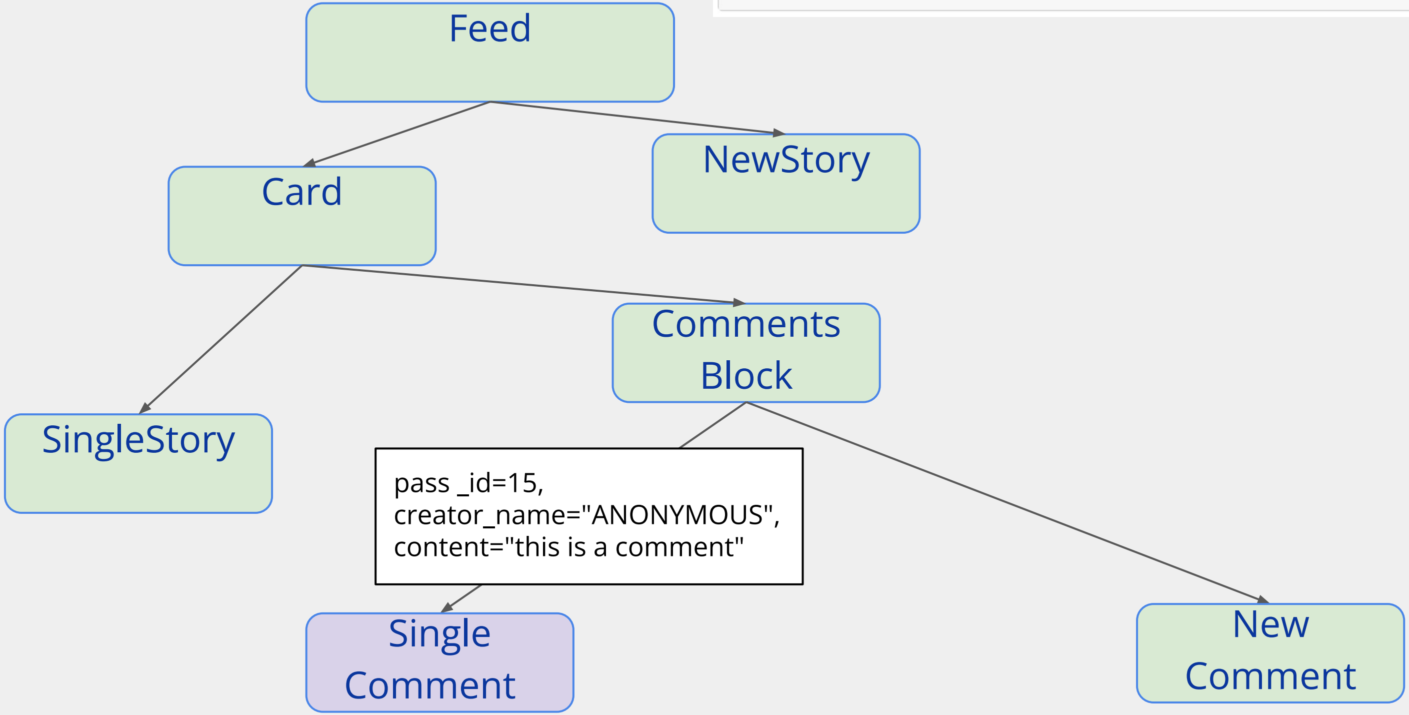
ANONYMOUS

dsf

ANONYMOUS | test

ANONYMOUS | this is a comment

ANONYMOUS | wow this works



Feed

Card

NewStory

SingleStory

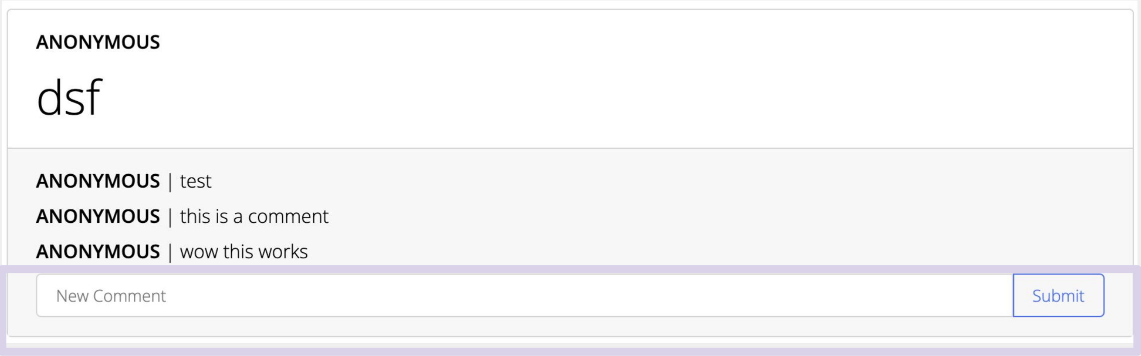
Comments Block

pass _id=15,
creator_name="ANONYMOUS",
content="this is a comment"

Single Comment

New Comment

Component hierarchy



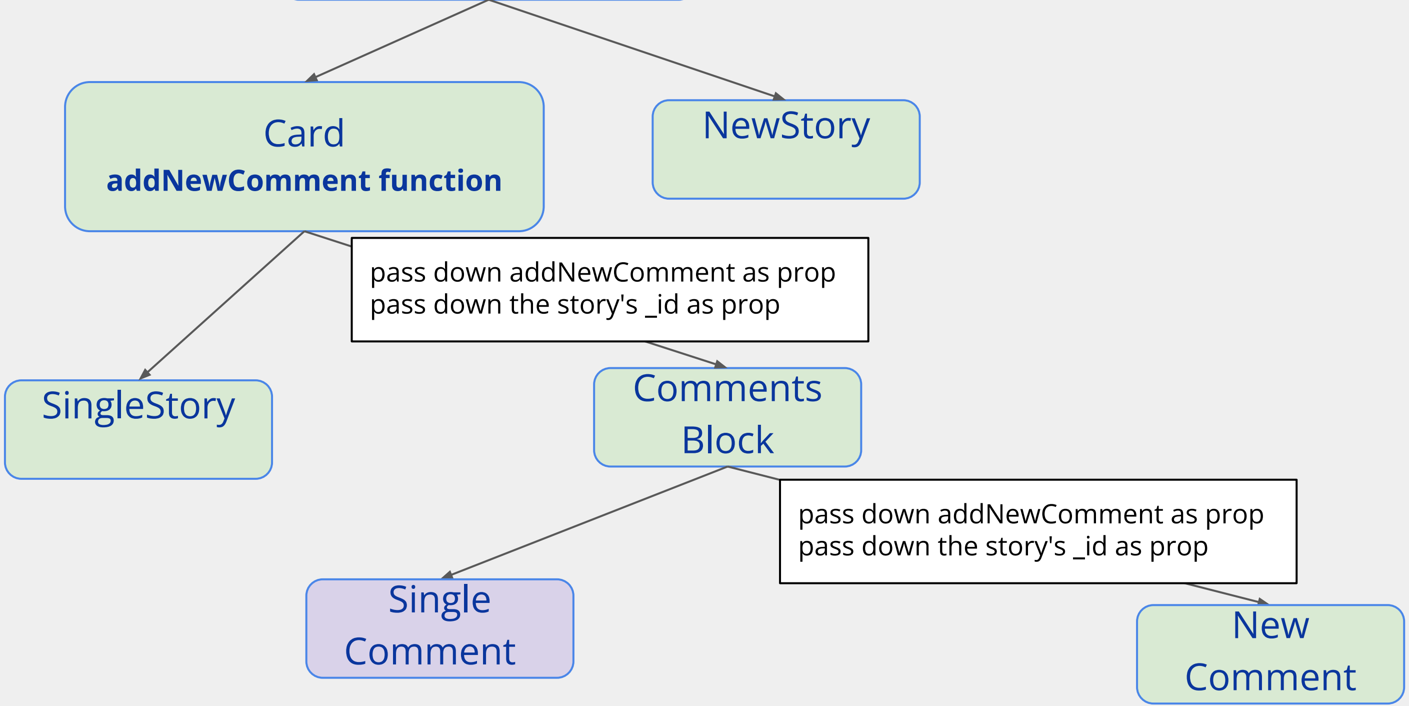
ANONYMOUS

dsf

ANONYMOUS | test

ANONYMOUS | this is a comment

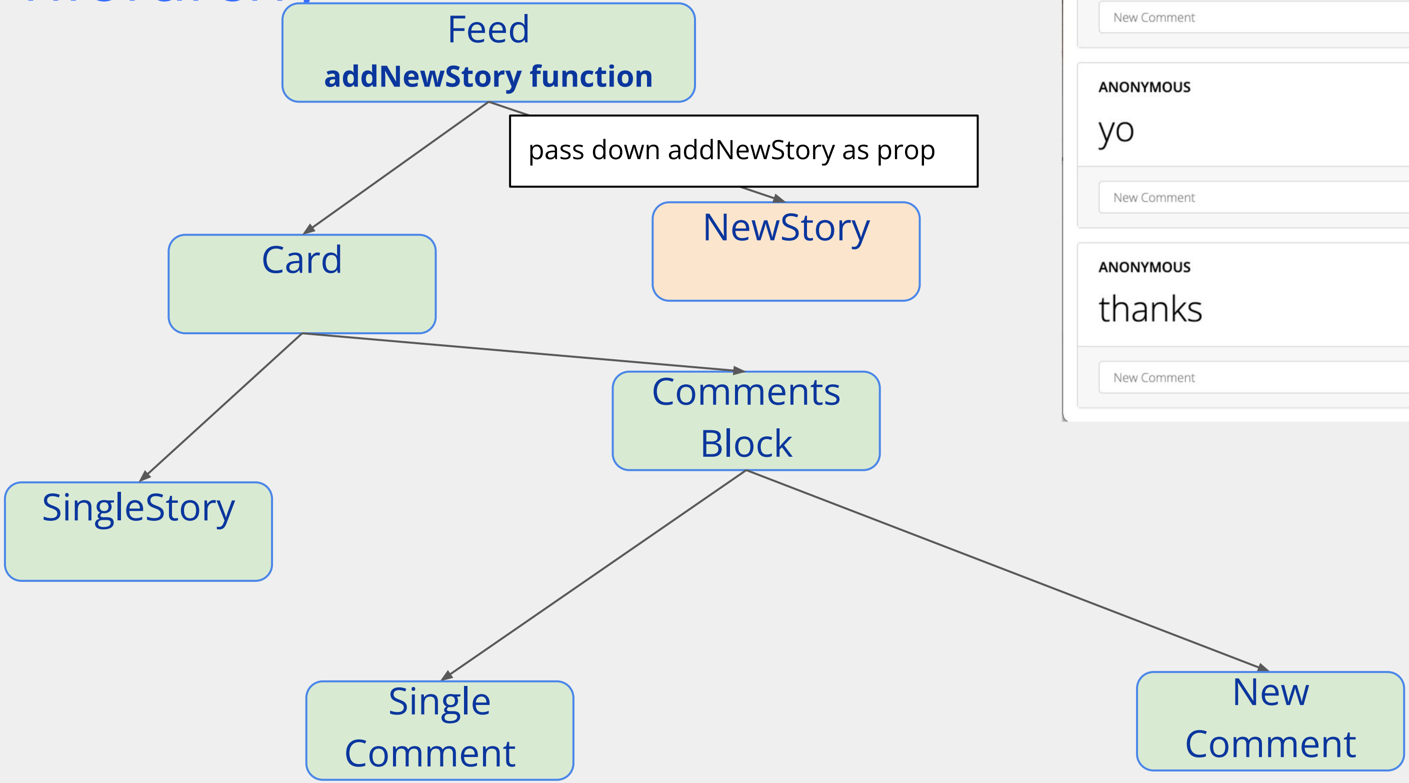
ANONYMOUS | wow this works

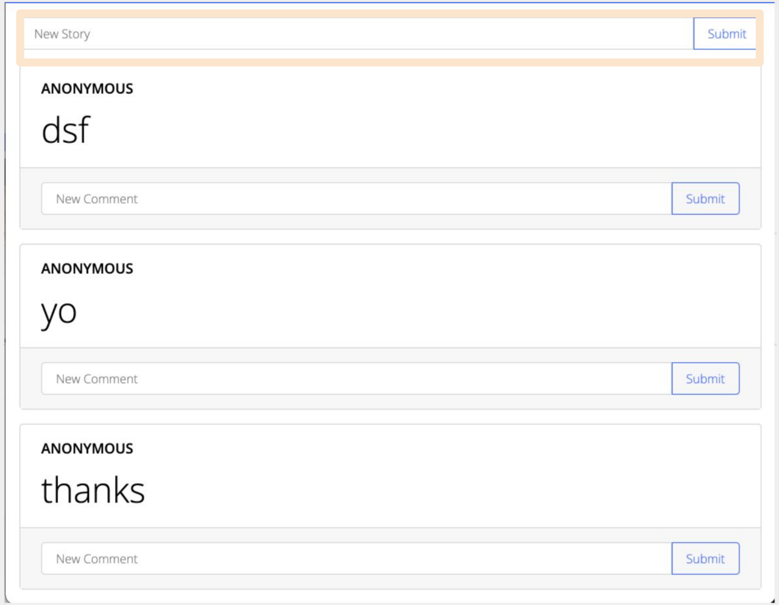


pass down addNewComment as prop
pass down the story's _id as prop

pass down addNewComment as prop
pass down the story's _id as prop

Component hierarchy





Quick poll

A) Do you understand React perfectly

B) Are you confused about something

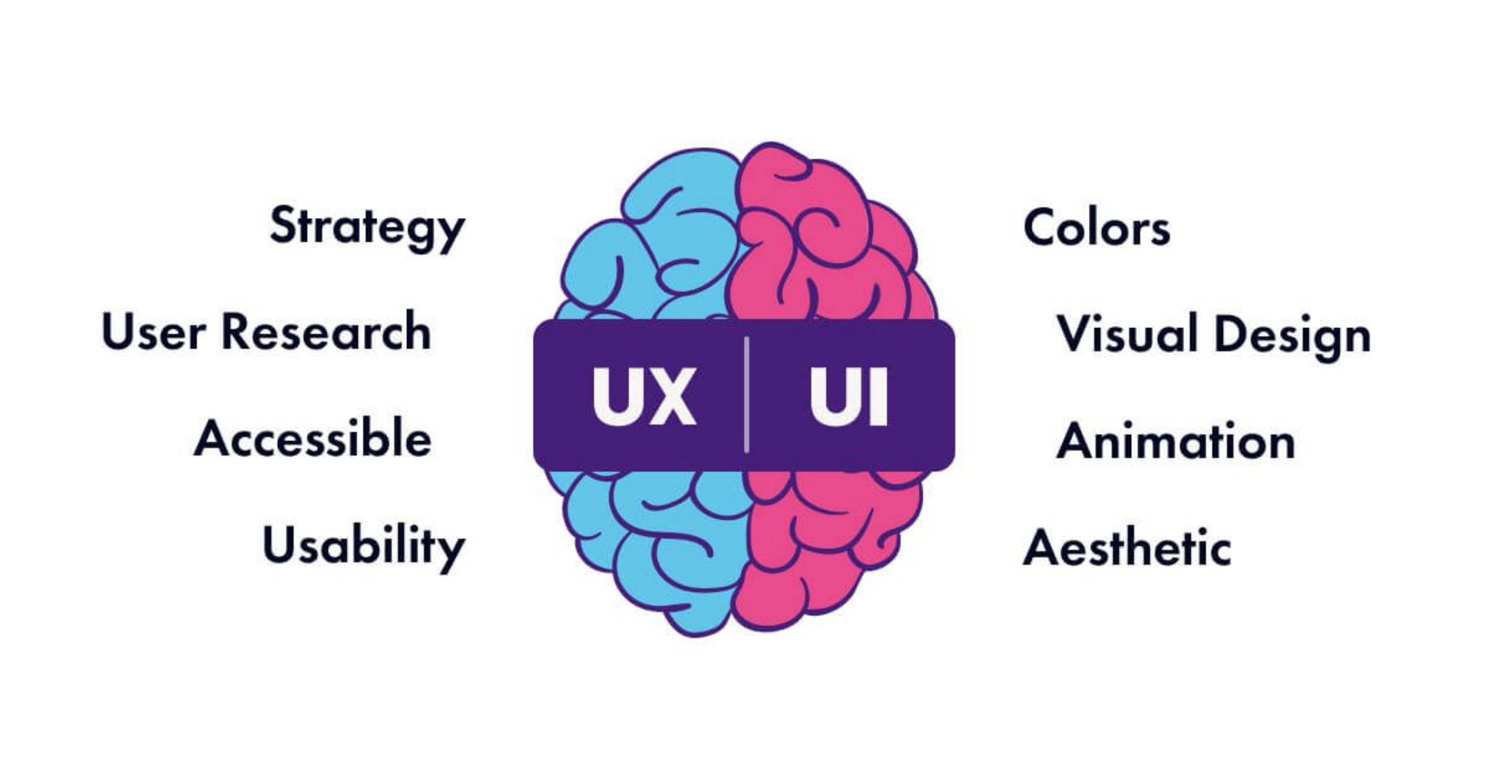
Confused?

- **Corner someone on staff** (either at office hours or after lecture or message one of us (i'm on Messenger) or during lecture on the help q)
- Have them re-explain everything to you
  - **You don't need to know what you are confused about**

- **Stare at the workshops (checkout w3-complete)**

Now: Design and Wireframing!

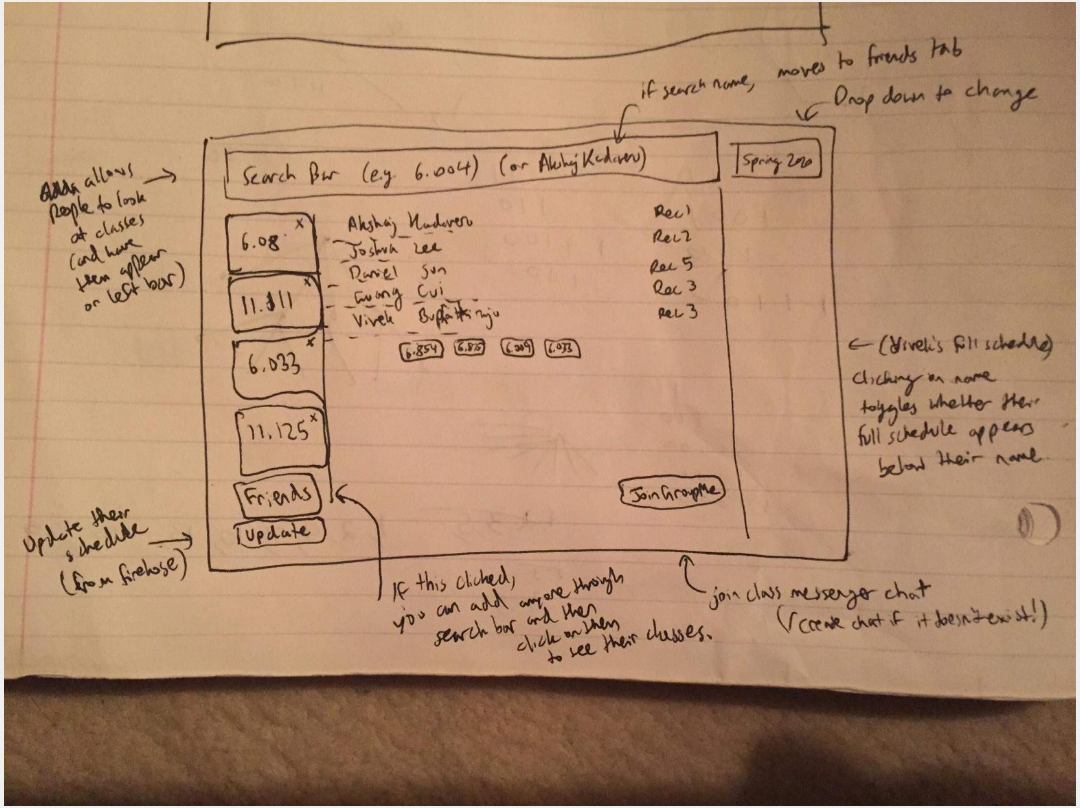
User eXperience vs User Interaction



https://uxcel.com/blog/difference-between-ux-and-ui-design

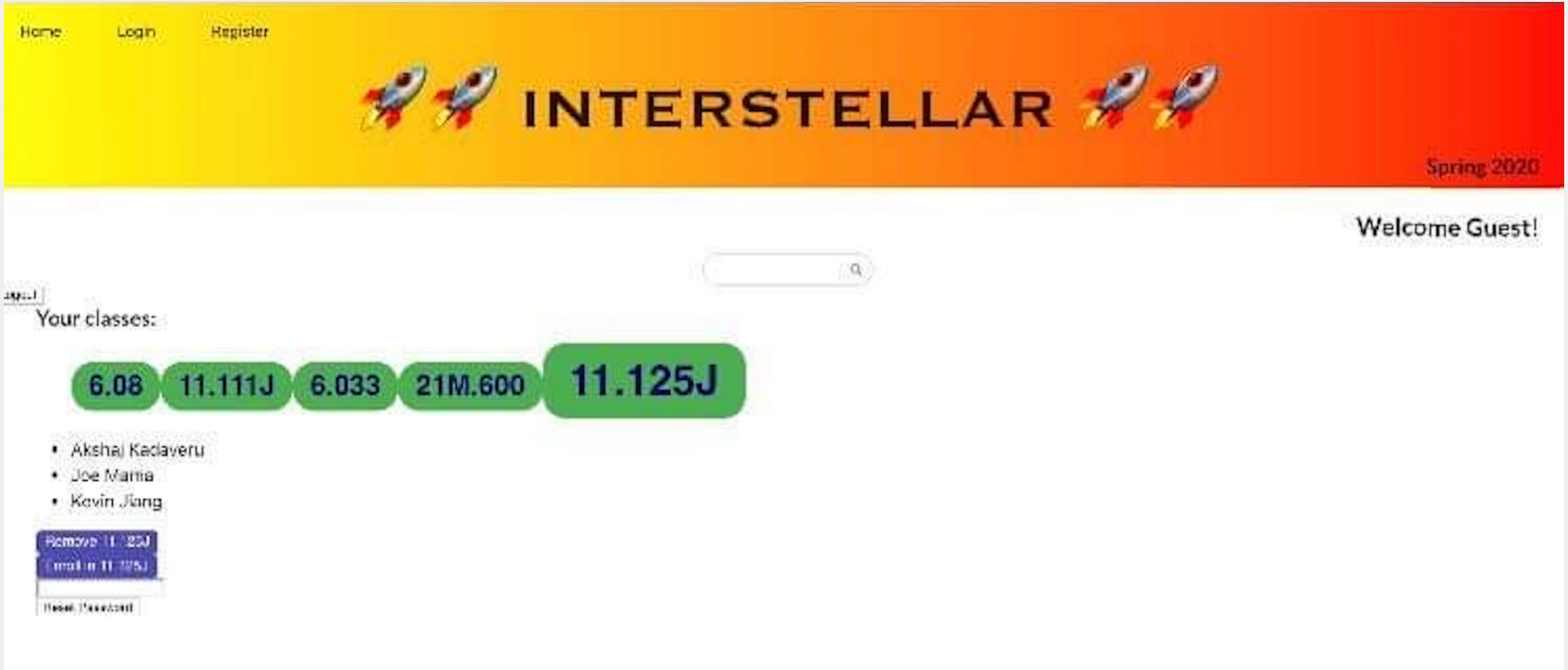
User Interface

Interstellar Design - Version 0



if search name, moves to friends tab
Drop down to change
Search Bar (e.g. 6.004) (or Akshay Kudavaru)
Spring 2020
~~Adds~~ allows people to look at classes (and have them appear on left bar)
6.08
11.311
6.033
11.125
Friends
Update
Akshay Kudavaru
Joshua Lee
Daniel Sun
Guang Cui
Vivek Bupathiraju
Rec 1
Rec 2
Rec 5
Rec 3
Rec 3
6.854
6.825
6.009
6.033
(Vivek's full schedule)
Clicking on name toggles whether their full schedule appears below their name.
Join GroupMe
Update their schedule (from firehose)
If this clicked, you can add anyone through search bar and then click on them to see their classes.
join class messenger chat (create chat if it doesn't exist!)

Interstellar Design - Version 1



INTERSTELLAR

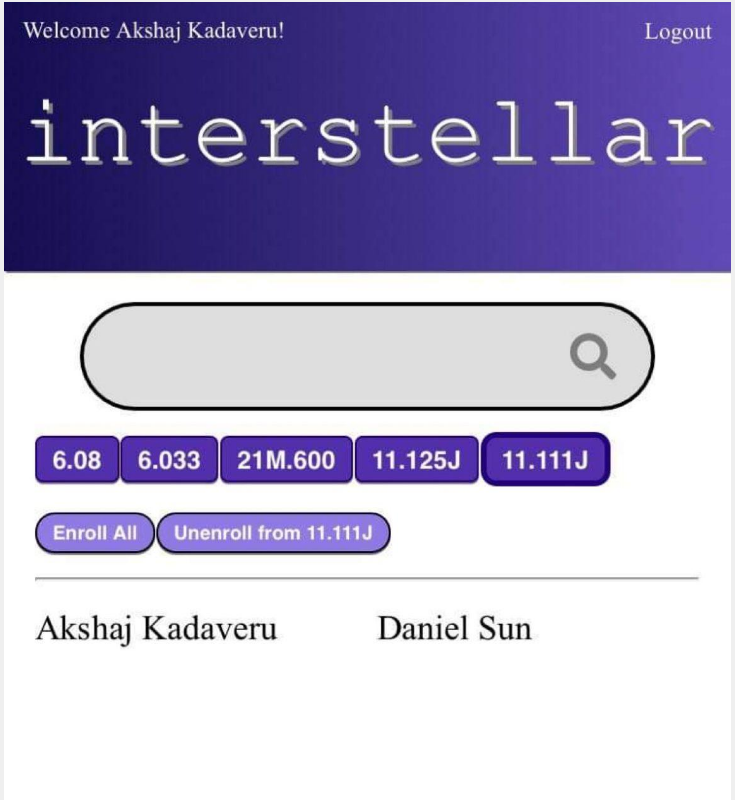
Spring 2020

Welcome Guest!

Your classes:

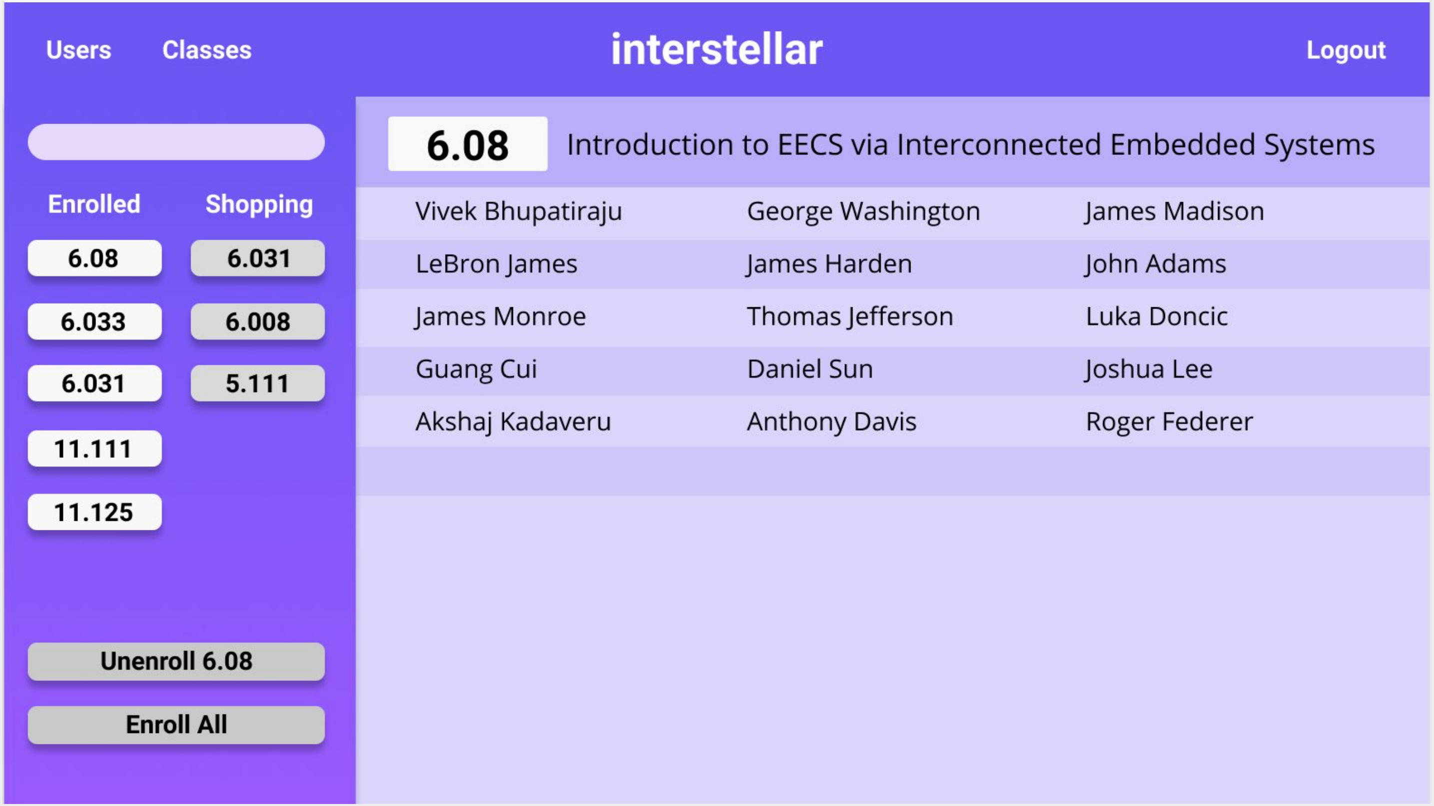
- Akshai Kadaveru
- Joe Mama
- Kevin Jiang

Interstellar Design - Version 2



Akshaj Kadaveru
Daniel Sun

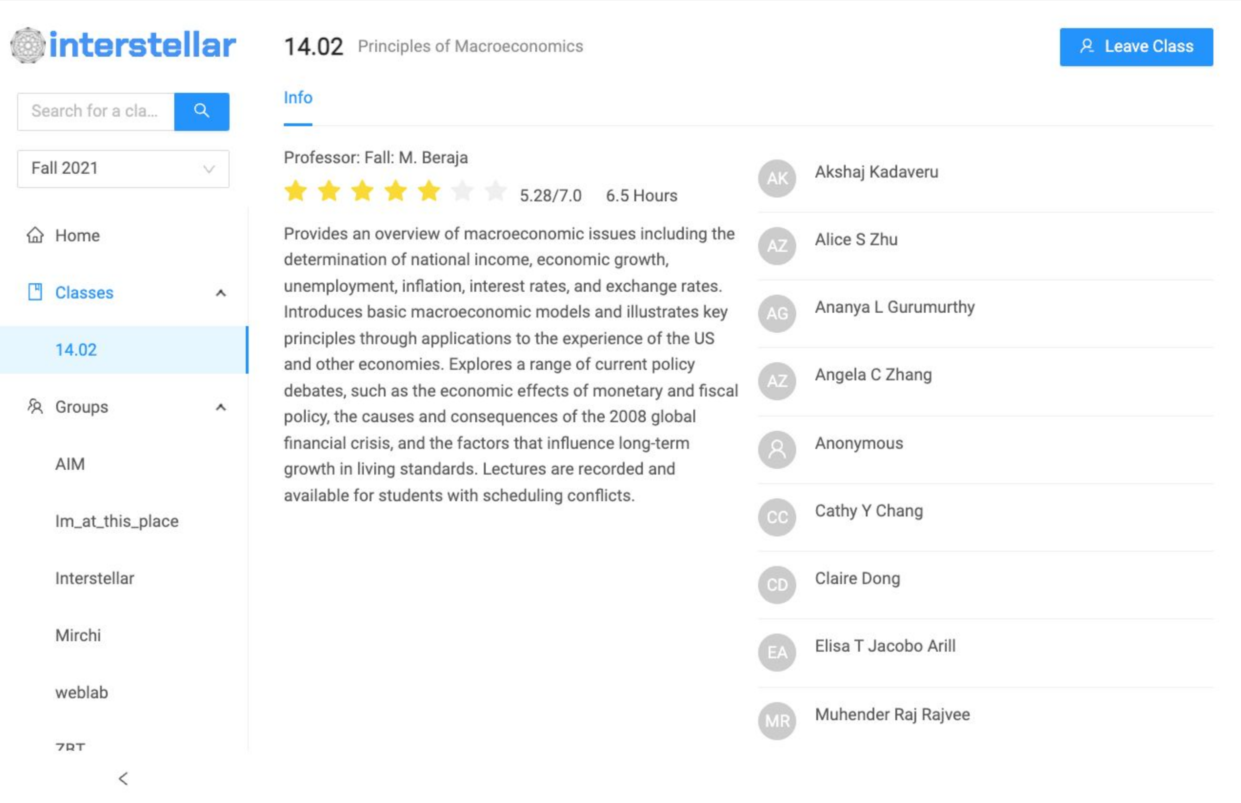
Interstellar Version 3: Designed in Figma!



6.08 Introduction to EECS via Interconnected Embedded Systems

Vivek Bhupatiraju	George Washington	James Madison
LeBron James	James Harden	John Adams
James Monroe	Thomas Jefferson	Luka Doncic
Guang Cui	Daniel Sun	Joshua Lee
Akshaj Kadaveru	Anthony Davis	Roger Federer

Interstellar Now: Designed in Figma!



14.02 Principles of Macroeconomics

Professor: Fall: M. Beraja

★★★★★☆☆ 5.28/7.0 6.5 Hours

Provides an overview of macroeconomic issues including the determination of national income, economic growth, unemployment, inflation, interest rates, and exchange rates. Introduces basic macroeconomic models and illustrates key principles through applications to the experience of the US and other economies. Explores a range of current policy debates, such as the economic effects of monetary and fiscal policy, the causes and consequences of the 2008 global financial crisis, and the factors that influence long-term growth in living standards. Lectures are recorded and available for students with scheduling conflicts.

AK Akshaj Kadaveru

AZ Alice S Zhu

AG Ananya L Gurumurthy

AZ Angela C Zhang

Anonymous

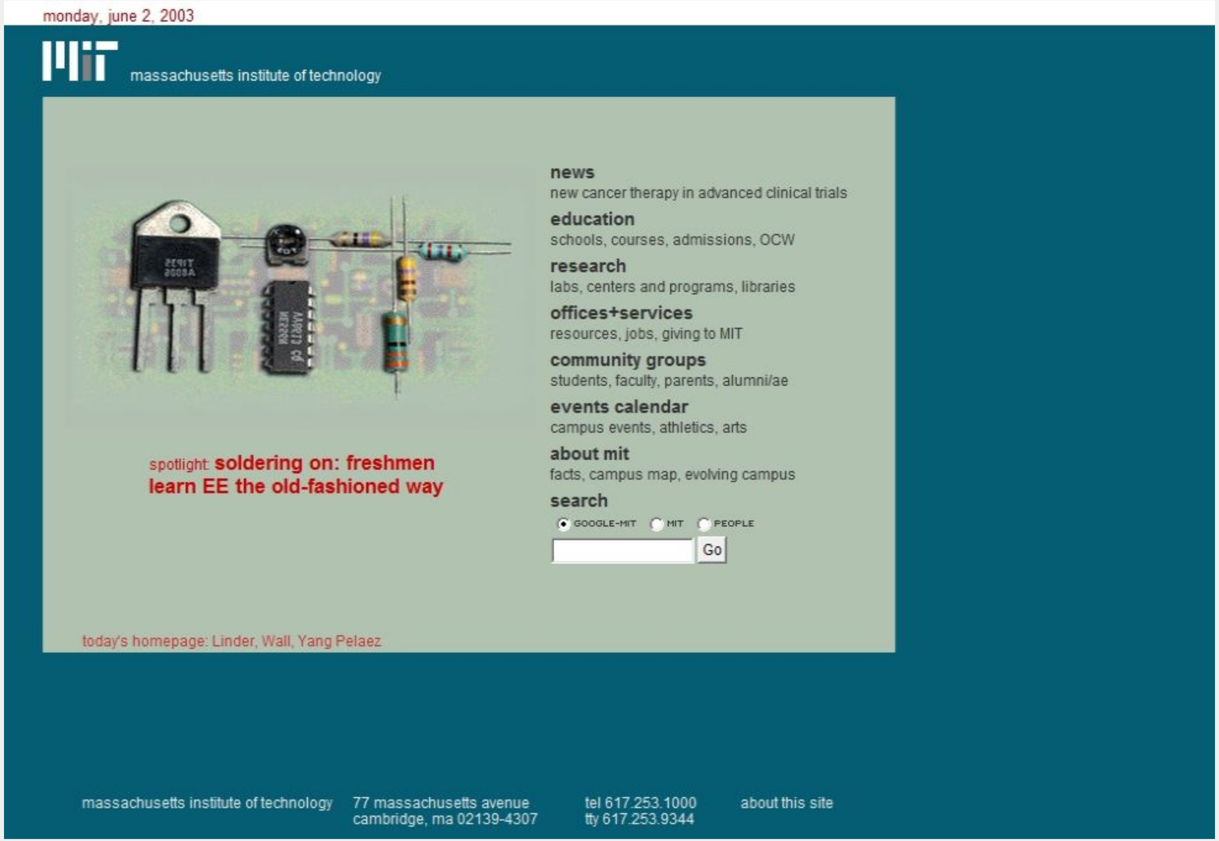
CC Cathy Y Chang

CD Claire Dong

EA Elisa T Jacobo Arill

MR Muhender Raj Rajvee

MIT - 2003



monday, june 2, 2003

massachusetts institute of technology

news
new cancer therapy in advanced clinical trials

education
schools, courses, admissions, OCW

research
labs, centers and programs, libraries

offices+services
resources, jobs, giving to MIT

community groups
students, faculty, parents, alumni/ae

events calendar
campus events, athletics, arts

about mit
facts, campus map, evolving campus

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spotlight: **soldering on: freshmen learn EE the old-fashioned way**

today's homepage: Linder, Wall, Yang Pelaez

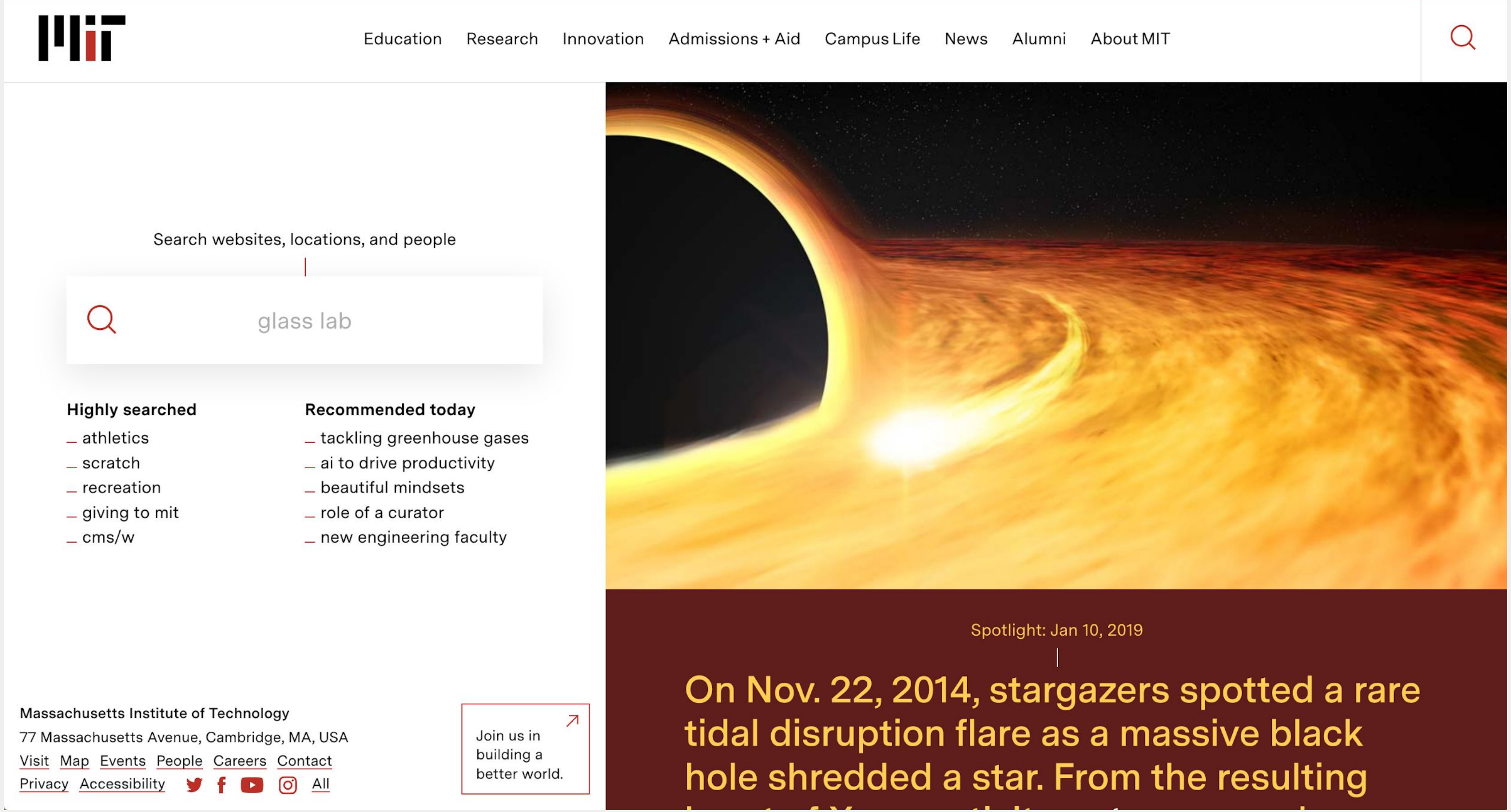
massachusetts institute of technology

77 massachusetts avenue
cambridge, ma 02139-4307

tel 617.253.1000
tty 617.253.9344

about this site

MIT - Now



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glass lab

Highly searched

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- scratch
- recreation
- giving to mit
- cms/w

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- ai to drive productivity
- beautiful mindsets
- role of a curator
- new engineering faculty

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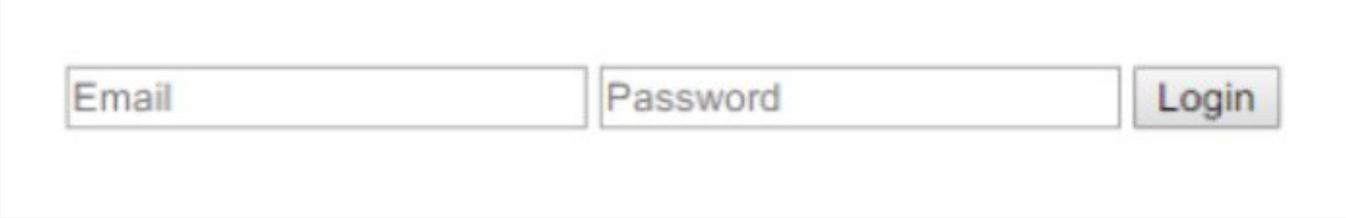
Join us in building a better world.

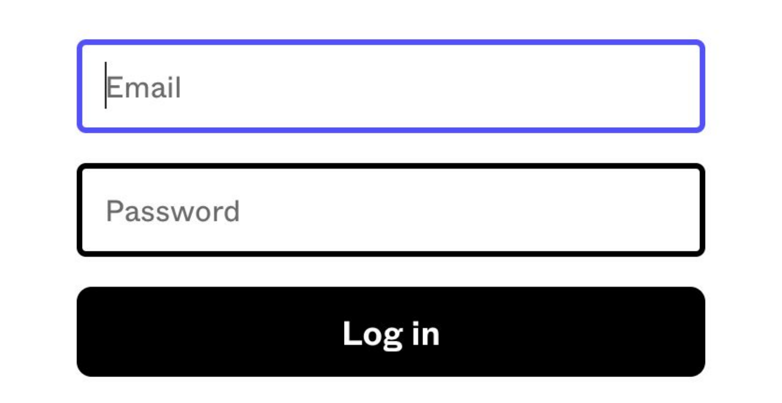
Spotlight: Jan 10, 2019

On Nov. 22, 2014, stargazers spotted a rare tidal disruption flare as a massive black hole shredded a star. From the resulting

- fonts
- color palettes
- shapes

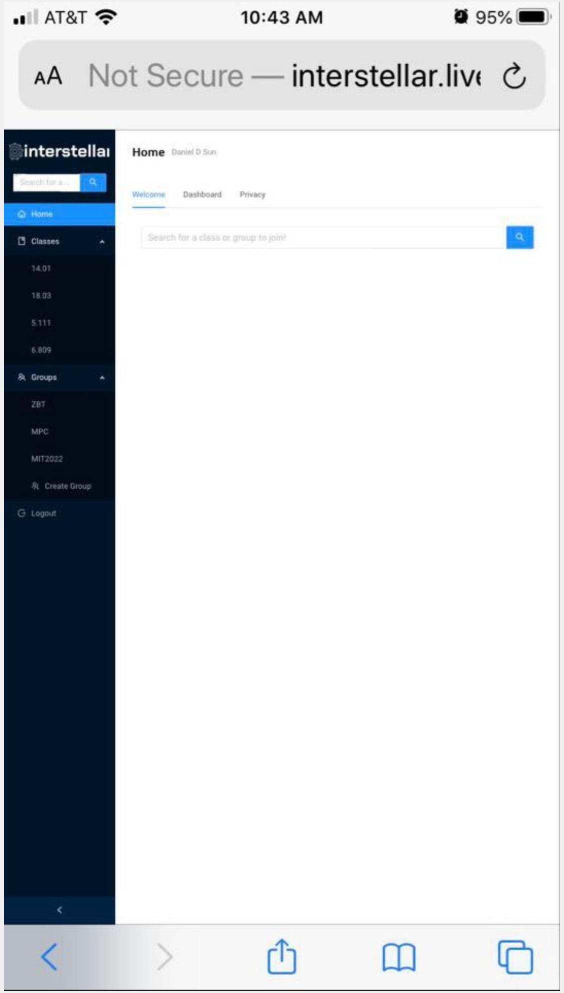
Make your site look good





Responsive Design: Resize your Window!

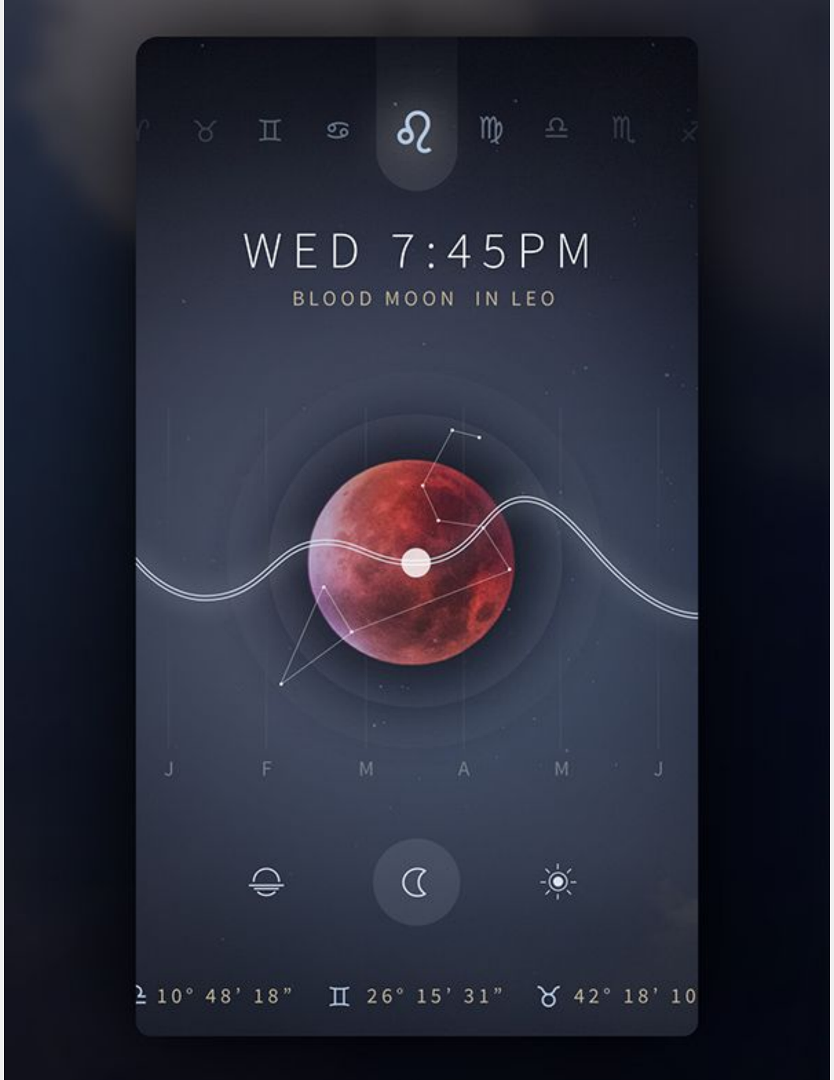
- Open your website on your phone!
- Resize the browser window
- Use inspect element to check



User Experience

HEINZ
57
VARIETIES
HEINZ
ESTD 1869 ESTD
TOMATO
KETCHUP
57 VARIETIES
GROWN NOT MADE*
NET WT 14 OZ (397g)

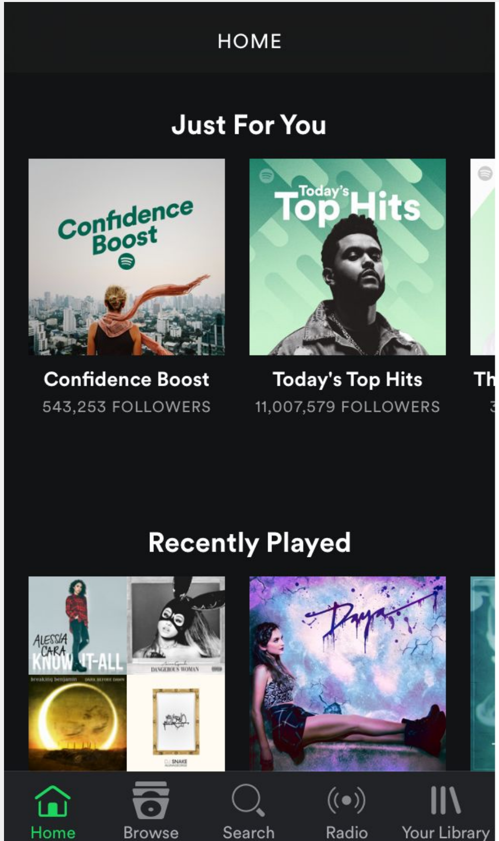
HEINZ
ESTD 1869 ESTD
TOMATO
KETCHUP
57 VARIETIES
GROWN NOT MADE*
NET WT 14 OZ (397g)


♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐
WED 7:45PM
BLOOD MOON IN LEO
J F M A M J
♎ 10° 48' 18"
♊ 26° 15' 31"
♉ 42° 18' 10

BRAUN
höhen
tiefen
volumen
ein
aus
phono
lang
mittel
ukw
sender

Why UX research is important

Good UX: Users don't need to be told how to use your app



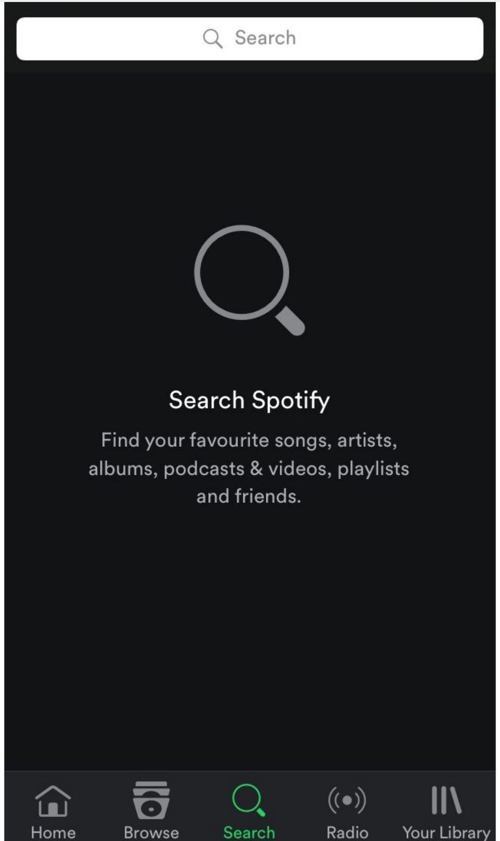
HOME

Just For You

Confidence Boost
543,253 FOLLOWERS

Today's Top Hits
11,007,579 FOLLOWERS

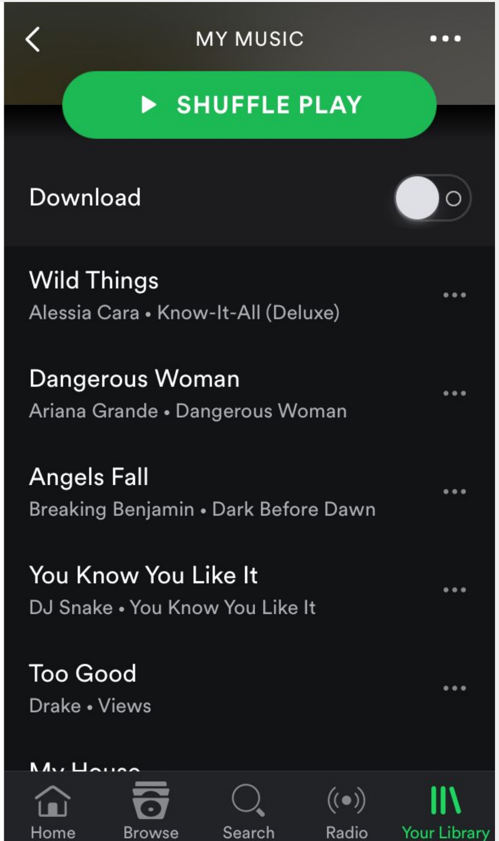
Recently Played



Search

Search Spotify

Find your favourite songs, artists, albums, podcasts & videos, playlists and friends.



MY MUSIC

SHUFFLE PLAY

Download

Wild Things
Alessia Cara • Know-It-All (Deluxe)

Dangerous Woman
Ariana Grande • Dangerous Woman

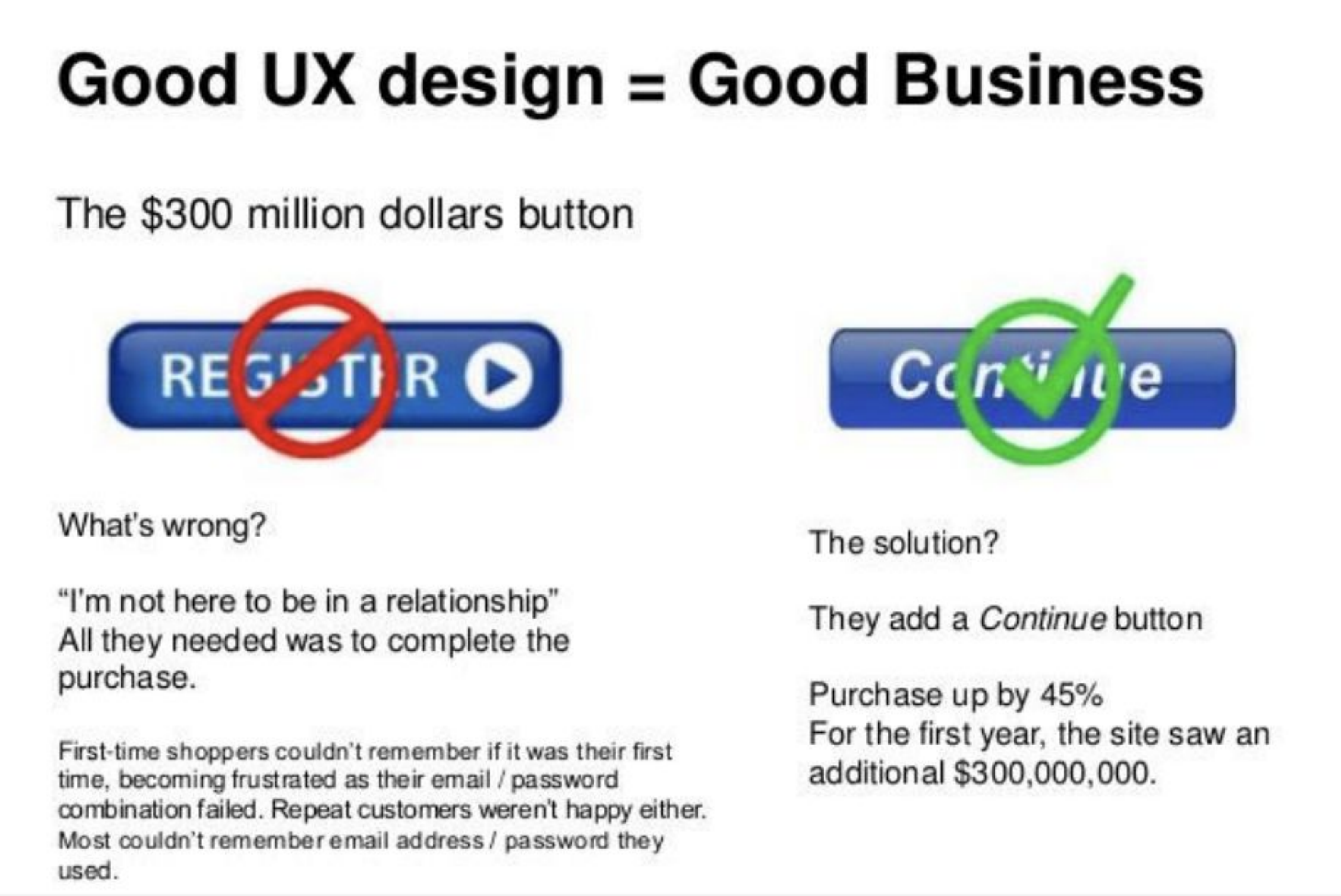
Angels Fall
Breaking Benjamin • Dark Before Dawn

You Know You Like It
DJ Snake • You Know You Like It

Too Good
Drake • Views

My House

The button worth $300 million



Good UX design = Good Business

The $300 million dollars button

REGISTER
Continue

What's wrong?

"I'm not here to be in a relationship"
All they needed was to complete the purchase.

First-time shoppers couldn't remember if it was their first time, becoming frustrated as their email / password combination failed. Repeat customers weren't happy either. Most couldn't remember email address / password they used.

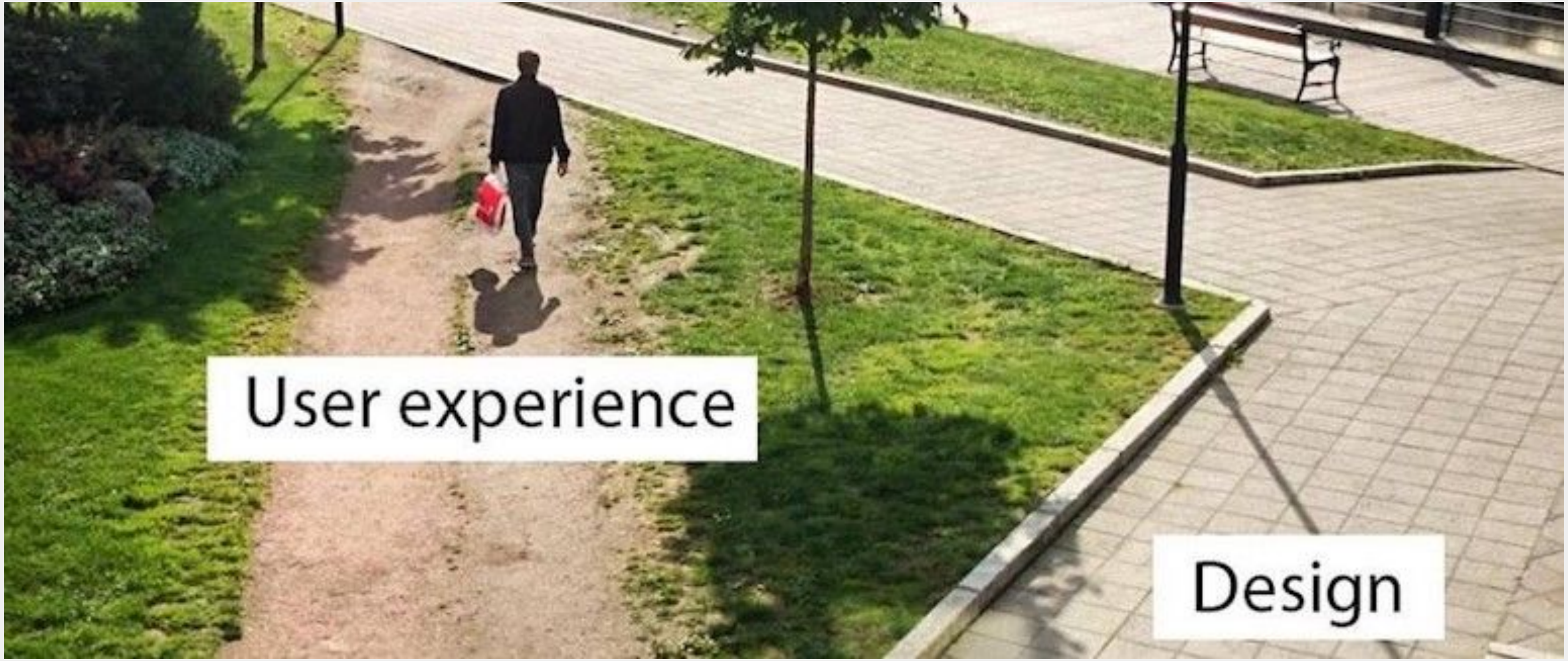
The solution?

They add a *Continue* button

Purchase up by 45%
For the first year, the site saw an additional $300,000,000.

How to have good UX? Do User Testing

- Show your webapp to your friends
- Ask for feedback
- Can they use your website without you explaining how to?


User experience
Design

Milestone 1: Project Pitches

- Information on website or at **weblab.to/milestones**
- **Due: Friday, January 7, 2022 at 11:59PM**
  - Choose an idea for your website
  - Flesh out the idea and draft out some initial designs (before any coding)
  - (the deliverable):

    You and your team give a (3 minute) casual pitch of the website idea and designs to staff for review and feedback

  - Time slot sign-ups will be sent out soon (maybe on Piazza?)

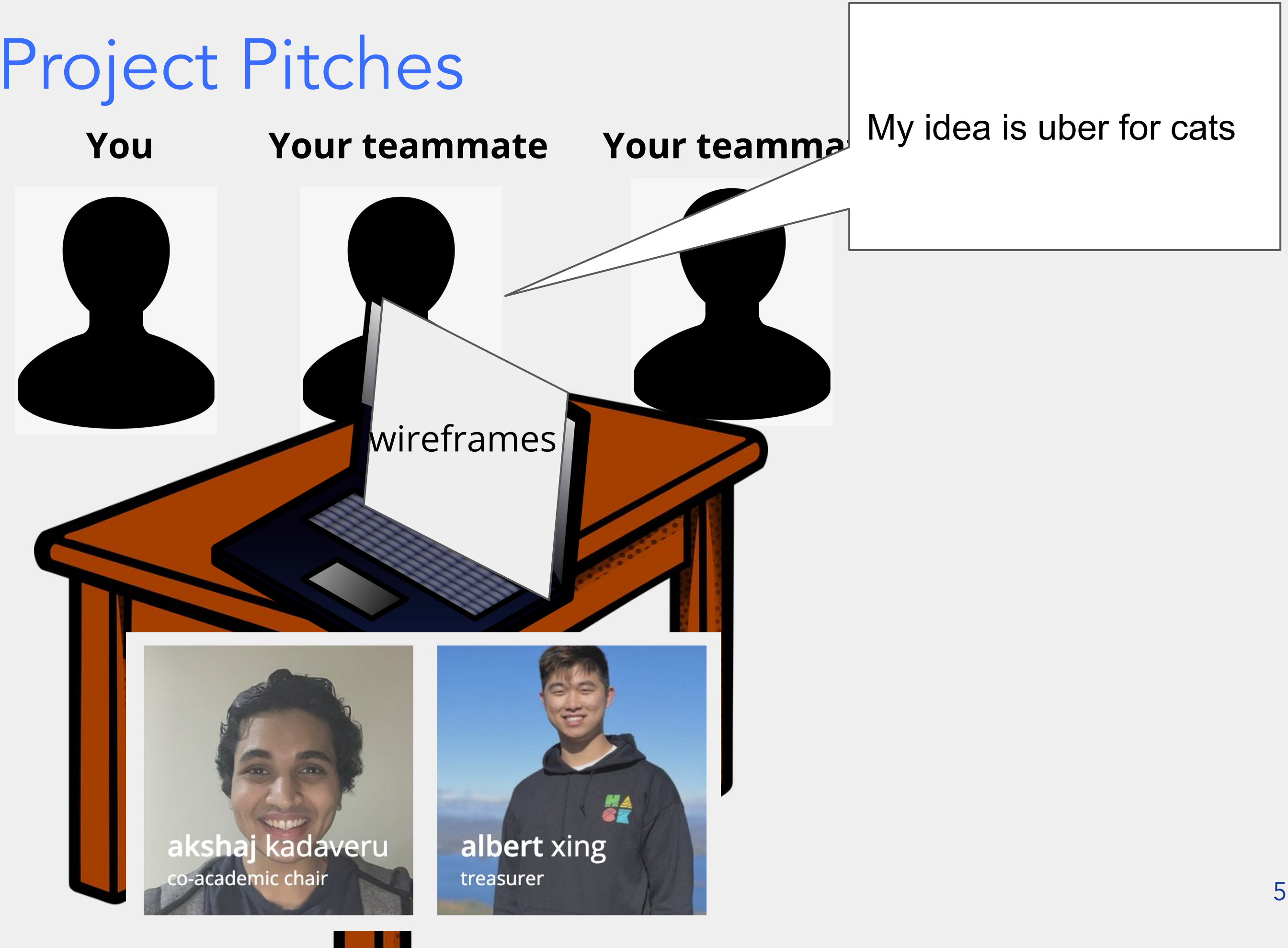
Milestone Requirements

Please make sure your pitch contains the following content, as well as a few slides with your initial designs and mockups. There will not be any projectors in the room, so please bring your laptop to show them.

1. Introduce yourselves.
2. Tell us how your idea fits the theme, and what problem it addreses.
3. Briefly describe your target demographic.
4. What are the killer features of your website?
5. Create some initial designs and mockups for your website (at least 2) - this can be done using any wireframe software, Adobe Photoshop, Sketch, etc.

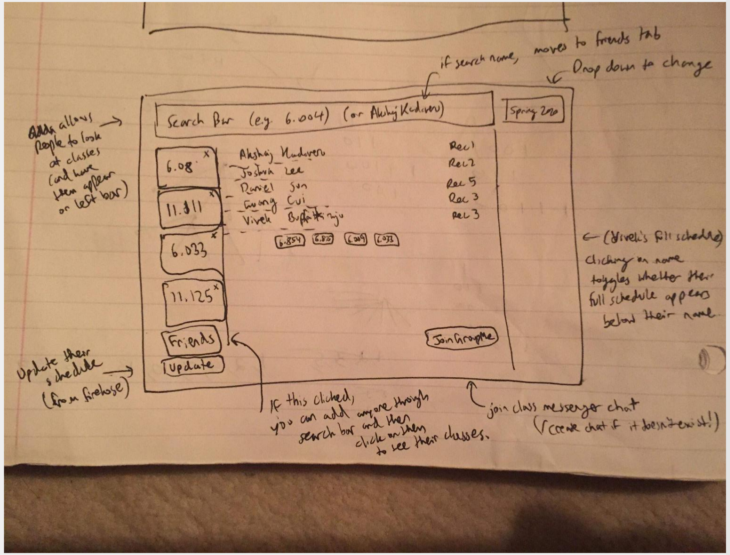
If no members of your team can make it to the time slots we have listed, please create a private post on Piazza and we can help you schedule a make-up session.

Milestone 1: Project Pitches



Wireframing

what is wireframing?



if search name, moves to friends tab

Drop down to change

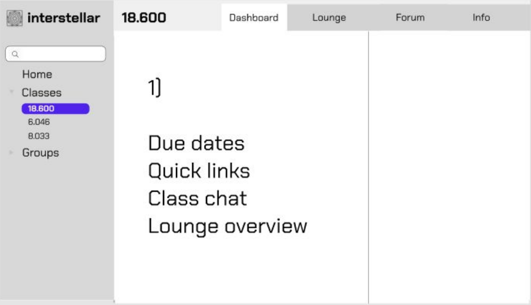
~~Allow~~ allows people to look at classes (and have them appear on left bar)

← (Vivek's full schedule) Clicking on name toggles whether their full schedule appears below their name.

Update their schedule (from firehose)

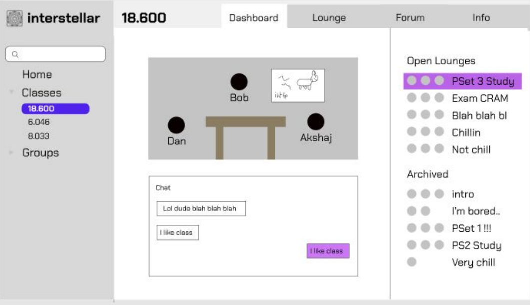
If this clicked, you can add anyone through search bar and then click on them to see their classes.

join class messenger chat (create chat if it doesn't exist!)



1)

Due dates
Quick links
Class chat
Lounge overview



Chat

Lol dude blah blah blah

I like class

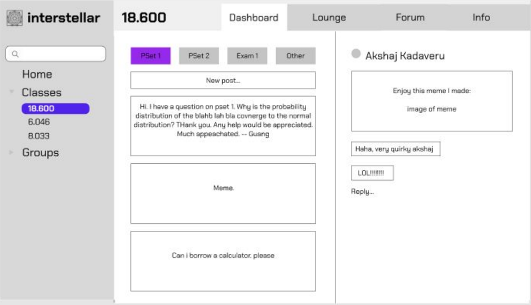
I like class

Open Lounges

- PSet 3 Study
- Exam CRAM
- Blah blah bl
- Chillin
- Not chill

Archived

- intro
- I'm bored..
- PSet 1 !!!
- PS2 Study
- Very chill



New post...

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Meme.

Can i borrow a calculator. please

Akshaj Kadaveru

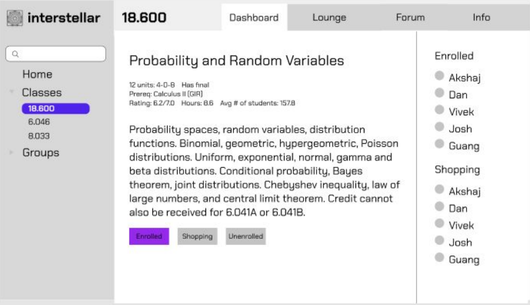
Enjoy this meme I made:

image of meme

Haha, very quirky akshaj

LOL!!!!!!!

Reply...



Probability and Random Variables

12 units: 4-0-8 Has final
Prereq: Calculus II (GIR)
Rating: 6.2/7.0 Hours: 8.6 Avg # of students: 157.8

Probability spaces, random variables, distribution functions. Binomial, geometric, hypergeometric, Poisson distributions. Uniform, exponential, normal, gamma and beta distributions. Conditional probability, Bayes theorem, joint distributions. Chebyshev inequality, law of large numbers, and central limit theorem. Credit cannot also be received for 6.041A or 6.041B.

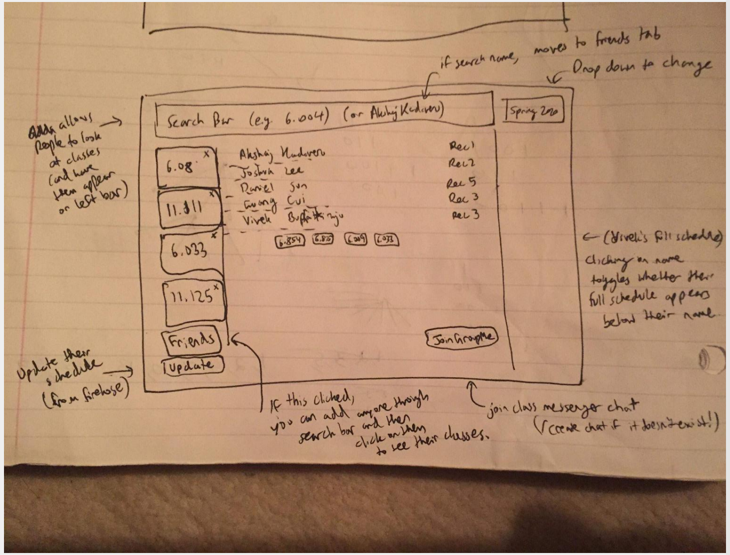
Enrolled

- Akshaj
- Dan
- Vivek
- Josh
- Guang

Shopping

- Akshaj
- Dan
- Vivek
- Josh
- Guang

sketching out the pages of your webapp



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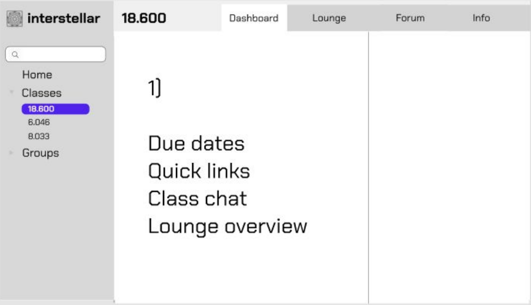

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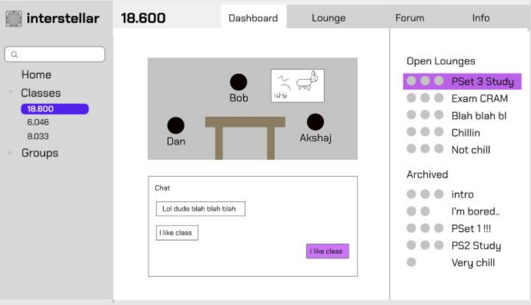

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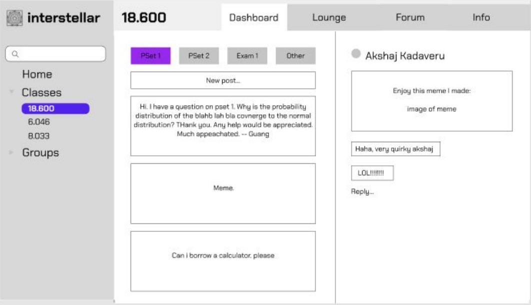

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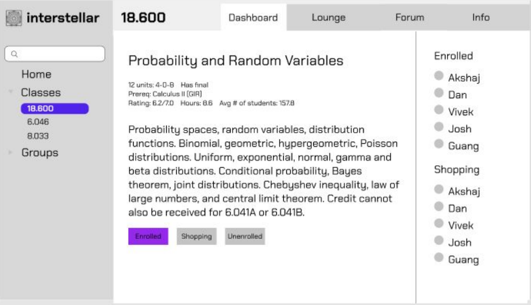

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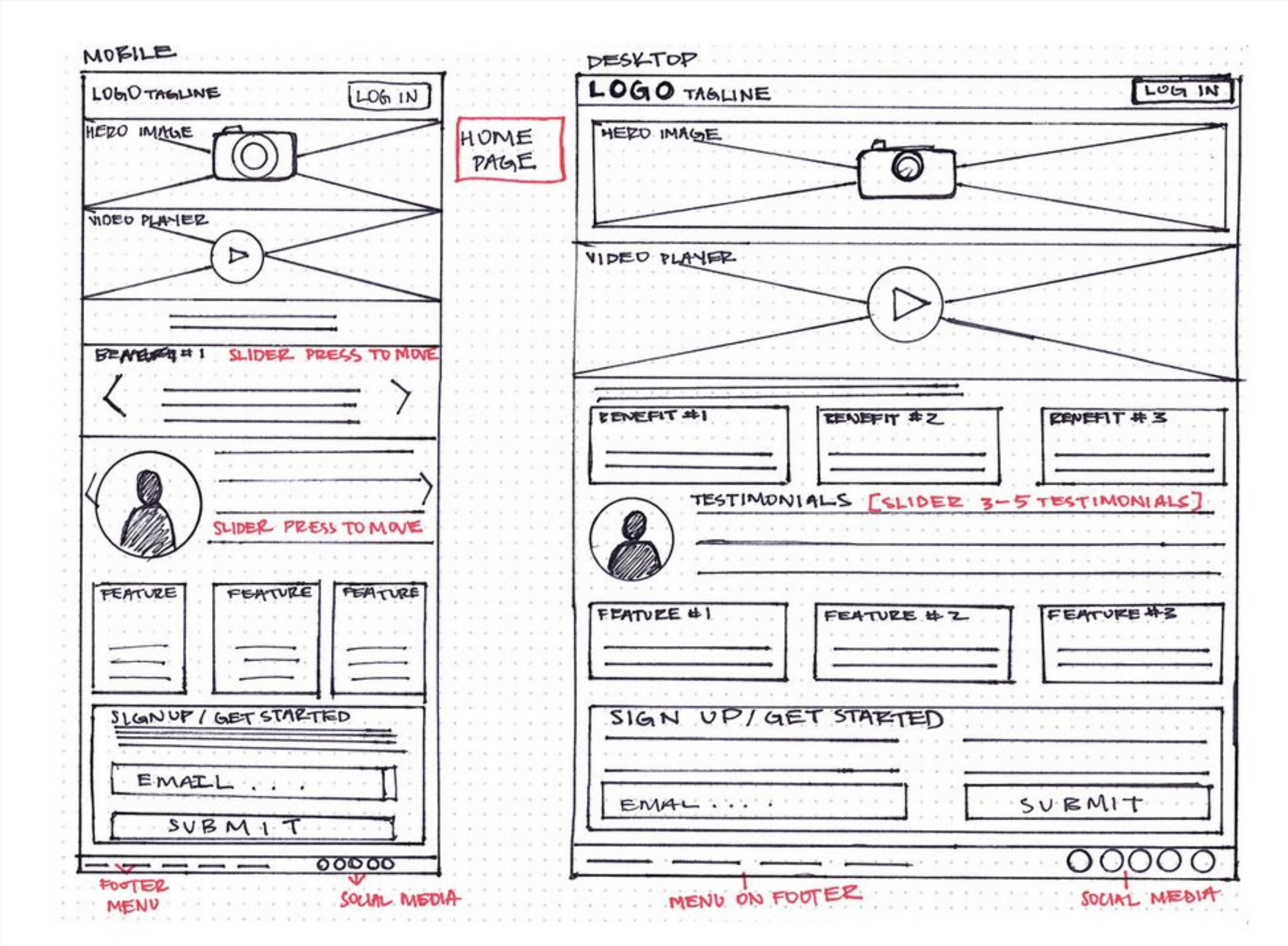
should be drafty


MOBILE
LOGO TAGLINE
LOG IN
HERO IMAGE
VIDEO PLAYER
#1
SLIDER PRESS TO MOVE
SLIDER PRESS TO MOVE
FEATURE
FEATURE
FEATURE
SIGNUP / GET STARTED
EMAIL . . .
SUBMIT
FOOTER MENU
SOCIAL MEDIA
HOME PAGE
DESKTOP
LOGO TAGLINE
LOG IN
HERO IMAGE
VIDEO PLAYER
BENEFIT #1
BENEFIT #2
BENEFIT #3
TESTIMONIALS
[SLIDER 3-5 TESTIMONIALS]
FEATURE #1
FEATURE #2
FEATURE #3
SIGN UP / GET STARTED
EMAIL . . . .
SUBMIT
MENU ON FOOTER
SOCIAL MEDIA

how do i make a wireframe?

- figma
- google slides
- any wireframe software / Photoshop / Sketch / etc.

how do i make a wireframe?

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Figma