

CSDD2002 Emerging Dev. Technologies

In-class Assignment 4

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Github repository: <https://github.com/ameyster1999/mern-news-app>**Explanation:**

API used is NEWS API which is

```
let url = `https://newsapi.org/v2/everything?q=${query} ||  
props.category)&apiKey=330e87d7b7a04229acbf2a4de862c4e0`;
```

Explanation:

I used the MERN stack (MongoDB, Express, React, Node.js) to create a news website for the assignment, and I hosted it on Google Cloud Platform (GCP). The project included using Express and Node.js to set up the backend, React to create the frontend, and MongoDB to connect the application to a database for data storage. User sign-ups and logins are managed through the usage of basic authentication.

To retrieve and show news stories in real time, the program interfaces with a news API. In order to ensure effective access and scalability for cloud storage, Google Cloud Storage was selected for managing and storing files and photographs. GCP was used for deployment, with Compute Engine being used to run the backend server and Cloud Storage being used for media files.

The website's design and user interface, code hosting and deployment procedures, API integration, and storage options were among the many factors that went into evaluating the project. The application met the necessary requirements and demonstrated an

effective use of cloud technologies and the MERN stack, indicating that the assignment was effectively completed.

Logic:

Directory: client

1. public

- o index.html: This is the main HTML file that acts as the entry point for your React application. It includes a `<div id="root"></div>` where your React components will be mounted and rendered.
- o logo192.png, logo512.png, manifest.json, robots.txt: These are static assets:
 - logo192.png and logo512.png are images used for app icons in different resolutions.
 - manifest.json provides metadata about the app, such as its name, theme color, and icons, which is used by browsers for progressive web app features.
 - robots.txt instructs web crawlers on which pages they should or shouldn't index.

2. src/components

- o Login.js: A React component that renders the login form where users enter their credentials to access the application.
- o Logout.js: Handles the logout functionality, allowing users to sign out of the app.
- o Navbar.js: Provides a navigation bar with links to different sections of the application, helping users navigate through the site.
- o NewsCard.js: Displays individual news articles with details like title, description, image, and a link to read more.
- o Profile.js: Shows the user's profile page with personal information and possibly edit options.
- o SignUp.js: The component that renders the sign-up page where new users can create an account.
- o SignUpForm.js: A form component within the sign-up page to gather user details needed for account creation.

3. src

- o App.css: Contains global styles that apply across the entire React application.

- App.js: The root component that acts as the main container, managing the app's structure and routing.
- index.js: The entry point for the React app, where it renders the App component into the DOM and may include setup code.
- logo.svg: An SVG image used as a logo within the app, ideal for scaling without loss of quality.
- setupTests.js: Configures the testing environment for the React application, ensuring the React testing library is properly set up.

4. Other Files

- package.json: Lists project metadata, dependencies, and scripts needed for development, testing, and building the application.
- package-lock.json: Ensures consistent dependency versions across installations by recording the exact versions of dependencies installed.
- .gitignore: Specifies which files and directories should be excluded from version control by Git, such as node modules or build outputs.
- README.md: Provides an overview of the project, including setup instructions, usage, and other relevant information.

Directory: server

1. middleware

- Contains middleware functions that process requests before they reach the route handlers. This can include tasks like authentication, logging, or modifying requests.

2. model

- Holds Mongoose models that define the schema for the MongoDB database. These models are used to interact with the database, including creating, reading, updating, and deleting documents.

3. routes

- Contains route handlers that define the API endpoints for the server. Each file typically handles a specific set of related routes, such as user authentication or news articles.

Screenshot for front-end:

You can see news for different things in the website with **Search function**:

The screenshot shows a web browser window titled "localhost". The main content area displays a news homepage with several article cards. At the top left is a large image for an article about "The Vergecast" featuring a man with a beard and a collage of various icons. Below it is a text snippet: "The all-seeing AI webcam" followed by a paragraph about Dries Depoorter and a "Read More" link. To the right are three more article cards: one about an all-quadriplegic esports team, another about Superman, and a third about ChargePoint's new adapter. The bottom section contains three more articles: one about Max's SharePlay feature, one about wasps, and one about Elon Musk and Donald Trump. A sidebar on the right side of the browser window lists various tabs and links.

The Vergecast

The all-seeing AI webcam

We explore the world of Dries Depoorter, an artist and engineer who uses AI and public webcam feeds to make us question our privacy and anonymity, both online and IRL.

[Read More](#)

The first all-quadriplegic esports team levels the playing field

Director Jess Jacklin talks to The Verge about her new documentary and how she entered the world of competitive esports.

[Read More](#)

Please, Let's All Be Normal About Superman

We're one year out from James Gunn's highly anticipated Superman. And while we're waiting, we should all chill the hell out about this movie.

[Read More](#)

ChargePoint's new adapter claims to work with all EVs, regardless of make or model

ChargePoint has released a new EV connector designed to work with "any" EV, regardless of charging architecture without requiring drivers have a specialized adapter. In a press release announcing the development, ChargePoint says Omni Port is "design..."

[Read More](#)

Max's SharePlay feature for iOS is now available to all ad-free subscribers

Max's SharePlay feature for iOS is now available to all ad-free subscribers

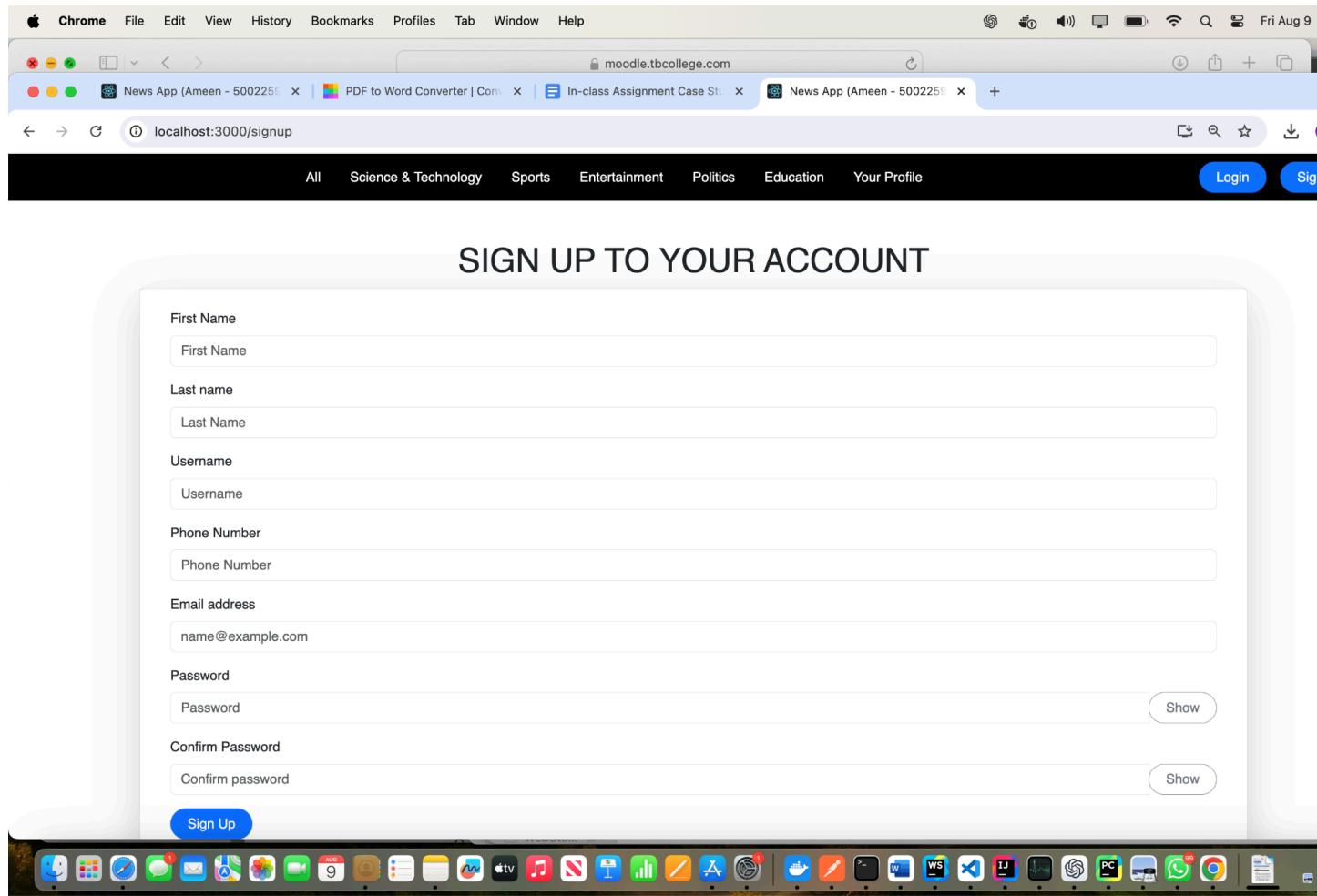
Where have all the wasps gone?

Outdoor activities are usually plagued by wasps at

Elon Musk Is All In On Endorsing Trump. His Chatbot, Grok, Is Not

Asus Chromebook Plus CX34 Review: A Pretty Chromebook

Sign up screen:



Responsiveness:

iPhone screen:

Top Stories



The Vernecast

The Vernecast
N. Glenn and D. T. Verne
Vernecast.com

VERNECAST



This is our first acoustic session.
From music to playing field
We're here to bring you the best of
our music.

VERNECAST



Music, Love & No Money About
VERNECAST
Vernecast.com

VERNECAST

China's Pandemic makes almost
Over half of its population
Under control

China's Pandemic makes almost
Over half of its population
Under control

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China's Pandemic makes almost
Over half of its population
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VERNECAST



Where have all the wasps gone?
Vernecast.com

VERNECAST



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China's Pandemic makes almost
Over half of its population
Under control

VERNECAST



China's Pandemic makes almost
Over half of its population
Under control

VERNECAST

Tablet Screen:

Top Stories

WANT MORE?



The Amazing All-American
No, it's not about the
superhero. It's about the
average American who
has done something
extraordinary.

Read More



The Best Life-Size LEGO Models You've Ever Seen
It's not just the size of the
models that makes them
impressive. It's the level
of detail and creativity
that goes into each one.

Read More



Please, Let's All Be
Normal About
Business
It's time to stop
thinking that
business needs
to be serious
and boring.

Read More



Charming Photo Shows
a Man in a Suit and Tie
Playing with a Toy Robot

It's not every day
you see a man in
a suit and tie
playing with a
toy robot. But
this photo is
truly charming.

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Mark Zuckerberg's
New Book Is Like a
Personalized Facebook
Profile

It's not every day
you see a man in
a suit and tie
playing with a
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this photo is
truly charming.

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What Happened to
the World's Biggest
Potato?

It's not every day
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a suit and tie
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toy robot. But
this photo is
truly charming.

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Don't Worry About
On-Earth Training, He
Chatted With God

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Google Chromecast
Plus 2014 Review: A
Pretty Chromecast

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All Google Smartphones
Are on Sale Right Now

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The Mystery of the
Missing Disney Princess

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Apple iPhone 6s Plus
Review: A Great Phone

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All Google Smartphones
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All the Disney Stars
Who Have Died Since
the Last Movie

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How to Watch All
the Disney Stars
Who Have Died Since
the Last Movie

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All you need to
know about the Rio 2016
Olympics

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How to Watch All
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Who Have Died Since
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truly charming.

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All children injured
in South Africa attack
out of hospital

It's not every day
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toy robot. But
this photo is
truly charming.

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All more final
together than
ever

It's not every day
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this photo is
truly charming.

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Garmen stars as All
British edge past
England

It's not every day
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NBC's Olympic
Broadcasts Are
Just Like It's a
Real Competition

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Top 10 Most Popular
Sports in the World

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Artists Re-imagine
Famous Landmarks
as Video Games

It's not every day
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playing with a
toy robot. But
this photo is
truly charming.

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Perplexity is cutting
newsrooms worldwide
to save money

It's not every day
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a suit and tie
playing with a
toy robot. But
this photo is
truly charming.

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mac:

Top Stories

SEARCH TOP STORIES

SEARCH



The Verge's All-Weekend
Super Bowl Coverage: The Best
Stories From Super Bowl Sunday

By Matt Futterman



The first all-quadrigle
season team leads the playing
field

Apple's iPhone 5s has been
announced, and it looks like the
new iPhone 5s will be the new
iPhone 5s.

By Matt Futterman



Please, Let's All Be Normal
About Superman

It's time to stop being so
obsessed with the idea that
superheroes are real.

By Matt Futterman



Chromecast's new adapter
claims to work with all TVs,
regardless of make or model

Google's Chromecast is a great
way to stream video from your
computer to your TV, but it's
not compatible with all TVs.

By Matt Futterman

Apple iPhone 5s review: for iOS
it now available in all-premium
subscribers

Apple iPhone 5s review: for iOS
it now available in all-premium
subscribers

By Matt Futterman

Microsoft's All-the-world-panel
now comes in two colors, and
you can buy it at Best Buy.

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Steve Jobs' Mail in the
Incoming Trump: His Counter
Steve Jobs

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Incoming Trump: His Counter
Steve Jobs

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Apple Chromecast Plus: Clean
Review: A Pretty Chromecast

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Shoe's iPhone 5s: All the Models
and Colors Are Available

Shoe's iPhone 5s: All the Models
and Colors Are Available

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The iPhone 5s: All the Best
Smartphone in the World

The iPhone 5s: All the Best
Smartphone in the World

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Apple iPhone 5s review: for iOS
it now available in all-premium
subscribers

Apple iPhone 5s review: for iOS
it now available in all-premium
subscribers

By Matt Futterman

All the iPhone 5s: All the
Smartphones in the World

All the iPhone 5s: All the
Smartphones in the World

By Matt Futterman

All the Questions We Have After
Deadpool & Wolverine

All the Questions We Have After
Deadpool & Wolverine

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Google Won't Kill Third-Party
Cookies After All

Google Won't Kill Third-Party
Cookies After All

By Matt Futterman

All the Reasons We Need
Chucky Season 4

All the Reasons We Need
Chucky Season 4

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All You Need to Know About the
2016 Olympics

All You Need to Know About the
2016 Olympics

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My Granddad Had a Right
Or Left Balance

My Granddad Had a Right
Or Left Balance

By Matt Futterman

All Patients Need to Be Hand
Informed of Hospital

All Patients Need to Be Hand
Informed of Hospital

By Matt Futterman

All Patients Need to Be Hand
Informed of Hospital

All Patients Need to Be Hand
Informed of Hospital

By Matt Futterman

Burns Burns in All Stages of
Great Britain

Burns Burns in All Stages of
Great Britain

By Matt Futterman

NYC Olympics Broadcasters
Announce New Deal for
Streaming

NYC Olympics Broadcasters
Announce New Deal for
Streaming

By Matt Futterman

Top iPhone 5s Beauty Cuts
2000s: From Gisele to
Dion Alireza

Top iPhone 5s Beauty Cuts
2000s: From Gisele to
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Artist AudioFusion 1000: Audio
Interface Review: So Many
Inputs

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Interface Review: So Many
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Perplexity Is Getting Revamped
as a Checklist-Booking Platform
for Events

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By Matt Futterman

OpenAI Wants to Run All of Its
New York Stock Exchange
Jobs in AI Boxes

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New York Stock Exchange
Jobs in AI Boxes

By Matt Futterman

Reddit's John Scalzi Is Back at
the 2016, Almost-Defeated
Roy

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Reddit's John Scalzi Is Back at
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Roy

By Matt Futterman

SpaceX's Dragon Capsule
Arrives at the International
Space Station

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Arrives at the International
Space Station

By Matt Futterman

Sam Rockwell's Batwoman
Galaxy Resort Will Be
Coming to Facebook After All

Sam Rockwell's Batwoman
Galaxy Resort Will Be
Coming to Facebook After All

By Matt Futterman

Everything Announced at
Galaxy Unpacked 2016:
Moto Z, Folder 2, and the
Pixel XL

Everything Announced at
Galaxy Unpacked 2016:
Moto Z, Folder 2, and the
Pixel XL

By Matt Futterman

All the News, Trivia, and
Cosplay From San Diego
Comic-Con 2016

All the News, Trivia, and
Cosplay From San Diego
Comic-Con 2016

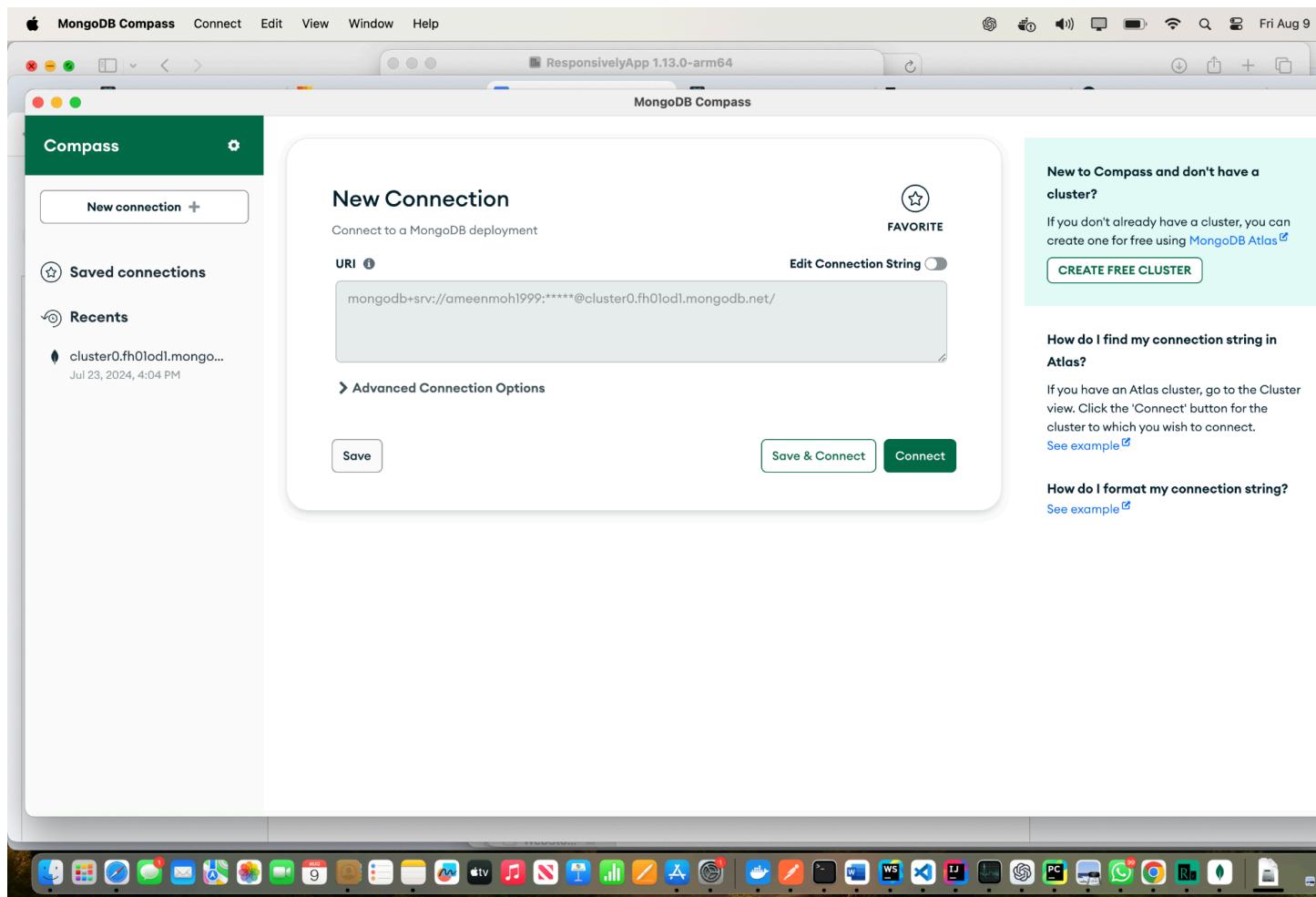
By Matt Futterman

Inside Out 2 Debut: Frozen 2 as
the Highest-Grossing Animated
Movie of All Time

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Movie of All Time

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Mongo DB Cluster:



Code review: (CSS)

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The title bar displays "Hammad_Ul_Hassan_500230292".

EXPLORER sidebar:

- HAMMAD_UL_HASSA... (mern-news-app-main.zip)
- mern-news-app-main
- client
- > node_modules
- > public
- src
 - components
 - JS Login.js
 - JS Logout.js
 - JS Navbar.js
 - JS News.js
 - JS NewsCard.js
 - JS Profile.js
 - JS SignUp.js
 - JS SignUpForm.js
 - > reducer
 - # App.css
 - JS App.js
 - JS App.test.js
 - # index.css
 - JS index.js
 - logo.svg
 - JS reportWebVitals.js
 - JS setupTests.js
 - .gitignore
 - { package-lock.json
 - { package.json
 - README.md
 - In-class Assignment Case Study 3...
 - mern-news-app-main.zip

CODE editor:

```
.dev-card {
  width: 25rem;
}

.card-img-top {
  width: 100%;
  /* height: 20rem; */
  height: auto;
  object-fit: cover;
}

.news-title {
  font-weight: bold;
  font-size: 3rem;
}

.dev-profile {
  width: 150px;
}

.profileSection {
  background-color: #eee;
}

.readmore {
  text-decoration: none;
}

.btn {
  border-radius: 100px;
  padding-left: 20px;
  padding-right: 20px;
}
```

PROBLEMS, **OUTPUT**, **DEBUG CONSOLE**, **TERMINAL**, **PORTS** tabs are visible.

TERMINAL content:

```
at Module.load (node:internal/modules/cjs/loader:1282:32)
at Module._load (node:internal/modules/cjs/loader:1098:12)
at TracingChannel._traceSync (node:diagnostics_channel:315:14)
Emitted 'error' event on Server instance at:
at emitErrorNT (node:net:1940:8)
at process.processTicksAndRejections (node:internal/process/task_queues:82:21) {
  code: 'EADDRINUSE',
  errno: -48,
  syscall: 'listen',
  address: '::',
  port: 5000
}

Node.js v22.4.0
mohammedameenabdurasheed@Mohammeds-MacBook-Air server %
```

Bottom status bar: Ln 1, Col 1 | Spaces: 2 | UTF-8 | LF | CSS | Go Live | ⌂

Login:

The screenshot shows the WebStorm IDE interface on a Mac OS X system. The top menu bar includes Apple, WebStorm, File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, Help, and various system icons. The status bar at the bottom right shows the date as Fri Aug 9.

The main editor window displays the file `js Login.js`. The code uses React hooks like `useState` and `useNavigate` from `'react-router-dom'` and `'UserContext'` from `'../App'`. It defines a `Login` function that handles email and password inputs and navigation.

The terminal window below shows two types of messages:

- Yellow messages indicating a warning about the `node_modules` folder being part of a deprecated project.
- Red messages indicating a deprecation warning for the `util._extend` API.

The bottom status bar shows the current path: `/Users/mohammedameenabdurasheed/Downloads/MOHAMMEDAMEEN_500225970/mern-news-app-main/client/src/components`, the file name `js Login.js`, and other system information like resolution (1:1), language (LF), encoding (UTF-8), and workspace (4 spaces).

Newcard:

The screenshot shows a code editor interface with a dark theme. At the top, there's a header bar with the title "H5 Hammad_Ul_Hassan_500230292" and a "Version control" dropdown. On the right side of the header are icons for "Current File", "Find", "Search", and "Edit". Below the header is a file navigation bar with "Login.js" and "NewsCard.js" listed. The main area contains the code for "NewsCard.js".

```
1 import React from "react";
2 ...
3 function NewsCard(props) { Show usages
4     return (
5         <>
6             <div className="card dev-card my-3" alt="">
7                 <div className="image-src-container">
8                     <img src={props.urlToImage} className="card-img-top" alt="" />
9                 </div>
10                <div className="card-body">
11                    <h5 className="card-title">{props.title}</h5>
12                    <p className="card-text">{props.description}</p>
13                    <a target="_blank" href={props.url} className="readmore">
14                        Read More
15                    </a>
16                </div>
17            </div>
18        </>
19    );
20 }
21 export default NewsCard; Show usages
22
23
```

Below the code editor is a terminal window titled "Terminal" with the "Local" tab selected. The terminal output shows a warning message about a deprecated API and a deprecation warning. The terminal also displays the current working directory and some status indicators.

```
node_modules folder for unrelated reasons, but it may break at any time.

babel-preset-react-app is part of the create-react-app project, which
is not maintained anymore. It is thus unlikely that this bug will
ever be fixed. Add "@babel/plugin-proposal-private-property-in-object" to
your devDependencies to work around this error. This will make this message
go away.

(node:15503) [DEP0060] DeprecationWarning: The `util._extend` API is deprecated. Please use Object.assign() instead.
```

File path: /Users/mohammedameenabdurasheed/Downloads/MOHAMMEDAMEEN_500225970/mern-news-app-main/client/src/components/NewsCard.js

Terminal status: 1:1 LF UTF-8 2 space

Mongo connection:

The screenshot shows the WebStorm IDE interface. The top menu bar includes WebStorm, File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, Help, and various system icons. The title bar indicates the project name is "Hammad_UL_Hassan_500230292". The code editor displays the file "App.js" with the following content:

```
11 export const UserContext :Context<unknown> = createContext();
12
13 // Created a routing component
14 const Routing = () => {
15     return (
16         <Routes>
17             <Route path='/' element={<News category="all" />} />
18             <Route path='/science' element={<News category="science" />} />
19             <Route path='/sports' element={<News category="sports" />} />
20             <Route path='/politics' element={<News category="politics" />} />
21             <Route path='/entertainment' element={<News category="entertainment" />} />
22             <Route path='/education' element={<News category="education" />} />
23             <Route path='/profile' element={<Profile />} />
24             <Route path='/signup' element={<SignUp />} />
25             <Route path='/login' element={<Login />} />
26             <Route path='/logout' element={<Logout />} />
27         </Routes>
28     )
29 }
```

The terminal tab shows the following output:

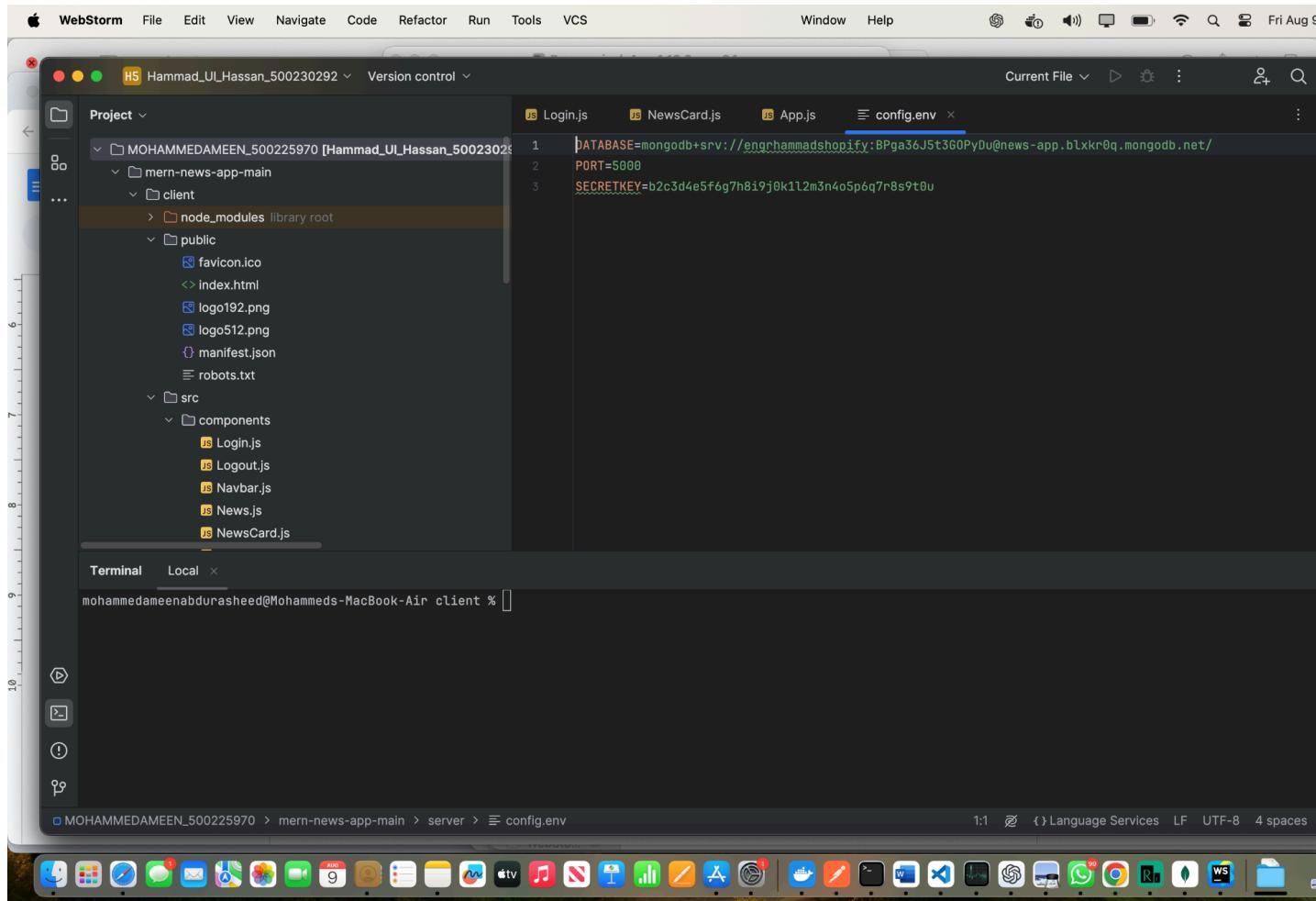
```
node_modules folder for unrelated reasons, but it may break at any time.

babel-preset-react-app is part of the create-react-app project, which
is not maintained anymore. It is thus unlikely that this bug will
ever be fixed. Add "@babel/plugin-proposal-private-property-in-object" to
your devDependencies to work around this error. This will make this message
go away.

(node:15503) [DEP0060] DeprecationWarning: The `util._extend` API is deprecated. Please use Object.assign() instead.
```

The status bar at the bottom shows the current file is "App.js", and the terminal encoding is "UTF-8".

Config.env:



Usage

To use the website, follow these steps:

1. Start the server: `nodemon app.js`
2. You need to install dependecies
3. Start the client: `cd client && npm start`

The server will start on port 5000, and the client will start on port 3000.

3. Open the website in your browser: <http://localhost:3000>
4. Browse the news articles on the home page.
5. Search for articles by keyword using the search bar.
6. Create an account to save articles for later reading.