

# 50 Projects for Javascript, React and NextJs

## Overview

This resource is your guide to project ideas to help push your coding journey. Some of the projects like building a website, creating a custom hook, and adding search to your existing website will help give you motivation for ways to learn by doing.

While a lot of tutorials and project ideas on the internet help you learn a tool, they often have you building the same thing over and over — like a to-do app. We're taking a different approach here, where each project is something you might find out in the real world with a project brief like you might find on the job.

## What is this?

A lot of developers struggle with a similar pain point — they want to build more projects, but they just don't know what to build. One of the best ways to grow as a developer is to keep building as it gives you immediate hands on experience with the tools you'll use in your career.

The goal of 50 Projects is to provide both aspiring and seasoned developers with an idea that will allow them to learn a new tool or develop skills to start their career.

## Who is this for?

Those who want to learn.

You should have at least a basic understanding of React or be willing to learn while doing. Ultimately, the examples and tutorials are based in React but the projects should be suitable for any language or framework you'd like to work in.

All of the projects here give you an opportunity to put real-world use cases into practice with a foundational starting point. The hope is that this ebook will help you prepare yourself by learning new tools while building projects that could actually exist!

## How do I get started?

### Picking a project

Try not to think too hard and stress out over which project you start with. The good news, is you'll always have this list — so if you get started on one and it isn't for you, you can easily come back and try another.

Later on, you'll also find that there are some Track ideas to help get you started. These Tracks are a "recipe" that you can follow to achieve a larger goal with a mix of multiple projects.

### Blasting up each level

All projects have 3 distinct levels to complete as part of the project challenge. Want to try a bunch of different projects? Maybe you'll only complete Level 1 for each project. Want to play completionist? Try finishing all 3 levels for each project!

Each level will bring you a new challenge to the project that you can build on from the last.

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## Table of Contents

### **Business & Real-World**

- Conference Schedule
- Ecommerce Store
- Website Admin
- Metrics Dashboard
- Website Admin
- Survey Creator & Manager
- Map Statistics Dashboard

### **Fun & Interesting**

- Fan Wiki
- Pokédex
- Video Gallery
- Road Trip Map
- Musical Instrument
- Community Chat Bot

### **Personal & Portfolio**

- Resume / CV Website
- Blog
- Project Case Studies
- Goal Manager
- Project Tracker
- Newsletter

### **Productivity**

- Flash Cards
- Mood Board
- Bookmark Manager
- Budget Manager
- Habit Reminder
- Shopping List
- Notebook

### **Tools & Libraries**

- Mad Libs
- Frogger
- Jigsaw Puzzle
- Tetris
- Space Invaders
- Cards Against Humanity

### **Games & Puzzles**

- Component Library
- Custom Hook
- Framework Theme
- CSS Animation Library
- Custom GitHub Action
- Framework Starter

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## Project Add-Ons

- Search
- Dark Mode
- Webmentions
- Analytics
- Code States
- Highlight & Share

## Clones

- Twitter
- Winamp
- StackOverflow
- Product Hunt
- Zelda UI
- Tesla Touchscreen

# Conference Schedule

Create a website with speakers and a schedule for a React conference.

## Brief

The organizers of a new React conference are looking for a website that breaks down all of the information for their event. This is important, because it helps to get people interested in the event, but also figure out how to actually enjoy the event.

## Level 1



Before anything else, people need to know about the event. Where is it? What day is it? Where can people sleep?

Create a multi-page website that includes all of the basic information about the new conference. The basic information should include details like the name of the event, a description, the date, the location, food options, hotel options, and importantly a code of conduct.

## Level 2



People can now find out about the event, but who is going to speak at the event and what are they going to talk about?

Add a list of speakers to the homepage and create a schedule that lists each speaker with a talk and time.

## Level 3



Managing a little content isn't too bad in the code, but what if the conference organizers want to make a text change? They shouldn't have to or might not be able to check out the code and make the change.

Set up a content management system (CMS) and source the content of the website with that system.

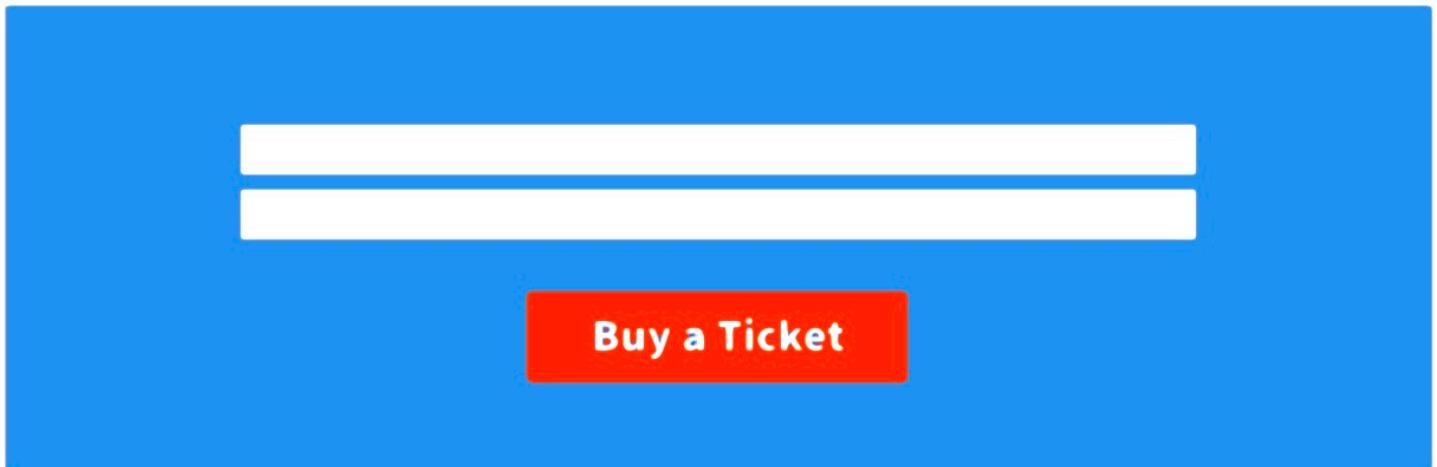
## To Do

- Think of an event name
- Create a homepage
- Create location info page
- Create food info page
- Create code of conduct
- Add speakers
- Create schedule page
- Create CMS project
- Migrate content to CMS
- Source content from CMS

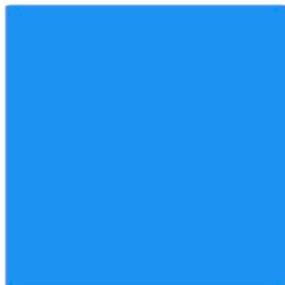
## Toolbox

faker.js

# Event Name



**Buy a Ticket**



**Speaker**



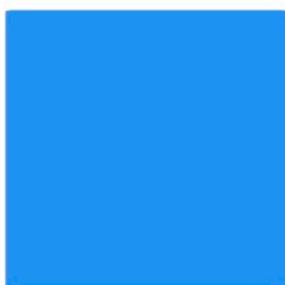
**Speaker**



**Speaker**



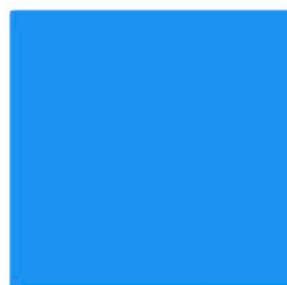
**Speaker**



**Speaker**



**Speaker**



**Speaker**



**Speaker**

# Ecommerce Store

Create an online store where you can buy video games and fan gear.

## Brief

Gone are the times that you need to find a local game store to get the latest Halo release. Instead, you can get any game you want, and some sweet gear, right on the internet.

## Level 1



For someone to be able to purchase a game, they need to be able to find it on your website.

Create a website that includes pictures and names of some video games and fan gear.

## Level 2



Managing inventory and the products in a store is a pain if you have to update code every time. We can use tools like content management systems to dynamically add products.

Integrate a CMS that allows you to manage available products.

## Level 3



In order to purchase a product, we'll need to provide a way for the customer to pay for it. This includes adding the product to a cart and the checkout process.

Add a cart and payment provider that allows someone to purchase a game.

## To Do

- Create a store
- Create a list of games
- Add games to website
- Create a list of fan gear
- Add fan gear to website
- Create CMS project
- Migrate content to CMS
- Source content from CMS
- Create shopping cart
- Set up payment provider
- Create checkout process

## Toolbox

Stripe  
use-shopping-cart



## Game Name

Buy Now

### More Details



### Reviews



# Website Admin

Create an admin dashboard to configure website settings that requires user login.

## Brief

Having to push out code every time you want to make a configuration change is time-consuming and risky. Instead, admin dashboards allow you to provide an authenticated way of making changes on the fly.

## Level 1



Providing the ability to make changes to a website on the fly can be risky if it's not safe and secure behind authentication.

Create a page on a website that requires authentication to access the content..

## Level 2



In order to make any kind of changes in a dashboard, there needs to be a part of the site that's configurable.

Configure part of the site to be dynamic based on a setting that can be updated. (Ex: analytics ID, some text)

## Level 3



Once a website or app feature is dynamic based on configuration, we can set up a mechanism to change it.

Create a form in the admin dashboard that updates the configuration of a feature.

## To Do

- Create a new page
- Create an admin page
- Require login for admin
- Add login page
- Integrate authentication
- Add configurable settings
- Add configuration form
- Update config on save
- Deploy or update on save

## Toolbox

Auth0

Auth0 React SDK

# Admin

[Log Out](#)

## Menu



## Configuration



**Save**

# Metrics Dashboard

Create an analytics dashboard that shows historical performance of tech stocks.

## Brief

Stocks are all about investment and understanding the performance of your investments is important to making future decisions. This knowledge could be the difference between a huge financial loss or a huge gain.

## Level 1



## To Do

- Choose tech stocks
- Request stock data
- Add data to table
- Add charts for data
- Add dashboard of charts
- Add pages for charts
- Add raw data for charts

## Toolbox

Chart.js  
Marketstack

To understand the performance, you need to see the data that shows how well a particular stock is doing.

Create a table that shows historical data of several tech stocks

## Level 2



Loading a bunch of data in a table isn't always the easiest way to understand the bigger picture. Often, charts are a tool that can show trends in data.

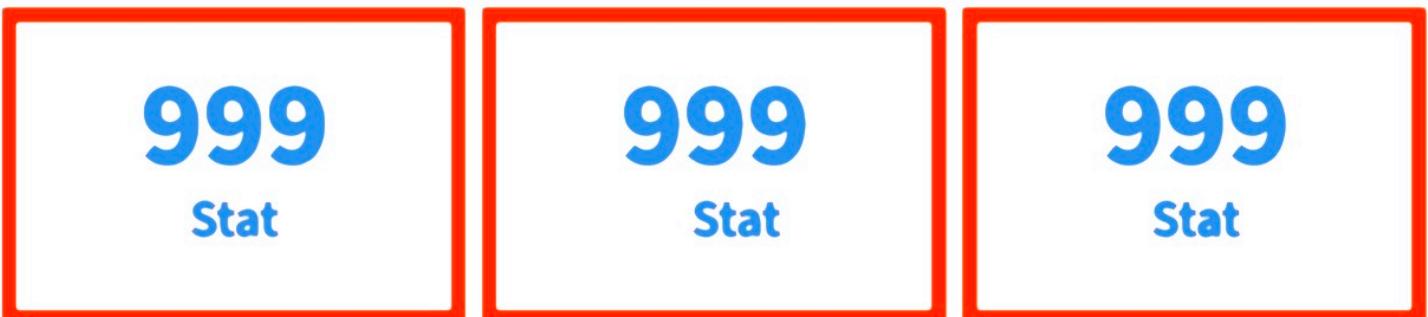
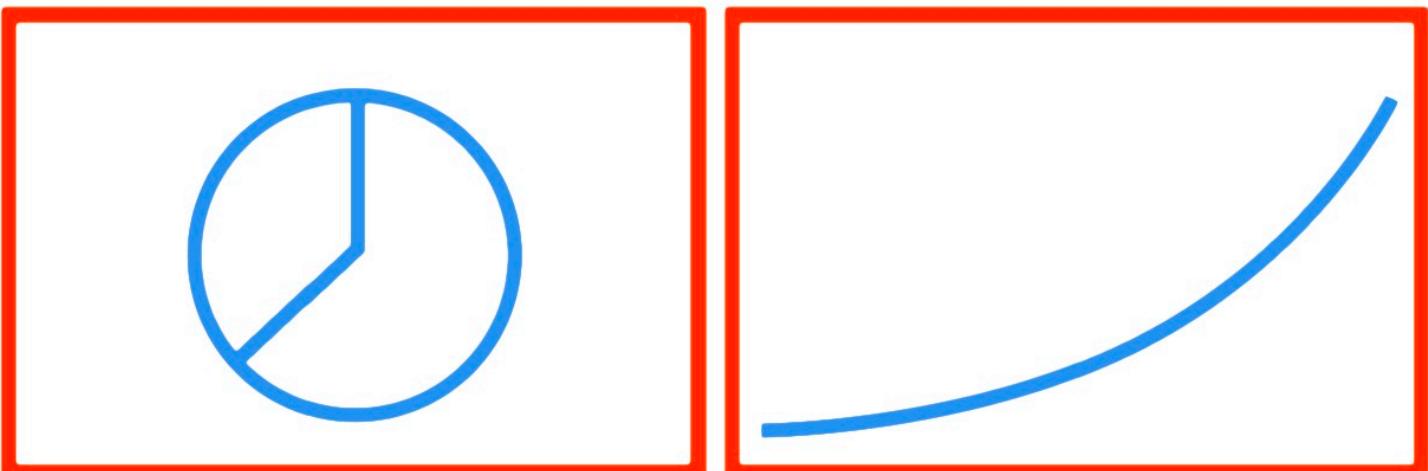
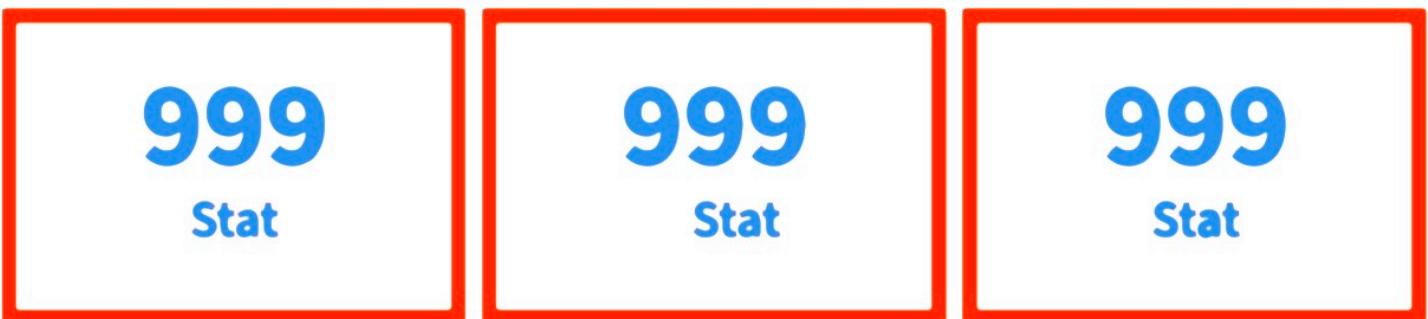
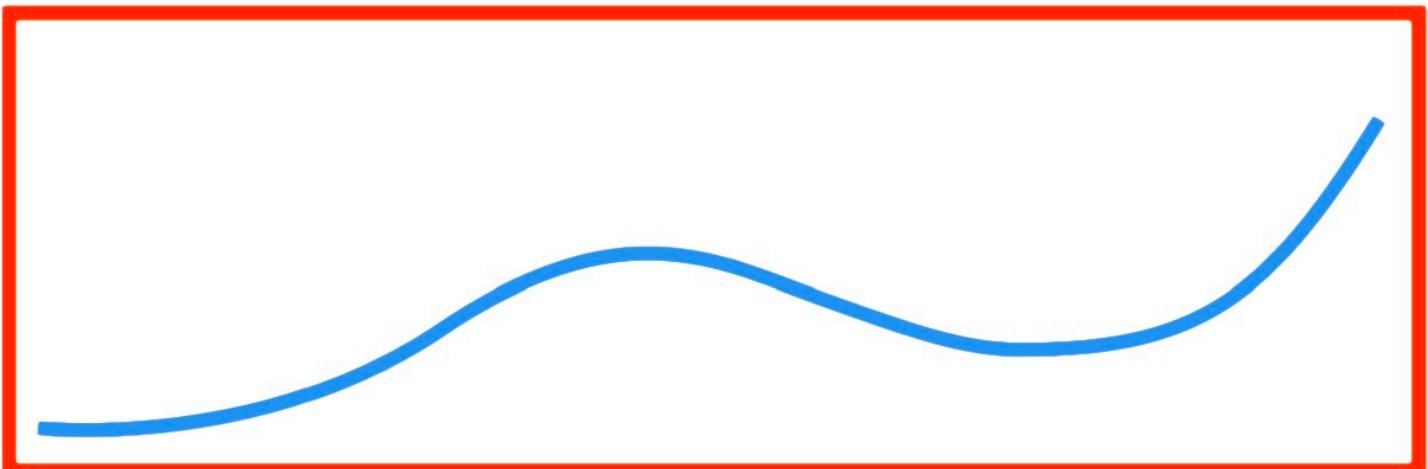
Create a dashboard of charts that display metrics for key performance indicators.

## Level 3



Even though the charts are great for a high level view, being able to "drill down" into the data is helpful if you want to understand more about a particular chart or sample of data.

Link each chart to a page that provides raw, in depth data for that performance indicator.



# Survey Creator & Manager

Create a group of opinion surveys that rate favorite technologies and entertainment

## Brief

Surveying groups of people is a good way to understand more about that group of people, whether it's how they feel about a certain topic or what their favorite tech is. This is useful research for gauging product development or trying to find pain points in existing products.

## Level 1



We want to find out what tools the React community uses to see if there is a pattern in usage. This can help us see if there is a gap in tools that we could build a new product for.

Create a survey that gives a multiple choice group of questions with a comment field to find out people's favorite React tools.

## Level 2



Often a single survey isn't enough. Knowing about the tooling is helpful, but maybe we don't understand the types of jobs people have where they use those tools.

Create a survey manager that lets you dynamically create and manage new surveys.

## Level 3



Once the surveys are in, we end up with a lot of data about the questions we asked, but how do we consume that?

Create a dashboard of metrics that show trends determined for the group of surveys.

## To Do

- Create survey questions
- Create survey form
- Add response storage
- Create dashboard
- Add survey creation
- Add survey management
- Create results dashboard
- Add response data
- Add results charts

## Toolbox

Formik

# Survey

## Question 1

## Question 2

## Question 2

**Save**

# Map Statistics Dashboard

Create a map dashboard that shows statistics and geographic information about COVID-19.

## Brief

Dealing with a global pandemic means viruses like the Coronavirus impact the world differently based on geographic location. Having a map with a breakdown of each country's statistics is a useful way of being able to determine things like which countries were impacted the most.

## Level 1



The easiest way to see statistics country to country is to have a map that you can browse with each country's statistics available next to that country.

Create a mapping app that uses the disease.sh Coronavirus API to add markers to the map for each country along with the number of COVID-19 cases.

## Level 2



While having the statistics for each country is helpful, it might be useful to be able to compare those statistics to the number of cases in the entire world.

Add a statistics dashboard that shows the number of COVID-19 cases around the world as well as any other useful statistics from the API.

## Level 3



Getting current statistics is a good way to understand the current state of the world, but how does that compare historically?

Use the historical data API to show graphs on the dashboard that provide context to the growth and spread of the virus

## To Do

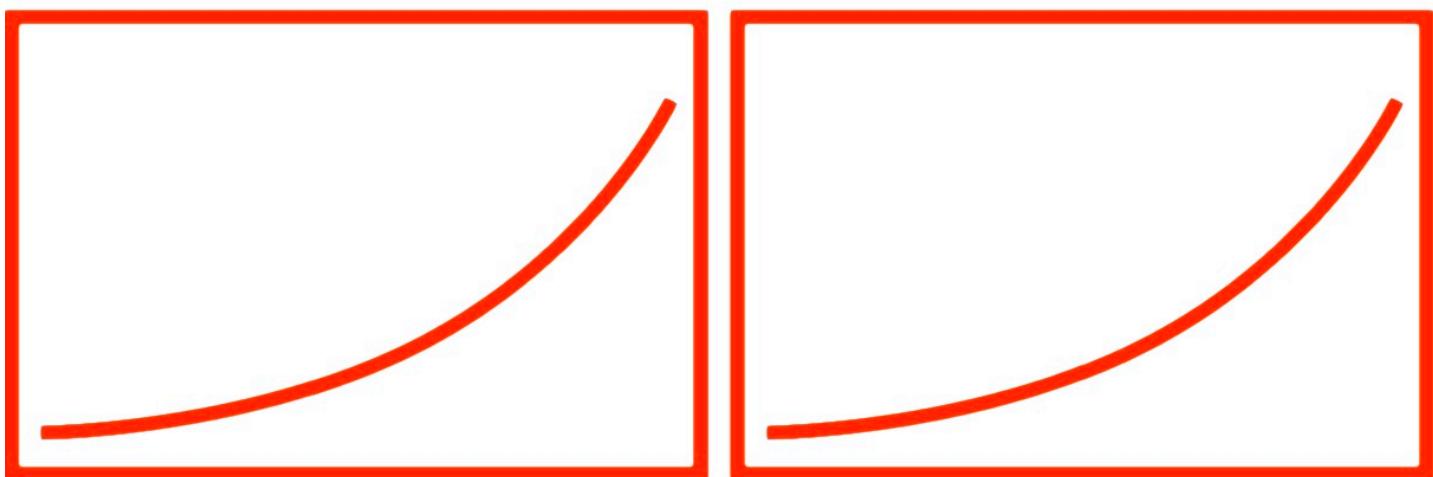
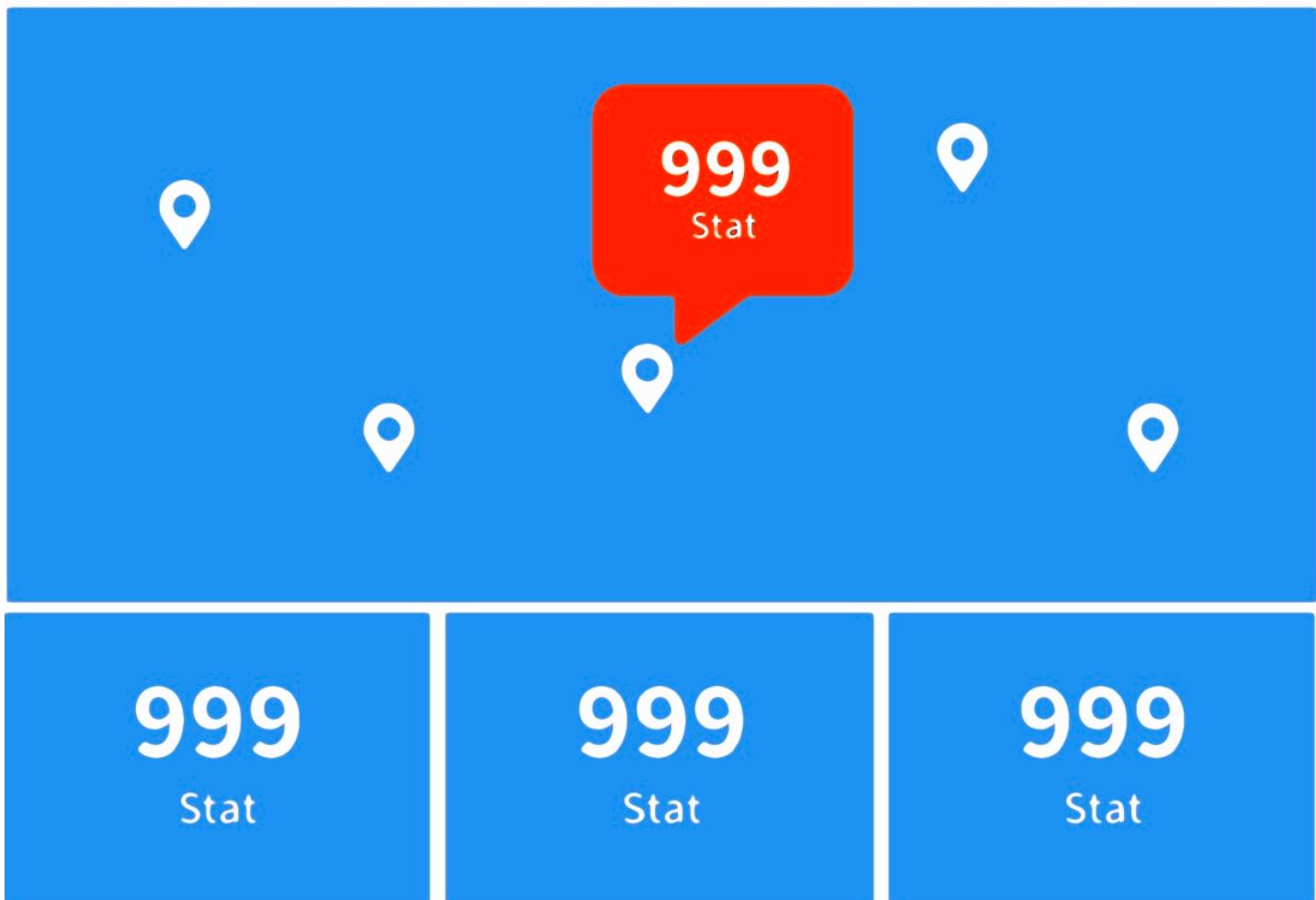
- Create a new map app
- Fetch API countries data
- Add markers to map
- Add statistics to markers
- Fetch API global data
- Create a stats dashboard
- Add global stats
- Fetch API historical data
- Add graphs to map

## Toolbox

[Open Disease Data API](#)

[React Leaflet](#)

[Gatsby Leaflet Starter](#)



# Fan Wiki

Create a fan wiki that includes all characters of Futurama or your favorite TV show or movie.

## Brief

There's a huge community of fans of your favorite TV series who want an easy way to access individual character information, but that website doesn't exist! APIs are available, but the only way to view that information is by making requests programmatically

## Level 1



A good way of making that character data easy to reference is by hosting it on a website. Luckily, we can use an API to dynamically create a wiki of all of the characters of the show.

Create a character wiki using an API that lists out all of the characters of your favorite TV series

## Level 2



Viewing a list of characters is helpful, but people want to know more details about each character. What makes them unique to the series?

Add dynamic pages to the character wiki allowing people to navigate to characters to view more information.

## Level 3



Looking up a character from your favorite TV series doesn't need to be boring, there are qualities about that show that make it unique.

Use some of the characteristics of the TV show to make the character wiki look like it belongs in that TV universe with custom styles and animations.

## To Do

- Create a new app
- Fetch all characters
- List out all characters
- Create dynamic pages
- Add character details
- Add custom styles
- Add custom animations

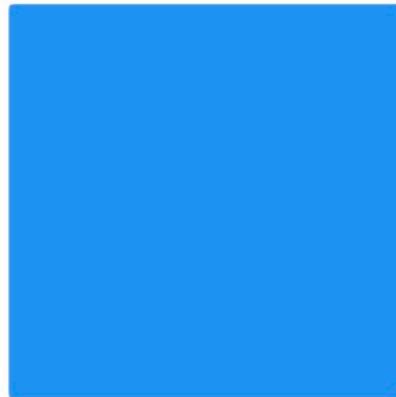
## Toolbox

Futurama API

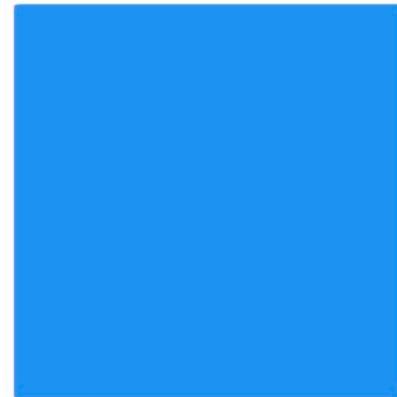
# Character Wiki



Character



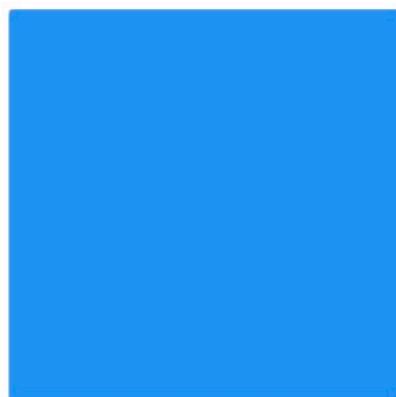
Character



Character



Character



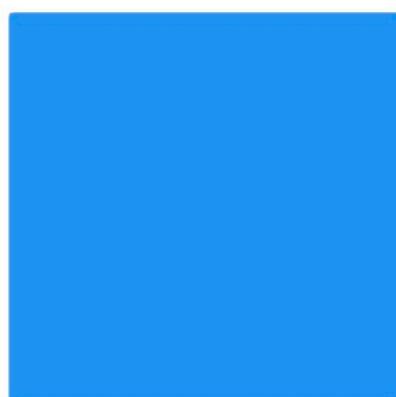
Character



Character



Character



Character



Character

# Pokédex

Create a Pokédex that shows a list of all Pokémons with links to stats of each Pokémon.

## Brief

If you're on your journey to be a Pokémon master, nothing is going to be more useful than a Pokédex that allows you to identify and learn more about each Pokémon.

## Level 1



Being able to identify a Pokémon is the first step to understanding more about that Pokémon.

Create a list of Pokémons that shows the name of each Pokémon along with a picture for identification.

## Level 2



If we can only get the first page of a long list of Pokémons, we only have limited knowledge about each one.

Create a Load More button that makes a request to the next page of results in the API

## Level 3



After learning the name of a Pokémon, the next step is to find out more about that Pokémon like what type of Pokémon it is and stats.

Create a new page for each Pokémon that's linked to from the index and includes the basic attributes of each Pokémon.

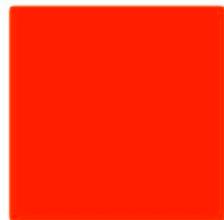
## To Do

- Create a new app
- Fetch Pokémons data
- List out Pokémons
- Add Load More button
- Fetch next page on click
- Create page per Pokémon
- Add link to Pokémons
- Add Pokémons stats

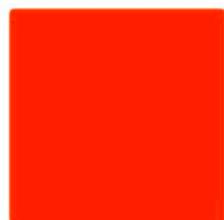
## Toolbox

PokéAPI

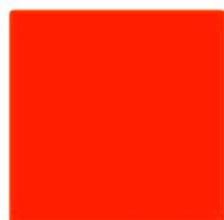
# Pokédex



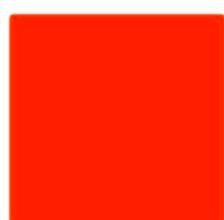
**Pokémon**



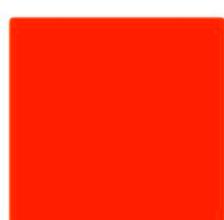
**Pokémon**



**Pokémon**



**Pokémon**



**Pokémon**



# Video Gallery

Create a gallery of video tutorials that pulls from a React YouTube playlist.

## Brief

YouTube playlists are a great way to collect videos with a bigger theme whether it's your own videos or someone else's. It can help people focus on a particular topic like a particular set of tutorials.

### Level 1



The great thing about YouTube, is they make it easy to embed their player. This lets us easily add a playlist to any page.

Create a page that embeds a playlist using YouTube's player.

### Level 2



When using YouTube's player, you don't get much control over the look and feel. The good news, is they have an API that lets us get information about a playlist so we can use it on our page.

Fetch the YouTube playlist using the YouTube API and display the results on a page with links to each video.

### Level 3



Linking to YouTube helps let people easily watch a video, but that takes them away from your website. How can we let people watch the videos while avoiding them navigating away?

Add an autoplaying embed of a video to the page when someone selects a video.

## To Do

- Find a playlist
- Copy embed code
- Embed on a page
- Fetch playlist with API
- List videos on page
- Embed video on click

## Toolbox

YouTube API  
react-youtube



## React Tutorial



React Tutorial



React Tutorial



React Tutorial



React Tutorial

# Road Trip Map

Create a mapping app that shows the route of a road trip across the country.

## Brief

Road trips are a lot of fun, but it's hard to visualize exactly the route you take. How can you easily show the full route and customize it with pictures of your trip?

## Level 1



Using a custom map is a great way to show the route of a trip with the benefit of being able to customize it any way you want.

Create a mapping app that shows the route of a road trip.

## Level 2



Showing the route of the trip is fun, but what places did you stop at along the way? Was there anything interesting about those stops?

Add a list of destinations that includes a little information about each stop.

## Level 3



The map has a lot of cool destinations that make out to be a fun road trip, but what experiences did you have?

Add pictures to each destination from your trip or pictures of places you want to visit

## To Do

- Create a map
- Create location data
- Add route to map
- Add destination stops
- Add stop details
- Add pictures from stops
- Add personal pictures
- Customize map styles

## Toolbox

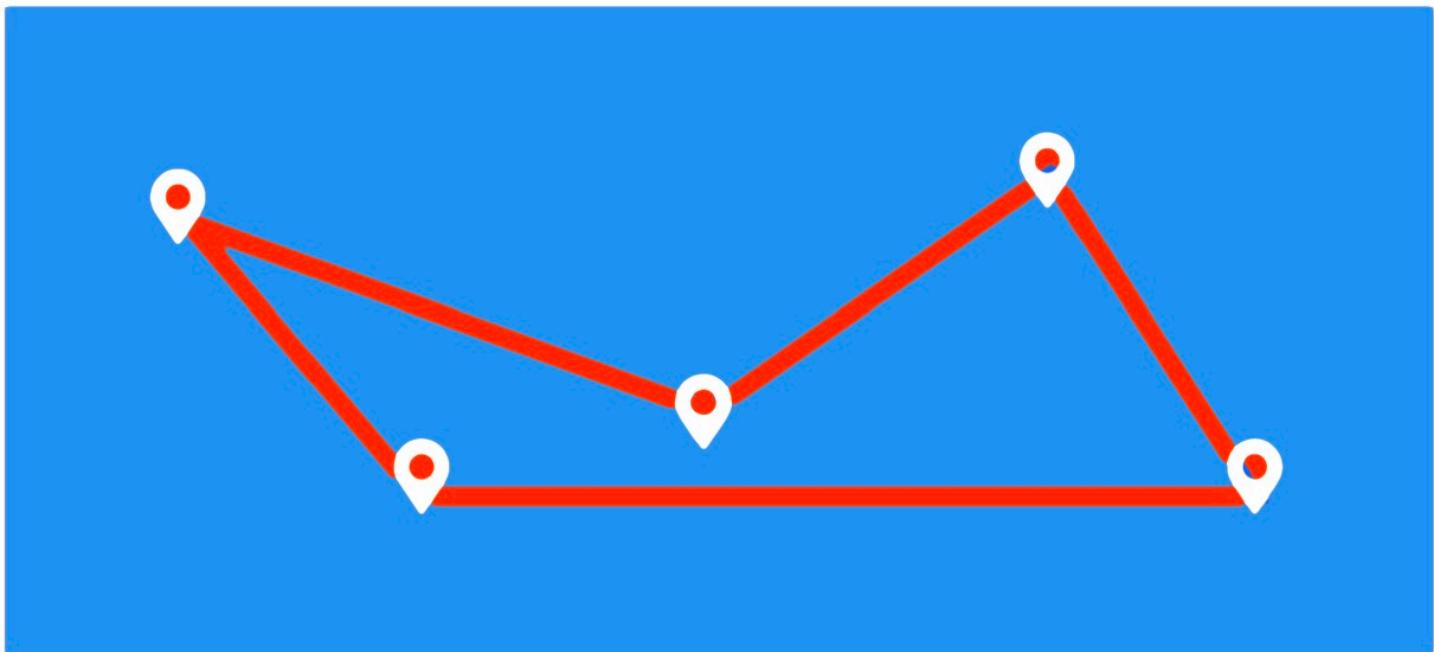
Toolbox

Leafle

React Leaflet

Gatsby Leaflet Starter

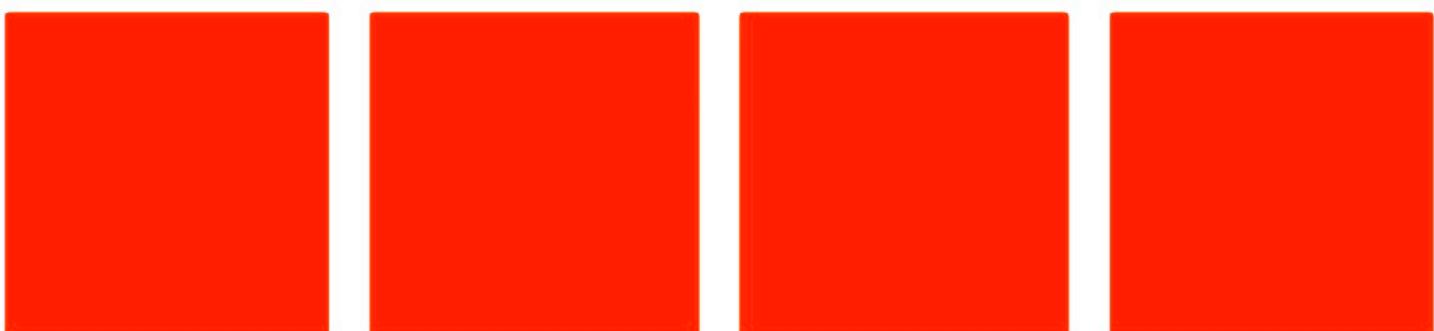
Mapbox Studio



## Day 1



## Day 2



# Musical Instrument

Create an interactive piano that you can use to play music with your keyboard

## Brief

Not everyone has the luxury of owning a musical instrument, but maybe those people have a laptop, phone, or tablet.

Having a piano is a powerful way to let people play music even if they didn't have the opportunity before.

## Level 1



While not everyone's played an instrument before, the concept and interface of an instrument like a piano is generally more intuitive than a bunch of buttons.

Create a piano layout using buttons that works by either clicking the button or using the physical keyboard.

## Level 2



In order to make any kind of changes in a dashboard, there needs to be a part of the site that's configurable.

Configure part of the site to be dynamic based on a setting that can be updated. (Ex: analytics ID, some text)

## Level 3



We might have limited space in the browser, but there's a wide range of notes, scales, and sounds an electric keyboard might be able to make with some added effects.

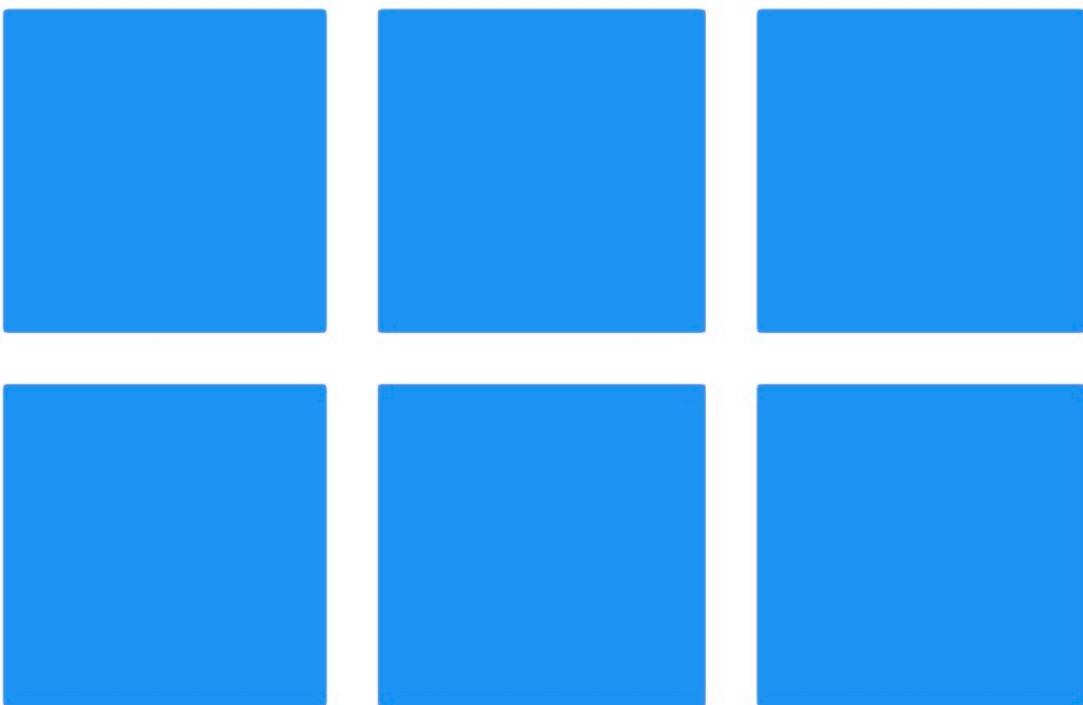
Create effect toggles that change the sound of the notes when toggled on.

## To Do

- Create buttons
- Play sound when clicked
- Arrange notes in a scale
- Create piano layout
- Set keyboard events
- Create effects layout
- Toggle audio effects

## Toolbox

React HotKeys



# Community Chat Bot

Create and deploy a chat bot that interacts with and moderates discord in a community.

## Brief

With the rise of Slack and Discord, people have swarmed to online communities for a place to chat and interact with others who share the same experiences. This can be great, but having a little robot guidance can help

### Level 1



People might not ever notice a bot, but what if someone tried to interact with it?

Create a bot and configure it to respond to a message when sent to a chat.

### Level 2



We want people to feel welcome when they join our community. Having a welcome message is a great way to give people a little bit of information about the community.

Create a welcome message that gets sent to new members of the community when joining

### Level 3



Not only do we want people to feel welcome, we want people to abide by a code of conduct. It's important to create safe areas where everyone feels welcome.

Require people to accept the welcome message with an emoji before being allowed to enter the community

## To Do

- Create a bot app
- Create Discord app
- Create API key
- Create test server
- Test bot on server
- Add static responses
- Add welcome message
- Configure access rules

## Toolbox

[Discord Developer Portal](#)

**No layout for this one!**

All your work will be in **Discord**.

# Community Chat Bot

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- Add static responses
- Add welcome message
- Configure access rules

## Toolbox

[Discord Developer Portal](#)

# Resume / CV Website

Create a website with your work experience that can be used as a resume or CV.

## Brief

You're looking for a new job in the tech world. Every company asks for a resume. You also think it's a good idea to make it available publicly and a great way to do that is to demonstrate your development skills by creating a resume website.

### Level 1



The most important information on a resume is your contact information, skills, and work experience or education.

Create a new website that provides a way for a potential employer to contact you and a list of all of your skills and relevant experience

### Level 2



When companies look for new candidates, they also like to know a little bit about who they are as a person.

Update your resume website to include links to social accounts that show your interests and include personalized touches that represent you as a person.

### Level 3



You like to work on code on your free time. You've created some open source projects or at least have contributed to some.

Update your resume website to include links to GitHub projects to show what you're working on.

Bonus: make it automatically update sorted by star count

## To Do

- Create a new website
- Add contact information
- Add work experience
- Add education
- Add social links
- Add personality
- Add GitHub projects
- Automate GitHub sort

## Toolbox

GitHub Actions

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# Your Name

## Contact Info

## Social Links

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## Objectives

[REDACTED]

[REDACTED]

## Work Experience

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## Education

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

# BLOG

Create a blog that you can use to share your career experiences and projects

## Brief

With any career, having a blog to share your experiences is a good way let people know what you're working on and help others learn from your experiences. It's also a way to reinforce what you've learned and be able to reference it in the future.

### Level 1



To be able to share your experiences, you need a website structure that will allow you to create new content and manage existing content. One way to do this is by creating markdown files that your website sources to create new pages and display the posts.

Create a blog using markdown files as the content source.

### Level 2



Having your content in markdown files is a good way to manage static content, but you might not want to have to edit code every time you write or edit a post.

Integrate a content management system that allows you to add new content or edit existing with a nice user interface.

### Level 3



If you're sharing code on your blog, HTML natively supports the code and pre tags that help you format code in a readable way. But that doesn't include syntax highlighting that helps improve readability.

Integrate a syntax highlighter that makes code blocks more readable.

## To Do

- Create a blog
- Add first static content
- Source static content
- Integrate CMS
- Add code to content
- Add syntax highlighting

## Toolbox

Netlify CMS  
Prism.js

# Your Name

## Post 1

Category • Date



## Post 2

Category • Date



## Post 3

Category • Date



# Project Case Studies

Create a list of projects that include case studies and details about the project.

## Brief

Being able to showcase your work is a great way to help others understand how you think and learn about the experiences you've had along the way. This is especially great for job seekers who need to stand out among others.

## Level 1



Showing the various projects you worked on help a potential employer or collaborator know what types of projects you've worked on.

Create a page that includes a list of some of the best projects you've worked on.

## Level 2



Knowing what you worked on is helpful, but being able to help someone understand the context is even better.

Add project images and details for each project.

## Level 3



To fully understand your thought process, providing case studies can help walk someone through your decisions and challenges that led you to the finished project.

Add case studies for each project that details the project process and challenges.

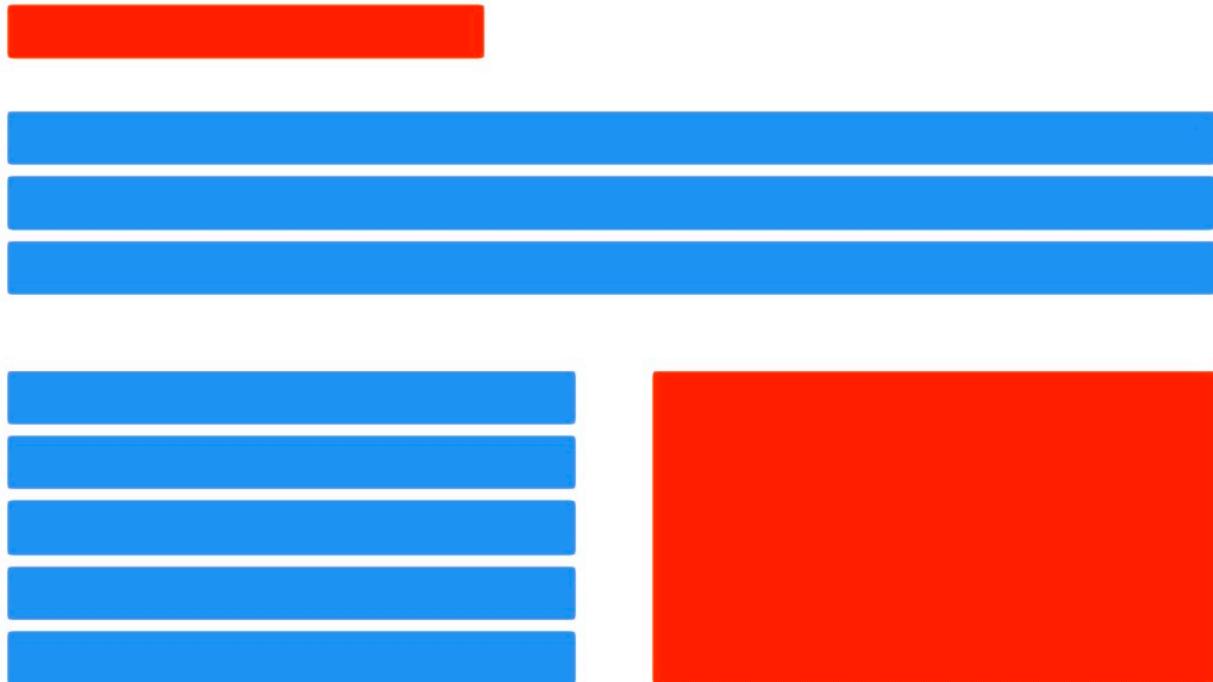
## To Do

- Create a list of projects
- Add projects to website
- Add project details
- Add project images
- Add case studies

## Toolbox

Hemingway Editor

# Project Name



# Goal Manager

Create a goal management dashboard to add, track, and modify your goals.

## Brief

Goals are a great way to help us set a challenge that we want to push ourselves to reach. Further, making those goals public is a way to help keep accountable to others and gain support from the community.

### Level 1



To get started with goals, you need to have them. If you don't already have some, take some time to think about it, but ultimately, these will be your public goals.

Create a list of goals and put them on your website.

## To Do

- Create goals
- Add goals to website
- Copy goals to Airtable
- Request goals with API
- Display goals dynamically
- Add progress field(s)
- Show progress in UI

## Toolbox

Airtable

### Level 2



Your goals are public but they're a pain to keep track of. Every progress update requires a code change and manually updating the UI.

Add your goals to Airtable and use the API to dynamically request your list of goals.

### Level 3



Showing your goals is a great first step, but people want to know how you're doing. How can you keep yourself accountable and show the world your progress?

Add a field to Airtable that tracks progress of each goal and show that progress status on your website

# My Goals

## Goal 1

### Details



### Updates



## Goal 2

### Details





# Project Tracker

Create a ticketing system that allows you to create and manage project issues

## Brief

Project development can be tough to keep track of, especially when working on a team. There are a lot of moving pieces, typically a lot of details, and you want to be able to manage all of those pieces as they come up so you don't lose track

## Level 1



The first step of keeping track of work is to be able to create new tickets and easily view them somewhere.

Create an interface that you can submit a new task to be completed for a project and view all tasks in a list.

## Level 2



Typically work tasks involve a lot more than a title. There's a lot of context for complex problems that you need to capture inside of the ticket so those details don't get lost and you understand the problem when coming back to it.

Add the ability to include a description on each task. Bonus: include the ability to add acceptance criteria to satisfy the requirements of a ticket.

## Level 3



Depending on the complexity of the project, the task list can easily get huge and overwhelming to try to keep up with.

Categorizing tasks is a good way to manage groups of work and prioritize what you need to get done.

Add the ability to tag each task with a category and view only the tasks of each category.

## To Do

- Create an app
- Create UI to submit task
- Create database
- Add submit function
- Add view all function
- Add description field
- Add acceptance criteria
- Add categories
- Add ability to tag tickets

## Toolbox

MongoDB

**TICK-1**



**TICK-2**



**TICK-3**



**TICK-1**



**Requirements**



**Description**



**Comments**



# Newsletter

Create a personal newsletter and add a subscribe form to your website.

## Brief

Email is a great way to communicate with others. Newsletters are a tool that let you communicate with others on a larger scale. If you're working on something you think people should know about it, a newsletter is a great way to show them

## Level 1



While you can create your own mail system, there are already a lot of great tools that you can use free like Convertkit and Mailchimp. These tools let you set up your own subscriber list and send out emails to them all with an easy-to-use UI.

Create an account with a newsletter service of your choice

## Level 2



In order to get subscribers to your newsletter, you need a way for them to sign up. Most platforms provide a way to create a signup form or landing page to make that happen.

Create a signup form that people can use to sign up for your newsletter. If it's only the form, embed it on your website.

## Level 3



When sending a newsletter, services come with some default templates, but they're not personalized for you.

Create a new template for your newsletter that you can use on your first email.

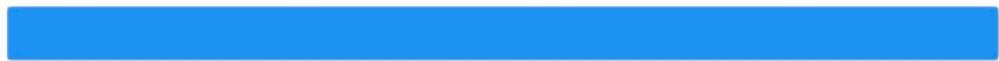
## To Do

- Pick a newsletter service
- Create an account
- Create signup form
- Add signup form to page
- Create email template

## Toolbox

Convertkit  
Mailchimp  
gatsby-plugin-mailchimp

# My Website



**Sign Up**

# Flash Cards

Create interactive flash cards that you can flip, sort, and mark as done.

## Brief

Flash cards are great way to learn a heap of information in a short period of time. It helps engage your brain with active recall to help as you work through the cards.

## Level 1



Having a good list of questions, phrases, or keywords along with the answers is important to setting up a good deck of flash cards. Setting up a mechanism to hide the answer until we try to answer it ourselves is important to the tool.

Create a list of questions and answers where the answer for each question is hidden until you click a button

## Level 2



While being able to go through a list of questions is helpful, part of the reason flash cards are effective is because you can focus on one at a time as you move through the deck.

Update the layout of the list of questions and answers so that only a single question and answer pair shows as once. You can also present this as a card like a physical flash card

## Level 3



Once you've correctly answered a question on a flash card and feel confident about it, you can typically set a card aside.

Add the ability to mark each question as "done" when moving through the cards to temporarily remove it from the full "deck" of flash cards.

## To Do

- Create list of questions
- Add hidden answers
- Show answers on click
- Show one card at a time
- Update layout to a card
- Add mark as done button
- Hide finished cards

## Toolbox

Firebase



## Thing to Learn

**16/20 Completed**

# Mood Board

Create a mood board to upload images and add notes for project inspiration.

## Brief

Gathering inspiration for a project can get messy if you're just using a folder on your computer. Also, which folder are you using? The one on the Desktop or the one in Documents? Mood boards are a great way to keep those pieces of inspiration and thoughts organized in one place.

## Level 1



Mood boards are generally made up of the ability to add a bunch of images in one place. Kind of like creating your own Pinterest board, but more focused.

Create a webpage that has a gallery of images

## Level 2



Sometimes images don't communicate the entire story. Often you'll see mood boards have the ability to add notes or a comment, whether attached to an image or as part of the mood board itself.

Add the ability to attach a note to an image or add a note to the mood board.

## Level 3



Every time we want to add an image or a note, we don't want to have to manually update code, it's helpful to have an management UI and even a way to reorder.

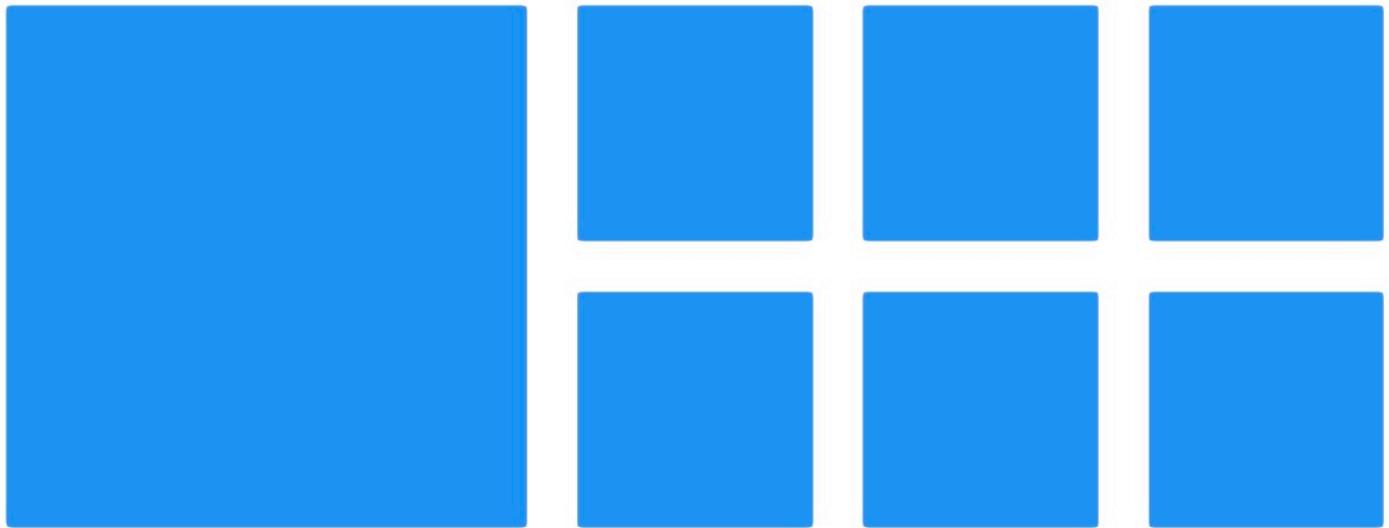
Add a content management system to manage the images and notes.  
Bonus: add the ability to rearrange each item

## To Do

- Create webpage
- Add gallery of images
- Add image notes
- Add page notes
- Set up CMS
- Migrate content to CMS
- Integrate CMS

## Toolbox

Cloudinary  
use-cloudinary



# Bookmark Manager

Create a bookmark manager that allows you to store website links for later.

## Brief

Having a way to store your bookmarks means there's a better chance you're going to actually look at those bookmarks in the future. More often than not, we're left with the browser bookmarks manager that ends up getting full and forgotten.

### Level 1



An easy way to view and use bookmarks is by having a webpage where you can see all of the links in some logical grouping and have the ability to click right into the bookmark.

Create static lists of bookmarks grouped by categories.

### Level 2



Having a static list of bookmarks is an easy, performant way to view your bookmarks, but it's probably not the easiest way to manage your bookmarks.

Use a database to manage the bookmarks. Create a form to add new bookmarks and add the ability to remove bookmarks.

### Level 3



Having a list of bookmarks is great, but we might not necessarily want to go through all of the steps to add it each time we want to add a bookmark. We want something easy with one or very few clicks.

Create a bookmarklet to easily add a new bookmark.

## To Do

- Create page
- Add static bookmarks
- Group bookmarks
- Add links to database
- Add create form
- Add remove button
- Create bookmarklet

## Toolbox

FaunaDB

# Bookmarks

**Group 1**



**Group 2**



**Group 3**



**Group 4**



**Group 5**



**Group 6**



# Budget Manager

Create a budget manager to track and manage finances and expenses.

## Brief

Managing finances is hard. Keeping track of everthing you've purcahsed includes lots of math that nobody wants to do. Plus, you might not be willing to give a web company all of your financial data to do it for you

## Level 1



The most common way of looking at financial data is a table. It's a good way to visually sort through large amounts of data using columns to add up numbers.

Create an editable table that you can add expenses as rows.

## Level 2



Like anything else, having a static website where we manage features in the code is usable and performant, but maybe not the easiest way to manage it.

Add your budget to Google Sheets and use the Sheets API to access the data.

## Level 3



Using tables is a common way to look at data, but sometimes you want a simple overview instead of having to pick through each row and figure it out yourself.

Create a dashboard of simple statistics and information that you would need for a quick look.

## To Do

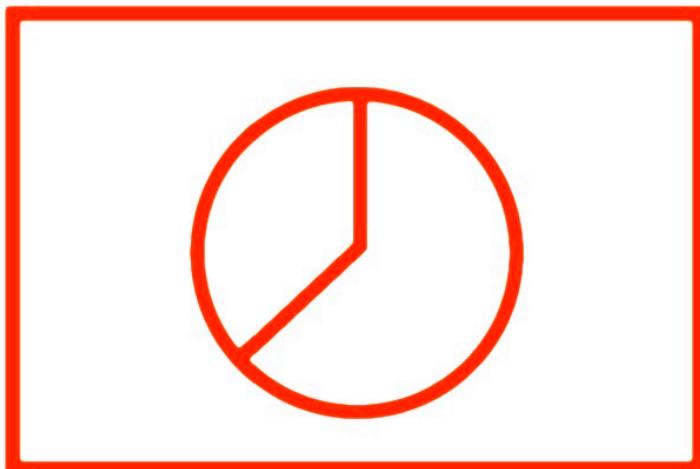
- Create table
- Add rows of data
- Add form to add rows
- Add ability to remove row
- Add data to Sheets
- Fetch data from API
- Use Google OAuth
- Add stats dashboard

## Toolbox

Google Sheets API  
sheet2api

# Budget

Date Range



## Overview

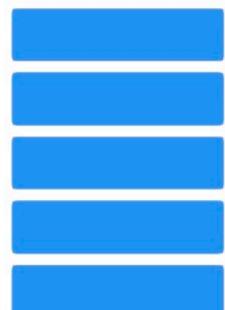


Purchase

Category

Date

Cost



# Habit Reminder

Create a goal management dashboard to add, track, and modify your goals.

## Brief

Habits are hard to create. Maybe it's fixing your posture or trying to drink some more water, having a tool that can remind you every so often can go a long way to helping you develop that habit.

## Level 1



Setting up a reminder for a habit is usually based on time. We can focus on one habit at a time and create a timer that will send us a reminder every so often.

Create a timer that sends a recurring notification based on a selected time interval.

## Level 2



Most of us probably have a few things we want to try to develop a habit for, so having a single timer can prove challenging to develop them all.

Add the ability to manage multiple timers with unique labels and time intervals.

## Level 3



Ultimately developing a habit means we want to improve on something and tracking our progress can help motivate us towards reaching a goal.

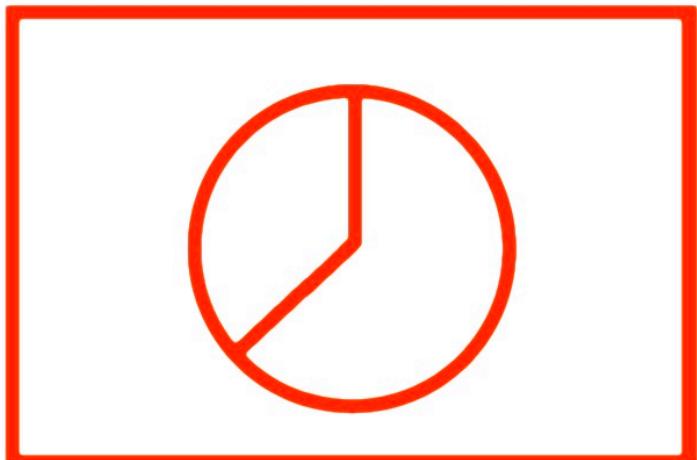
Add the ability to make a habit as done and track the progress of completed habits.

## To Do

- Create timer
- Create interval control
- Add multiple timers
- Add labels
- Add custom intervals
- Add ability to mark done
- Track progress of habits
- Show graph of progress

## Toolbox

TypeORM



## Upcoming



**99**  
Stat

**99**  
Stat

**99**  
Stat



# Shopping List

Create a shopping list to add and manage groceries to buy at the store.

## Brief

Whether or not we're physically going to the store to get them, we all need groceries. That includes things like snacks, drinks, or the different items we'd need for a recipe. Having a shopping list is a good way to remember what we need.

## Level 1



The goal of a shopping list is to be able to add items and check them off once they're found or purchased. This helps keep track of what we need and what we already have.

Create an app that allows you to add items to a list and mark them as done.

## Level 2



Sometimes when you're adding something to your shopping list, you want a specific brand that might be confusing to find. Having a photo or description can help explain what you need.

Add the ability to add a photo to a list item or a description.

## Level 3



We're not always the person who goes to the grocery store and gets the things we need for the week, maybe its a roommate or a loved one. Being able to share the list is helpful to make sure that person knows what all you need from the store.

Add the ability to share the list with another person.

## To Do

- Create a new app
- Add a list of items
- Add button to add item
- Add button to mark done
- Add photo attachment
- Add description field
- Add sharing

## Toolbox

Firebase

# Shopping List

	<b>Add New Item</b>
--	---------------------

	Categories
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	

# Notebook

Create a notebook app to add, manage, and organize a group of notes.

## Brief

Taking notes is a great way to make sure we keep track of our thoughts or remember the important takeaways from a meeting. Being able to easily manage them and organize them is important for finding them later!

## Level 1



## To Do

- Create a form
- Store new notes
- List notes
- Add tags or categories
- Add note search
- Add note network

## Toolbox

Gatsby Brain  
Fuse.js

Create form to add new notes and view them in a list.

## Level 2



In order to find your notes later, you want some way of organizing those notes and a way to look them up. That includes adding categories or a tagging system as well as a UI to make searches from.

Add the ability to tag or categorize notes and an input to search through them with.

## Level 3

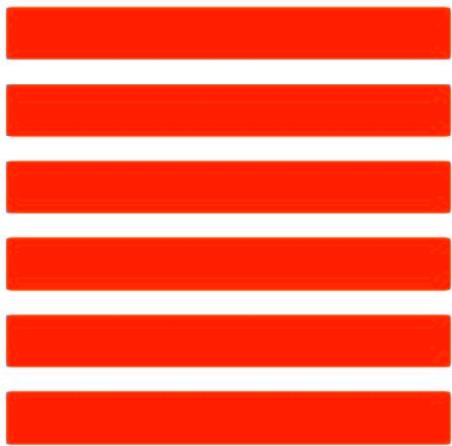


Whether we realize it or not, we can find connections between our thoughts and more importantly our notes, where we can take advantage of that network of thoughts for our notebook.

Add Roam Research-inspired linking of notes to create a network of thoughts

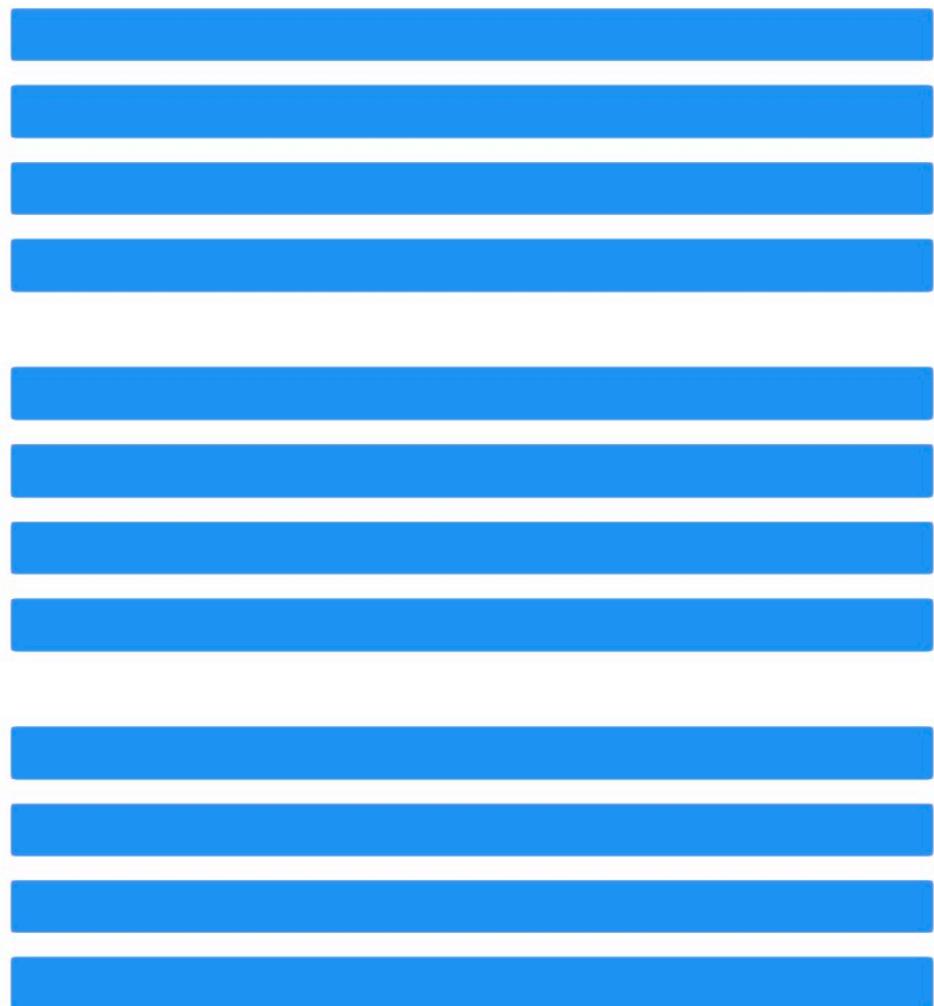
Search

## All Notes



## My Note

Category • Date





# Mad Libs

Create a mad libs game with templates to add words to phrases.

## Brief

Mad Libs is a game created in the 1950's where you have a story or phrase that's missing words. These missing words have categories associated with them whether the type of word or topic.

## Level 1



The basis of Mad Libs is having the story to start off with. With the story, we can replace some words with empty spots for the player to fill in.

Create a story template with select words replaced with text inputs that specify a category of word to add.

## Level 2



Having only one story means the game is going to stop pretty quickly. We would want to have multiple stories where we can save the answers for each one.

Create a few more stories and the ability to save and reset the answers to each story.

## Level 3



The fun with Mad Libs comes when you can read the story out loud and hear how crazy it turned out. Why not let someone share their laughs with the world?

Add the ability to share a saved story with a link.

## To Do

- Create a story
- Remove key words
- Add text inputs
- Add word categories
- Add more stories
- Add save button
- Add reset button
- Add share button

## Toolbox

Fillerama

The image shows a user interface for a form. It consists of several horizontal blue bars representing input fields. Three specific input fields are highlighted with a red border: one in the second row, one in the fourth row, and one in the fifth row. These red-bordered fields likely indicate required or active fields.

**Save**

**Reset**

# Frogger

Create a frogger-like game with a goal of getting a chicken to cross a road.

## Brief

Frogger is a classic video game where you have a frog that needs to get to the other side of a road without being hit by traffic (cars). It can be challenging as you have to get the timing and the movements just right to survive.

## Level 1



The idea behind Frogger is that the player controls the character's movement. They need to move through each layer of the space (the road) to get to the other side.

Create a game where the player needs to move a chicken around objects on the road to get to the other side.

## Level 2



Let's make this more challenging. Moving around stationary objects isn't too bad, but what if they were moving?

Make each object that the chicken needs to avoid move horizontally in their "lanes".

## Level 3



Now that it's challenging, we want to have more levels. And not only do we want to have more levels, we want to make them more fun.

Add a few more levels and take some time to update the chicken and other game objects to something fun. Try adding some sound effects between when the chicken moves, gets hit by something (oh no!), or if they successfully cross the road!.

## To Do

- Create scene
- Create characters
- Map movements to keys
- Add obstacles
- Add position detection
- Add success events
- Add fail events
- Add obstacle movement
- Add additional levels
- Add sound effects
- Add something fun

## Toolbox

Recoil



# Jigsaw Puzzle

Create an interactive jigsaw puzzle game that lets someone fit pieces to solve.

## Brief

Puzzles are a fun way to take a piece of art or a familiar photo and turn it into a game. Taking the time to fit each piece leaves you with a rewarding feeling on that last piece.

## Level 1



A puzzle at its core leaves a bunch of pieces in an illogical order that you need to put back in the right place to solve. Making sure each piece is in the right place is important to solving the challenge of finishing the picture.

Create a basic puzzle of an image made up of divided squares in the wrong order and place.

## Level 2



Part of the fun of puzzles is the ability to pick an image out that you're interested in or even personalize it to something you enjoy.

Add the ability to upload a custom image that is used for the puzzle pieces.

## Level 3



Real life puzzle pieces are complex. They have sockets and knobs that intricately fit with each other to make up a larger picture.

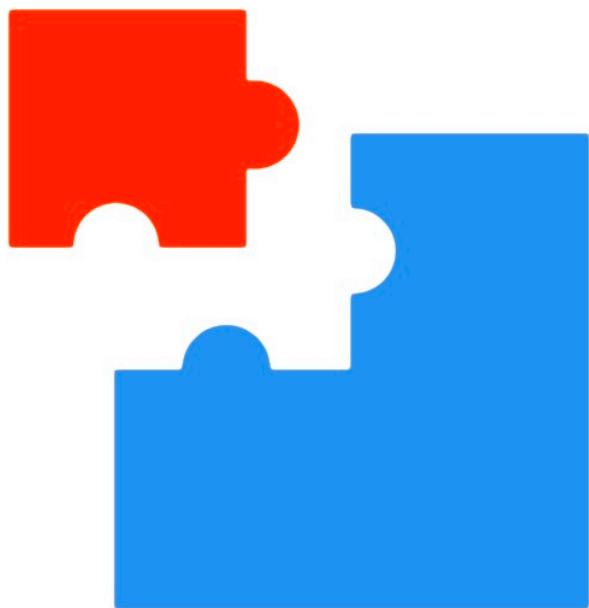
Configure the puzzle so each piece has randomized knobs and sockets that fit the adjacent pieces to make up an image.

## To Do

- Find an image
- Split into pieces
- Randomize pieces order
- Drag and drop pieces
- Add image upload
- Use custom image
- Add complex shapes

## Toolbox

interact.js



# Tetris

Create a tetris-like game that requires someone to rotate shapes to fit like a puzzle.

## Brief

Tetris is a puzzle game that never seems to go out of style. Regardless of the theme, at its core, tetris is made up of shapes of blocks that you need to use to complete rows to avoid overflowing the available space

## Level 1



The main player control of Tetris is that you're able to move a single object left and right as it falls to the ground. This helps line up the blocks as they stack up.

Add a single object made up of blocks that naturally falls down with the ability to move it left and right. Once that object falls, another object should fall after.

## Level 2



An additional control you have as a player is the ability to rotate each shape 90 degrees at a time.

Add the ability to rotate the shape as it falls 90 degrees.

## Level 3



The goal as you position the shapes is to try to complete a row. Doing so removes that row from the play area, which helps prevent the blocks from overflowing.

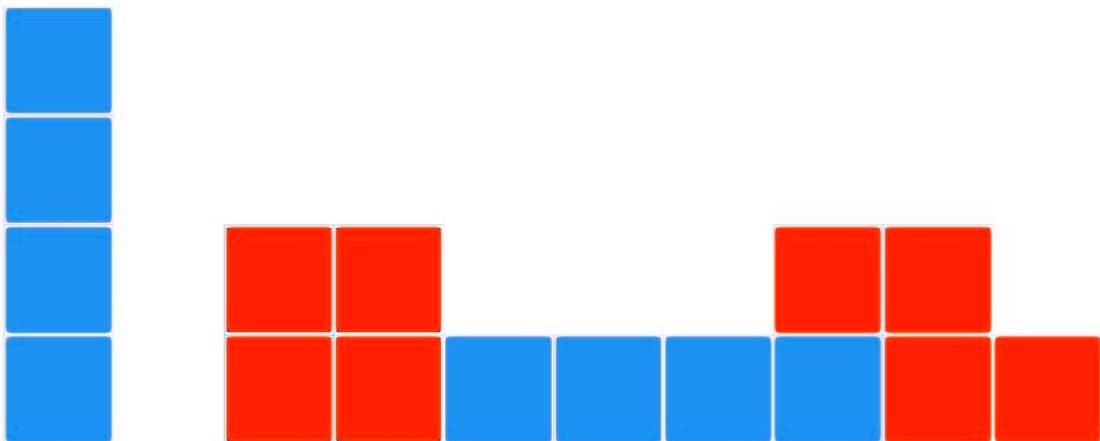
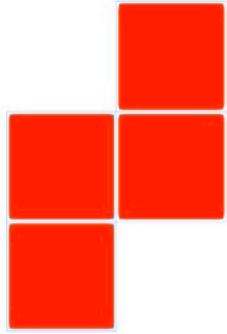
Remove a row from the play area once it's completed.

## To Do

- Create a play area
- Add blocks
- Add shapes of blocks
- Add falling shape
- Add shape stacking
- Add shape movement
- Add shape rotation
- Add shape completion
- Add Game Over when full

## Toolbox

React Hooks



# Space Invaders

Create a space invaders spacecraft shooter game to shoot multiple waves of enemy ships.

## Brief

Space Invaders is an arcade classic that puts you in a spacecraft up against an alien invasion. As you try to shoot them down, they're firing back, and you only have a limited amount of protection before you're open to being hit.

## Level 1



The core part of the game is that you're moving around a spacecraft trying to hit a bunch of aliens with your weapons. While there's one of you, there's many of them.

Create a spacecraft that can move around and shoot aliens that are not moving.

## Level 2



What makes the game tricky, is that the aliens are constantly moving. Every time they hit the edge of the play area, they drop down and speed up getting closer to your ship.

Add movement to the aliens going side to side on the play area. Every time the aliens reach one side they should drop down a level. They should also speed up at certain intervals.

## Level 3



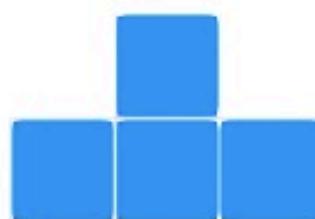
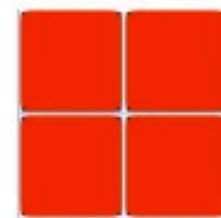
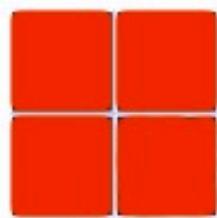
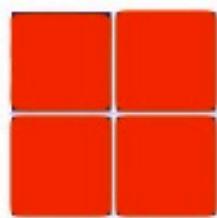
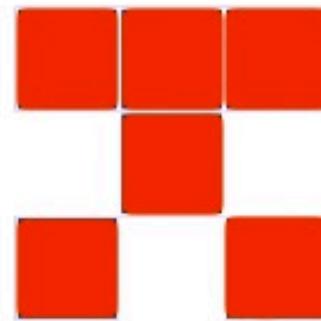
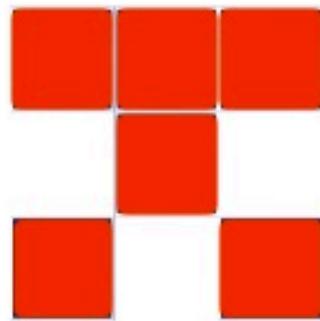
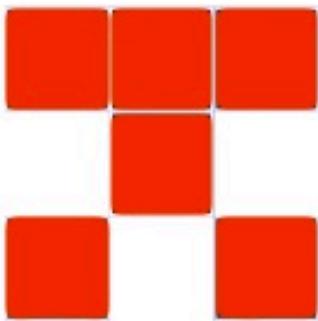
You're on your own, but luckily you can get some protection. You have shields that you can hide behind that help protect you while they last.

Create several shields in front of the player spacecraft that can take a limited amount of damage

## To Do

- Create a new game
- Create static aliens
- Create a player spacecraft
- Add spacecraft controls
- Add spacecraft weapon
- Configure alien damage
- Make aliens shoot back
- Make aliens move
- Add alien intervals
- Add shields

## Toolbox



# Cards Against Humanity

Create a card game that matches words and phrases to fill-in-the-blank statements.

## Brief

Cards Against Humanity describes itself as “a party game for horrible people”. The game involves a deck of cards where one type of card presents a fill-in-the-blank phrase with other cards that are meant to fill in those phrases.

## Level 1



The game revolves around the deck of cards with two types. In order to play, we'll want the ability to choose between two different types.

Create a deck of cards with the two card types that allow you to cycle through the different options

## Level 2



While everyone uses a single fill-in-the-blank card, everyone playing the game gets a few of their own word or phrase cards.

Add the ability to assign groups of cards to others people playing the game.

## Level 3



Part of the fun with Cards Against Humanity is the funny phrases that end up coming up with the mixing of words and phrases. That's a perfect opportunity to share with friends!

Add the ability to save funny matches to someone's device or share them on social media.

## To Do

- Create 2 decks of cards
- Add ability to cycle cards
- Add card assigning
- Add card match saving
- Add card match sharing

## Toolbox

-

**Coming to  
React Conf  
next year:**

**Why**

---

**are the worst.**



**React Hooks**



# Component Library

Create a component library for an online music video games, and movies store.

## Brief

You work for a large scale ecommerce website that sells music, video games, and movies. Your team wants consistent and reusable components across the website, so your assignment is to create a component library to support the project.

## Level 1



The most visually appealing way to display a collection of media is to use the poster or album artwork in an easy-to-use way like a grid.

Create a new component library with Storybook.js that includes the following base components:

- Poster: a single media item represented by its artwork
- Poster Grid: a grid of Poster
- Media Details: a media item's metadata including Poster

## Level 2



Maintaining a component library includes making sure the components always work. To do this, we can use snapshot testing to automatically test our components.

Use the Storybook add-on StoryShots to add snapshot testing

## Level 3



The purpose of building a component library is to use it in a project. Using your newly created component library, create a new React app using your favorite framework that shows the your store's available music, video games, and music (or your favorites of each).

## To Do

- Create a new project
- Install Storybook.js
- Create Poster
- Create Poster Grid
- Create Media Details
- Add StoryShots
- Create app

## Toolbox

Storybook.js  
StoryShots

# Store Name

## Movies



## Music



## Video Games



# Custom React Hook

Create a custom hook that allows you to fetch the movies from the Lord of the Rings API.

## Brief

You're creating a fan review website for the Lord of the Rings and need movie details. To do that, you need to make requests to the API on multiple pages, so having a reusable hook would be helpful. Your assignment is to create a custom hook that you can use on any page to request movie info from the API.

## Level 1



To build a custom hook, the first thing you need is a file that exports a custom function. You can do this manually or you can start your entire project automatically by using the `useCustomHook` starter template.

With the skeleton of a hook, the main purpose will be to fetch data from the API. Set up a request mechanism using the browser fetch API or your favorite request library.

## Level 2



Part of a good request API is the ability to understand where the request is at during each part of its lifecycle. This includes stages like: loading, success, and failed.

Using React state, configure a variable that you can return from the custom hook to let the component know what stage the request is at in its lifecycle.

## Level 3



Ultimately a custom hook is created to be used. Publish the new hook to npm ([npmjs.com](https://npmjs.com)) and set up a new project using the custom hook package. For an advanced feature, add the ability for people to review each movie!

## To Do

- Create a new hook
- Create a new request
- Create request states
- Publish to npm
- Create an example

## Toolbox

Lord of the Rings API  
`useCustomHook`

# Movie Title



## Reviews

Four horizontal blue bars, each serving as a placeholder for a movie review.

## Characters

Four horizontal blue bars, each serving as a placeholder for a character description.

## Quotes

Four horizontal blue bars, each serving as a placeholder for a movie quote.

# Framework Theme

Create a custom hook that allows you to fetch the movies from the Lord of the Rings API.

## Brief

As developers, we commonly have to do a bunch of similar steps any time we create a new project. But tools like themes let us abstract those steps and package it in a easy to use way that can work for any new project

## Level 1



## To Do

- Create a new theme
- Add to example project
- Create new style page
- Add CSS framework
- Use CSS in example
- Create components
- Use components

## Toolbox

Gatsby Themes  
Tailwind

Create a new Gatsby theme that when used, creates a new a style guide page on any project it's added to.

## Level 2



The goal of themes isn't just to create pages, but to add functionality that makes us productive. This includes things like frameworks and project configurations.

Add a CSS framework to the Gatsby theme that lets the project it's added to use that framework

## Level 3



Sometimes themes are better only the tools, sometimes it's helpful to be opinionated. One way to add useful functionality to a CSS framework is to create stock components.

Create resuable React components using the CSS framework that can be used in the project the theme's added to

# **Header 1**

## **Header 2**

### **Header 3**



# CSS Animation Library

Create a CSS library that includes easy-to-use loading spinners and animations.

## Brief

When dealing with a website that makes any type of request, often you'll want to provide some sort of visual feedback so the person knows the app is responsive. We can do that with loading indicators that only show when the request is loading.

## Level 1



In order to show a loading indication, we need to have them available. Sometimes they take the form of something spinning around, other times they might appear to flash and glow with light gradients and colors.

Create loading icons and indicators that animate with CSS.

## Level 2



More often than not, a single style doesn't fit all websites or apps. We want to be able to provide a way for others to customize it to their own liking including the color of the loading indicator and even the size.

Add the ability to customize color and size of the spinners and animations with CSS.

## Level 3



When creating a library, we want to be able to provide a way for someone to easily import it and use it in their project.

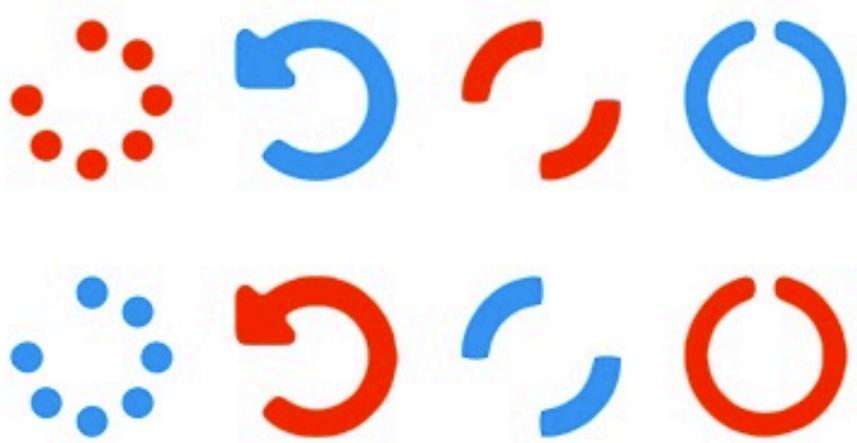
Package and configure the spinners and animations so they can easily be used in another project.

## To Do

- Create loading icons
- Animate icons
- Add style customization
- Package library
- Make easy to import

## Toolbox

SASS



# Custom GitHub Action

Create a custom GitHub Action that notifies Slack with pull request updates.

## Brief

GitHub Actions are a powerful tool that allows you to automate code tasks and really anything on a scheduled or triggered basis. One great use is to send notifications to Slack whenever a new Pull Request is made.

## Level 1



One of the hooks we can tap into with GitHub Actions is the ability to run some code when Pull Requests are created. We can also grab contextual information about that Pull Request to get details like who created the request.

Create a GitHub Action that logs information about a Pull Request when it's created.

## Level 2



Logging info to the GitHub Action console is useful to make sure it works, but that's not practically helpful when trying to find out that information as it happens.

Configure the GitHub Action to post the message to Slack with a link to the Pull Request.

## Level 3



In order to make a GitHub Action useful between different projects, it helps to provide the ability to pass in configuration options to the workflow.

Add input configuration options so other projects can use the action with their own Slack and git instance.

## To Do

- Create a custom Action
- Trigger on Pull Request
- Log Pull Request details
- Post details to Slack
- Add Pull Request link

## Toolbox

Slack API  
ncc

**No layout for this one!**

All your work will be in **Github**.

# Framework Starter

Create a Next.js starter that scaffolds a new blog app automatically.

## Brief

Starters are a great way to quickly and easily bootstrap a new application. If you find yourself constantly going through the same steps each time you create a new project, a Starter can help eliminate those steps and get you moving faster.

## Level 1



At its core, a Starter is simply a project using the framework of your choice that you clone to use. Getting started with creating a new Starter is as simple as creating a new project.

Create a new Next.js app with its own repository on Github.

## Level 2



Usually when someone uses a Starter, it's because it offers something out of the box that the default doesn't provide. Since we're building a blog, we want to have pages for that blog out of the box.

Add a blog list and blog post page that automatically creates new pages based on static content.

## Level 3



If we're managing a blog, it's useful to be able to manage it through a CMS instead of editing raw files. We can provide an easy way for someone to get started with a CMS service with this starter.

Configure the Starter to work out of the box after simple setup with a custom CMS.

## To Do

- Create a Next.js app
- Add to Github
- Add blog pages
- Add sample content
- Add CMS configuration

## Toolbox

Next.js  
MDX

Title

**Post**

**Post**



# Search

Add a search form and results page to a website or app.

## Brief

Websites and apps of all types and sizes can be difficult to navigate with all of the information available. Adding search to a website is a common way to let people sort through the piles of content to find what they're looking for.

## Level 1



Adding a search form with an input is a basic way to provide search capabilities to a website. Coupling that with narrowing down results from that query helps people find what they need.

Add a search form with an input to an existing website or application and use Fuse.js to search through a list of content that's available on your project

## Level 2



Using search alone might be too broad. Having lots of content can only narrow down results so far with a keyword.

Add filter options that allow someone to select categorizations or labels that actively filter the content when selected.

## Level 3



As websites get larger, so does its content. It doesn't always make sense to include a huge list of content right on the page to search with.

Create a serverless function that loads an index file of all available content that uses the existing Fuse.js search to return results as an API request.

## To Do

- Add a search form
- Add list of content
- Search list with Fuse.js
- Add filter inputs
- Filter content list
- Add serverless function
- Add search to function
- Search with function
- Add filters to function
- Filter with function

## Toolbox

Fuse.js

# Blog

## Post



**Search**

## Post



## Filters

Category

Category

Category

## Post



## Post



# Webmentions

Add webmentions integration to a website that shows Twitter interactions with the website.

## Brief

Social interaction is an impactful way to bring more of an audience and conversation to topics we write about. Having something on a website to show that interaction can be helpful to both inspire people to want to get involved or let people feel like they can be part of it.

## Level 1



In order to make use of Webmentions, a website needs to be configured with meta tags to provide information.

Add the proper meta tags to a website and validate its use with [webmention.io](#).

## Level 2



The Webmentions API is a way to programmatically see connections in social interactions from a URL of your website. It lets you get the type of interaction and even the person's profile avatar.

Connect a website to Webmentions and add a list of social interactions to blog post pages.

## Level 3



Now that the website is showing all of the interactions, there should be an easy way to join the conversation.

Add a social link that when clicked creates a tweet with a link to the page.

## To Do

- Add meta tags to website
- Validate meta tags
- Connect to Webmention
- Connect social to Bridgy
- List interactions
- Add tweet button

## Toolbox

[webmention.io](#)  
[Bridgy](#)  
[Gatsby Plugin Webmention](#)



**99 Likes**



**99 Retweets**



**Tweet**