Spring & React Project: bookYeet

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Background

Personal Learning Goals

Andrew
- Understand how Spring and React link
- Further concept design skills with Figma and implement design with CSS
- Gain core React skills
- Integrate barcode / camera book scanner

Ann
- Further understanding of collaborative Git
- Practice Java/Spring
- Practice JavaScript/React

Mat
- Gain an understanding of full-stack in React/Spring
- Integrate geolocation data
- Integrate scanning barcodes
- Implement external API

Matt
- Implement an external API tool
- Combine Java/Spring backend with a JavaScript/React front end
- Use media queries for scalability
- Integrate camera barcode scanner within app

Yana
- Experience working in a team producing a full stack app, github collaboration
- Front end and CSS
- To get more confident at solving problems by researching (Stackoverflow etc)

MVP - Take My Books (BookYeet)

Create a book sharing app for users to give, take or swap books between each other.

- Users should be able to both share their books and take books that are being shared.
- App is to be community focused for local people to share unwanted books within a geographical location (i.e. a specific city)

Limitations

App to be designed, developed and prototyped over a 7 day sprint. Developed by a team of 5 developers. App will assume user authentication has already been completed.

Extensions

- Book could view available books by location on a map based on a User's postcode outcode (e.g. EH12, EH3)
- Books could be added by scanning their barcode.
- Could be able to swap a book for a book the other user is offering.
- Users can create a 'WishList' of books they would like to swap for.
- Show users likely to swap by compatibility of shared books and wishlist.

API & External Package Search

Book cover to show in the app

=> API

X   **Open Library RESTful API**

Allows book title and author fetches. Would be an issue with the barcode request.

✔   **Barcode Lookup API**

Retrieves the book cover in function of the ISBN (International Standard Book Number).

Scan books to add them to library

=> Package

X   **Javascript-barcode-reader**

X   **Javascript barcode scanner**

X   **Barcode Scanner**

All require the use of a barcode scanner or an image.

✔   **QuaggaJS**

Can scan from your computer camera

Planning

Expected Challenges

Fully Remote Team Work

> => Collaboration tools

- Communication (Slack, Zoom, Discord)
- Trello Board (links)
- GitHub

First Time Spring/React Integration

> => Strategy

- First built server with all routes we expected to need, then we built front-end to hit those routes

Planning: Trello

- Hard to plan ahead because of lack of experience

- Board updated every day in function of progress/new ideas
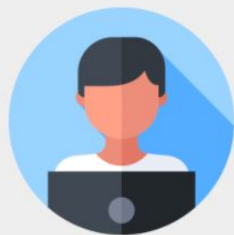
- Handy to keep us updated as a team

- Prevent work overlapping
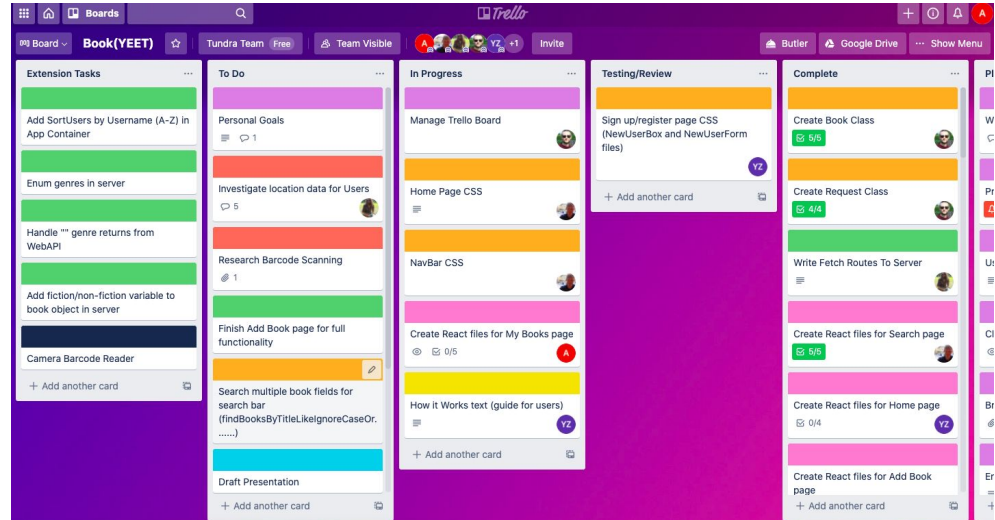
Proto-Personas: PersonaGenerator

Name: Matt
Age: mid 30's
Status: Married
Occupation: Software Developer

Needs:
To give away some books and occasionally get some
new ones to read

Criteria For Success:
Needs a book exchange platform to connect with people wanting books

Values:
- Community-driven
- Self-development

Name: Richard
Age: 78 yo
Status: Widower
Occupation: Happily Retired

Needs:
A quick and easy way to give away books to people in the community

Criteria For Success:
An easy to use app to help him give away the massive book collection from his deceased wife

Values:
- Community-driven
- To give to the next generation

Name: Elizabeth
Age: mid 40's
Status: Mum of 2 (7 and 10 yo)
Occupation: Nurse

Needs:
An easy and affordable way to find new books for the kids to read

Criteria For Success:
- Ability to give away books the kids are done reading
- Ability to get a variety of new books to entertain the kids

Values:
- Community-driven
- Environmentally-friendly
- Reading as a way to learn

Wireframes: Figma

Wireframes: Figma
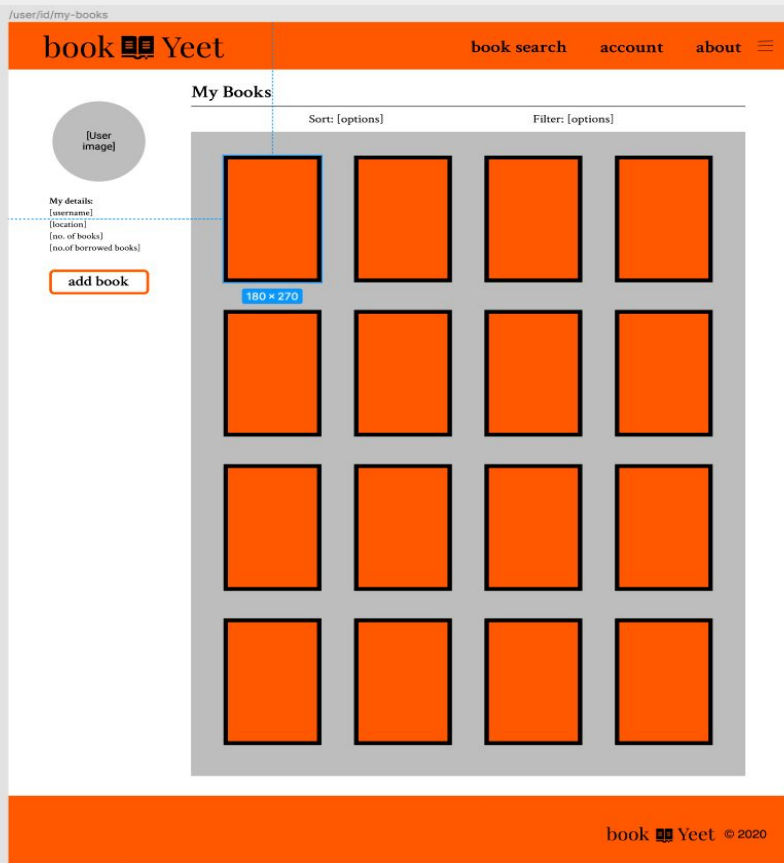
Entity Diagram: Drawio
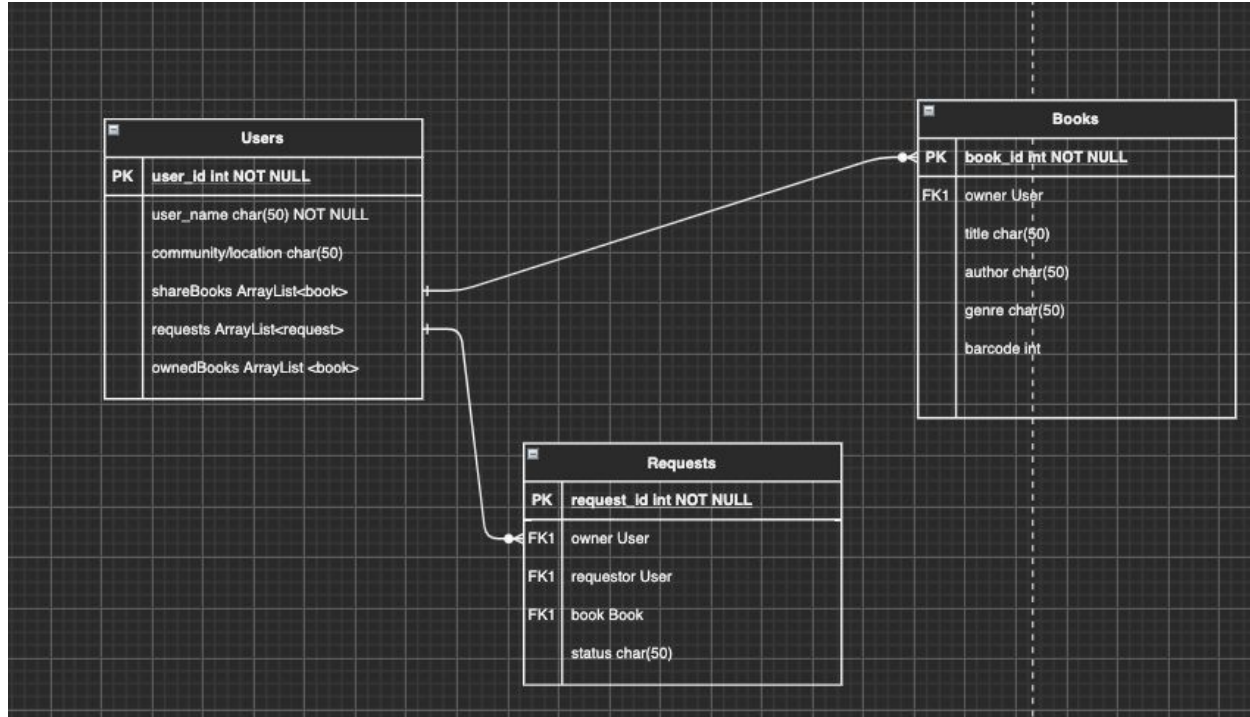
Demo

Learning Outcomes

Expectations vs. Reality

"Just a simple book-sharing app, won't be too hard."

Our front-end grew exponentially every time we thought about it…

"How in the hell does React talk to SPRING?!?"

Quite simply. Don't be scared of a technology just because you haven't used it yet.

"9.15, let's start coding!"
"5+ merges and fixes later… lunch, anyone?"

Group Learning Outcomes/ Lessons Learned

- Fully remote work involves a learning curve
- Planning is essential but even then (Spring/React integration)
- Test…Test…Test….
- Nail the MVP first
- Don't overstretch; more on that later…

Personal Learning Experience

Andrew

- Communication is essential
- Internet connections are fickle

Ann

- RESTful routes
- At the moment, I do not like React/JavaScript

Yana

- Fully remote collaboration
- CSS
- React

Mat

- Asynchronous is a-headache
- Remote collaboration is hard
- Remote collaboration is not as hard as I thought if you practice good Git Hygiene.

Matt

- Group dynamics are unpredictable
- Lots of different specialities
- We could have done with a scrum-master!

Gitastrophy

Or the fine art of not having any…

- Check your branches every time
- Git commit often
- Stable code? Git merge often (before you start/ after you are done)
- Once more the folks in the back… Communication is key
- Ask for help if unsure

What We Are Proud Of

Matt: Search-bar - moved the logic server-side and it's really smooth.

Mat: Requests - updating gives immediate feedback through conditional rendering.

Ann: I SURVIVED!

Andrew: Front-end design closely matches the plan/vision.

Yana: Teamwork - everybody has different strengths and all were utilised.

:-)

Should We Have Had More Time...

Our Goal

A community focused, easy to use, book swapping app

Sharing your favourite reading experiences with local people

No lengthy uploading processes

No packaging and posting

No more bookshelves stacked high

No cost! £££

The Missing Community Piece

You are at 55° 57' 32" N, -3° 13' 10" E.
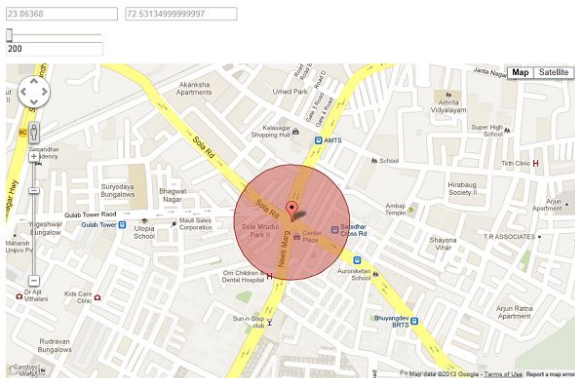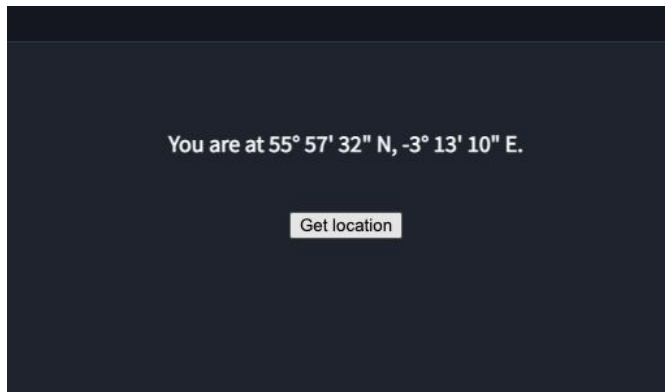
[Get location]

Maps - leaflet/google maps

Geolocation - react-geolocated

Longitude/Latitude Area Radii - Haversine Formula

Swapping, not Charity

Book for a Book

Most of the functionality to not just give away a book, but to swap it for someone else's book that you were interested in was developed so this would have been an easy one to to have completed with an extra day or two.

Wish Lists

Flag books that you are interested in swapping for.

The app would aim to match local people with cross-references for a happy swap.

The Pièce de Résistance - Camera Barcode Scanning

Camera barcode scanning with Quagga

Scan your book's barcode for the App to access

Send this barcode to the Barcode Lookup API,

Automatically generate all the data you need! (Title, Author, Genre and Cover Image, and so much more)

Questions