

# Carleton Classifieds: Building a Marketplace to Connect the Carleton Community

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Josh Oettinger, Tresa Xavier

Zoom goes here



# Goals for this Project

- Complete user research to see what needs of the Carleton community are not currently being met in the area of buying and selling
- Build a web-based classified ads system that effectively addresses all of the above requirements
- Complete usability testing on the system, implement feedback, and deploy to the Carleton community

# Presentation Roadmap

- User research
- Design and architecture of the front end and back end
- Site demo
- Back end functionality
- Steps for the future

# User Research

Process & Requirements

- Who We Interviewed
- Questions
- Requirements



# Current Systems in Place

The screenshot shows a Facebook group page for 'Free & For Sale'. The page has a sidebar on the left with navigation options: 'Open group within Carleton', 'About', 'Discussion', 'Your Items', 'Members', 'Photos', 'Events', 'Files', 'Search this group', and 'Shortcuts'. The main content area displays two posts. The first post, from 13 hours ago, is a text-based post asking if anyone is looking for a bicycle with a lock and helmet for a discounted price. The second post, from 18 hours ago, is a photo post showing a patterned sweater and a t-shirt with a Minion character, with a '+20' icon indicating more photos. Below the posts are options to 'Like' and 'Share'. At the bottom, there is a post from May 11 at 9:38 PM seeking subletters for an apartment.

For students: Free and For Sale

The screenshot shows a Facebook group page for 'carlslist.group@carleton.edu'. The page header includes the group name and 'to Abridged'. The main content area features a 'Today's topic summary' section with a 'View all topics' link. Below this is a list of updates:

- Mirror - 2 Updates
- Antique Oval Frame - 1 Update
- Play boat, car ramp, dinosaurs, and magnetic dolls - 2 Updates
- Dishwasher - free - 1 Update
- SOLD! Comforter, frame, etc. from IKEA \$75? - 1 Update
- Free Pots and Pans - 2 Updates
- ISO of Alpine ski poles 140cm - 1 Update
- ISO rats to pet - 1 Update
- Keens - 1 Update

For faculty/staff: CarlsList

# Interviews

- Google Survey posted in Facebook class groups and on CarlsList
  
- In Person Interviews

# Questions We Asked

In our broad survey: keep it simple

- Are you a member of Free and For Sale /CarlsList?
- Have you ever bought items using the group?
- Have you ever sold items using the group?
- On a scale from 1 - 5 (1 = almost never, 5 = every day), how often do you check the group?



# Who We Interviewed

- Five current Carleton students of varying class years
  - All had used Free and For Sale before, but for different purposes
- One Carleton faculty member and two staff members
  - One staff member was a recent alum, so we asked him questions about both groups

# Questions We Asked

In one-on-one interviews: go more in-depth

- What types of items have you bought/sold?
- What is the process for buying or selling items?
- What do you like about buying or selling items in the group? What do you dislike?
- Are there items you wish were sold or advertised in the group?
- Are there other avenues you've taken to sell/give away items or buy/request services?

# Results:

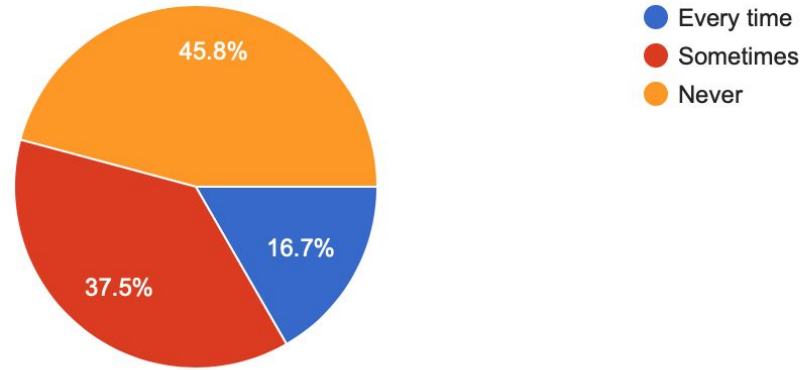
- What People Liked:
  - Platforms provide Community
  - Sense of Trust associated with Carleton
  - Easy & Simple Process
  
- What People Disliked:
  - Hard to Tell If Items were sold
  - Hard To Search
  - Hard to Keep Track of Interested Buyers
  - Inundated with Emails or Comments

# Results

- Unusual & Difficult to Get Rides

How often were you able to successfully find a ride?

24 responses



# Main Requirements

- Buyers
  - Save Items For Later
  - Identify Sold Items Easily
  - Search for Type of Item
  
- Sellers
  - Create Post, Identify Buyers Quickly
  
- Ride Seekers / Ride Givers
  - Create Post & Get Notified on Response.

Front-End



Back-End

# Frontend Design

- Wireframing
- Design Choices

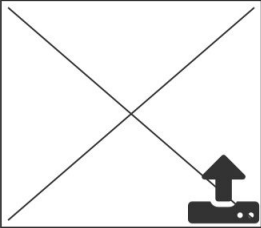
Carleton Classifieds

← → ↻ 🔍 https://apps.carleton.edu/classifieds

CC 🔍 search Hello, Tresa Home | Your Items

Clothes ↗  
Electronics  
Furniture  
Homeware  
Tools  
Outdoor Gear  
Books  
Toys  
Rides ↗  
Miscellaneous

## Create Listing



Enter Item Title

Enter Price \$\$

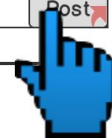
Tresa Xavier

Type of Item\* ▾  
Book  
Clothes

Are You\* ▾  
Looking to Sell  
Looking to Buy  
Looking for Rid  
Offering a Rid

Enter Description

Post ↗



Post Confirmation



Carleton Classifieds

← → ↻ 🔍 https://apps.carleton.edu/classifieds ☰

CC 🔍 search Hello, Tresa [Home](#) | [Your Items](#)

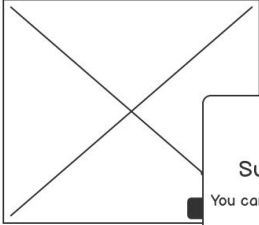
Clothes ↗  
Electronics  
Furniture  
Homeware  
Tools  
Outdoor Gear  
Books  
Toys  
Rides ↗  
Miscellaneous

## Create Listing

Enter Item Title [Home Page](#) or Price \$\$


Tresa Xavier

Are You\*  
Looking to Sell  
Looking to Buy  
Lookinf for Rid  
Offering a Rid



**Successfully posted listing.**  
You can view/change the status of your listing under Your Items.  
Check your email to see if others are interested in your listing.

A Subti



Carleton Classifieds

← → ↻ 🔍 <https://apps.carleton.edu/classifieds> ☰

CC 🔍 search Hello, Tresa Home | [Your Items](#)

Clothes Electronics Furniture Homeware Tools Outdoor Gear Books Toys Rides Miscellaneous

Create Listing

## Recent Items

Create Listing

+

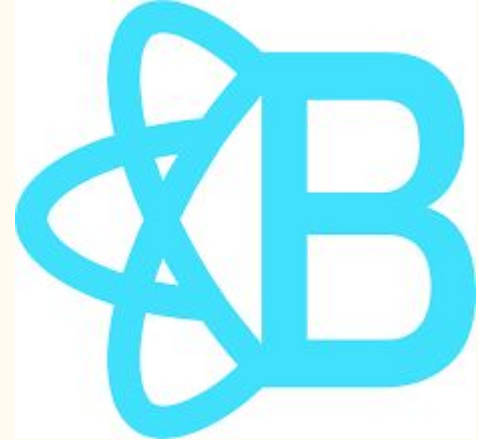
+

# Frontend Design Process

- Usability Testing
- Gleaned inspiration from Facebook & Amazon UI

# Frontend Architecture

- React Javascript Library
  - Most popular frontend dev tools
  - Wanted to gain proficiency
  
- Designed Components using Bootstrap Library





**\$4.99**  
**T-Shirt**



**Olga Suttell**

[View Listing](#)



**\$4.99**  
**T-Shirt**

[Olga Suttell](#)

[View Listing](#)

**\$15.00**  
**Textbooks**

[Olga Suttell](#)

[View Listing](#)

**\$15.00**  
**Toy Train**

[Thomasa Novis](#)

[View Listing](#)

**\$5.00**  
**Movie Poster**

[Lori Shreeve](#)

[View Listing](#)



### Starred Listings

**\$4.99**  
**T-Shirt**

[Olga Suttell](#)

[View Listing](#)

**\$15.00**  
**Textbooks**

[Olga Suttell](#)

[View Listing](#)

# Backend Design

## Architecture & Decisions

- Using a framework
- Requirements to endpoints
- Why Django?
- Database decisions
- Hosting considerations

# Using a framework

- Focus more on fulfilling requirements than details
- Integrates well with database & frontend

# Fulfilling requirements with endpoints

- Requirements
  - Based on user research
- Endpoints
  - Users
  - Rides
  - Items
  - Navigation, etc.



# Why Django?

- Uses Python
  - Sustainable
- Features
  - Authentication
  - Database connections
- Integrates well with React

# Database Decisions

- PostgreSQL vs SQLite
- Familiarity
- Simplicity
- Compatibility



# Hosting Considerations

- Server for database & site
- Main issue: continuity
- Carleton infrastructure?
- Virtual machine in the CMC

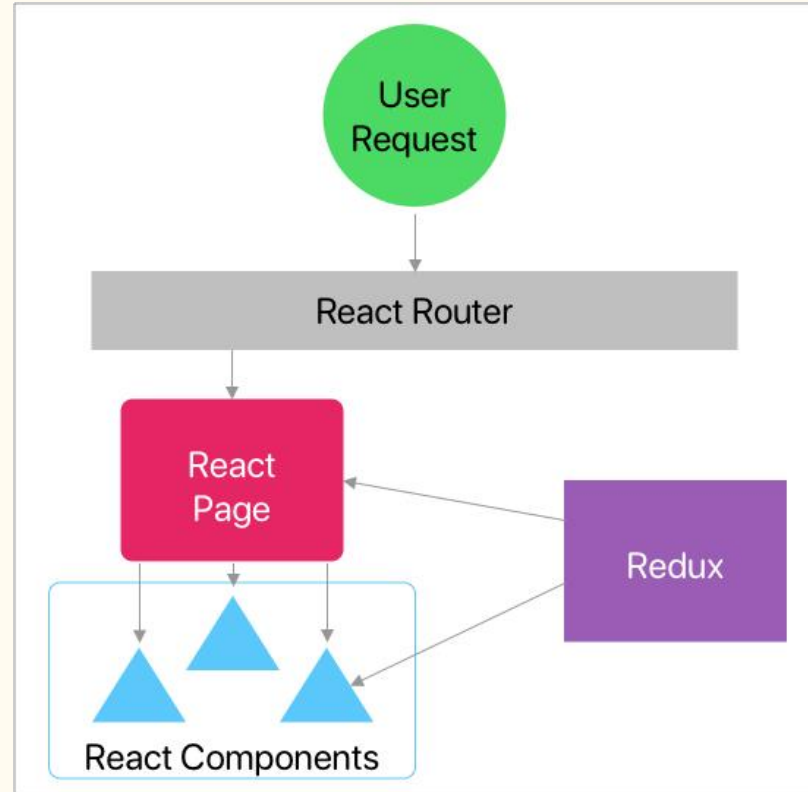
# The Site

Basic Structure & What We  
Have So Far

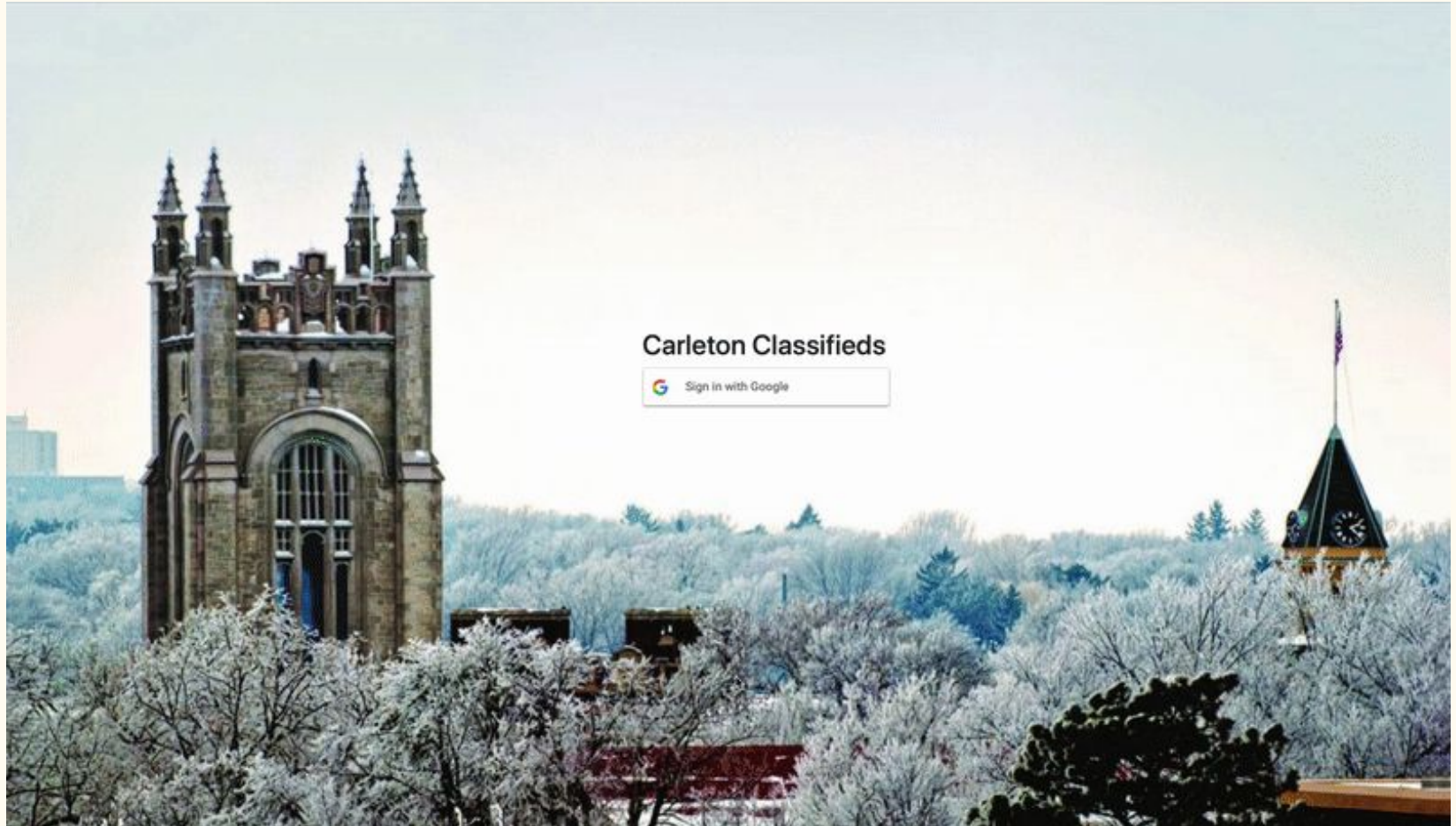
- Login with Carleton email
- View/create listings
- View/create ride requests
- Save listings/rides

# Structure of Site

- React for site appearance
- Redux for global state & persistent storage
- React-router for handling navigation within single-page application
  - Also handles authentication for pages



# Login Flow



# Recent Posts

Books

Clothing

Electronics

Furniture

Homeware

Miscellaneous

Outdoor Gear

Tools

Toys



\$4.99

T-Shirt

Olga Suttell



View Listing



\$15.00

Textbooks

Olga Suttell



View Listing



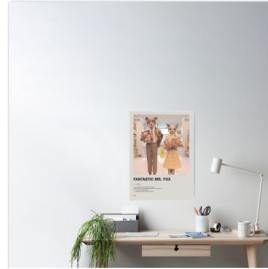
\$15.00

Toy Train

Thomasa Novis



View Listing



\$5.00

Movie Poster

Lori Shreeve



View Listing



\$2.00

Fuzzy Socks

Josh Oettinger



View Listing



\$24.00

Jeans!!!

Bertine Bearcroft



View Listing



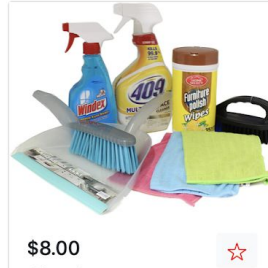
\$1000.00

Garden Knome

Bertine Bearcroft



View Listing



\$8.00

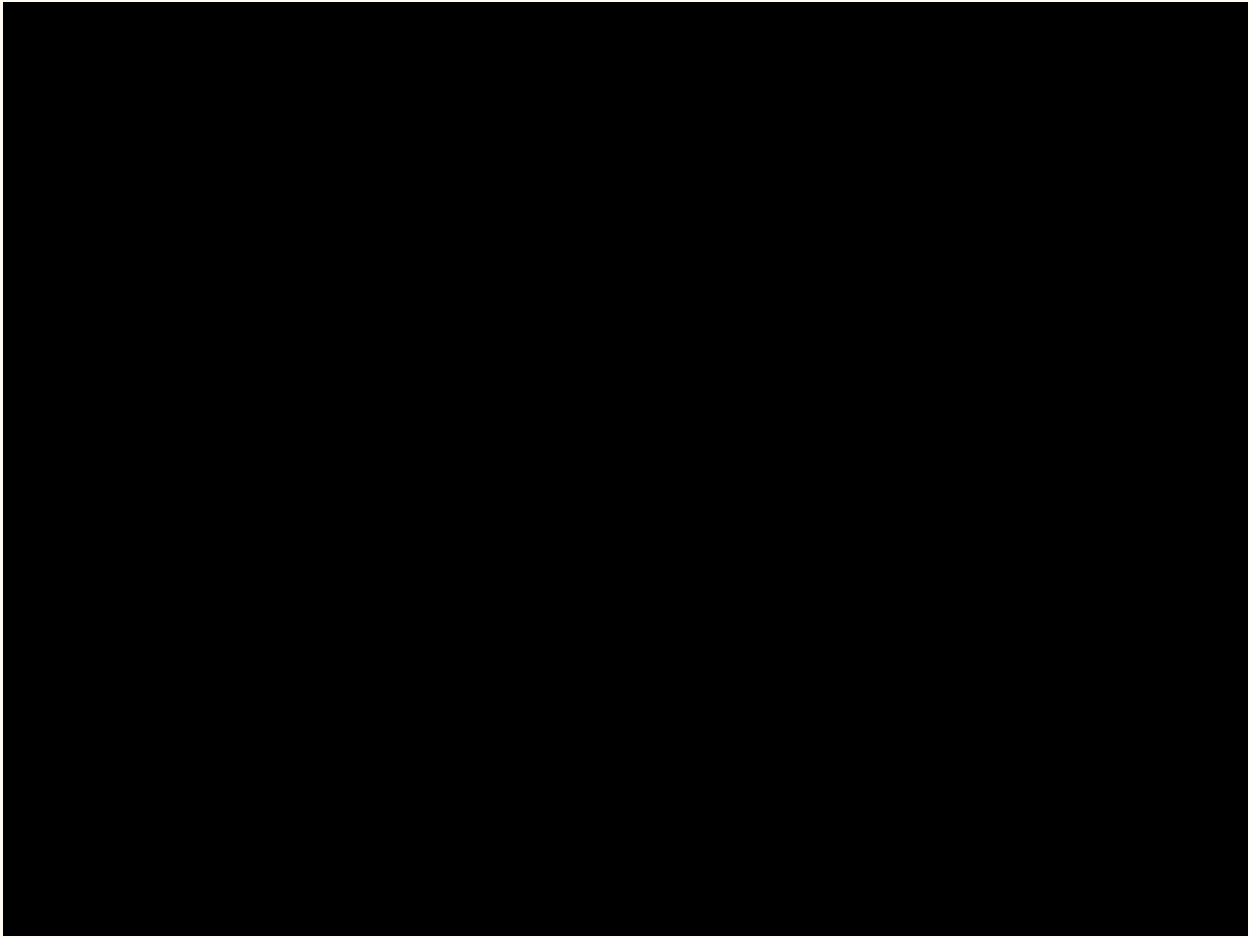
Cleaning Supplies

Thomasa Novis



View Listing

# Creating a Listing





[Books](#)

[Clothing](#)

[Electronics](#)

[Furniture](#)

[Homeware](#)

[Miscellaneous](#)

[Outdoor Gear](#)

[Tools](#)

[Toys](#)



**Toy Train**      **\$15.00**

Thomasa Novis

Great for the kids! So fun, even you'll want to play with it!

[I'm Interested](#)

- Books
- Clothing
- Electronics
- Furniture
- Homeware
- Miscellaneous
- Outdoor Gear
- Tools
- Toys



**Toy Train**      **\$15.00**

Thomasa Novis

Great for the kids! So fun, even you'll want to play with it!

Contact: Thomasa Novis

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Email: [tnovis8@theatlantic.com](mailto:tnovis8@theatlantic.com)


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[Back to Home](#)

[I'm Interested](#)


## Upcoming Rides

- Books
- Clothing
- Electronics
- Furniture
- Homeware
- Miscellaneous
- Outdoor Gear
- Tools
- Toys

**Lori Shreeve**   
Wed May 6, 1:01 am


**3 Barbey Plaza** 42 miles  
to  
**89920 Gulseth Parkway** 6 riders

[View Ride](#)

**Jaquelyn Gypson**   
Wed May 6, 1:01 am


**789 Transport Junction** 11 miles  
to  
**5 Springs Drive** 1 rider

[View Ride](#)

**Minette Sisselot**   
Wed May 6, 1:01 am


**30329 Buena Vista Parkway** 7 miles  
to  
**88827 Maywood Parkway** 2 riders

[View Ride](#)

**Minette Sisselot**   
Wed May 6, 1:01 am


**1 Northland Way** 19 miles  
to  
**43 Mccormick Parkway** 6 riders

[View Ride](#)

**Olga Suttell**   
Wed May 6, 1:01 am


**057 Maple Parkway** 33 miles  
to  
**89920 Gulseth Parkway** 3 riders

[View Ride](#)

**Bertine Bearcroft**   
Wed May 6, 1:01 am


**43 Mccormick Parkway** 23 miles  
to  
**0 Homewood Hill** 2 riders

[View Ride](#)

**Danielle Eisen**   
Wed Jan 1, 9:04 pm


**1 Northland Way** 16 miles  
to  
**2046 Monica Lane** 16 riders

[View Ride](#)

**Jaquelyn Gypson**   
Fri Jul 30, 12:56 pm


**1 Northland Way** 4 miles  
to  
**2077 Shopko Way** 3 riders

[View Ride](#)

**Danielle Eisen**   
Tue Jul 7, 2:07 am


**1564 Mesta Junction** 34 miles  
to  
**88827 Maywood Parkway** 17 riders

[View Ride](#)

**Olga Suttell**   
Wed May 6, 1:01 am


**1522 Gina Park** 35 miles  
to  
**46 Pleasure Junction** 4 riders

[View Ride](#)

**Josh Oettinger**   
Wed May 20, 9:00 am

**2700 Point Ln** 21 miles  
to  
**49 S Waukegan Rd** 1 rider

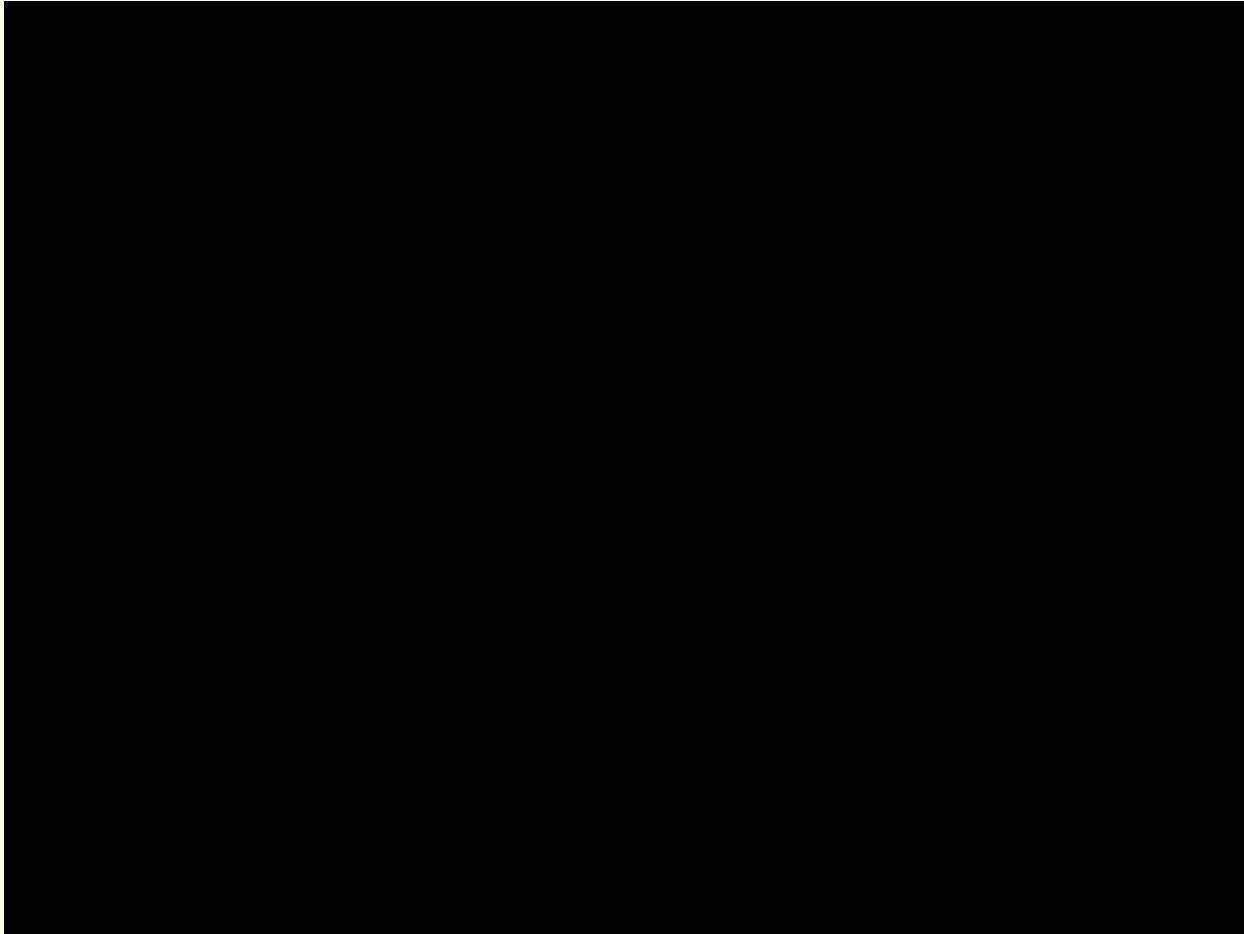
[View Ride](#)

**Johnathan Lucy**   
Wed May 6, 1:01 am

**1564 Mesta Junction** 6 miles  
to  
**46 Pleasure Junction** 4 riders

[View Ride](#)

# Creating a Ride Request



Books

Clothing

Electronics

Furniture

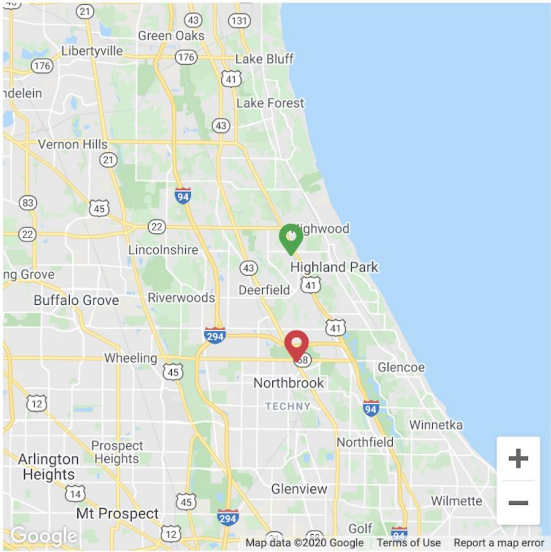
Homeware

Miscellaneous

Outdoor Gear

Tools

Toys



**Josh Oettinger**  
Wed May 20, 9:00 am

**2700 Point Ln** 22 miles  
to 1 rider

**49 S Waukegan Rd**

[I'm Interested](#)

Map data ©2020 Google Terms of Use Report a map error

Starred Items

Your Listings

### Starred Listings



\$15.00

Toy Train

Thomasa Novis



View Listing



\$5.00

Movie Poster

Lori Shreeve



View Listing

### Starred Rides

Minette

Sisselot

Wed May 6, 1:01 am



1 Northland Way to 43 McCormick Parkway 43 miles 6 riders

View Ride

Olga Suttell

Wed May 6, 1:01 am



1522 Gina Park to 46 Pleasure Junction 28 miles 4 riders

View Ride

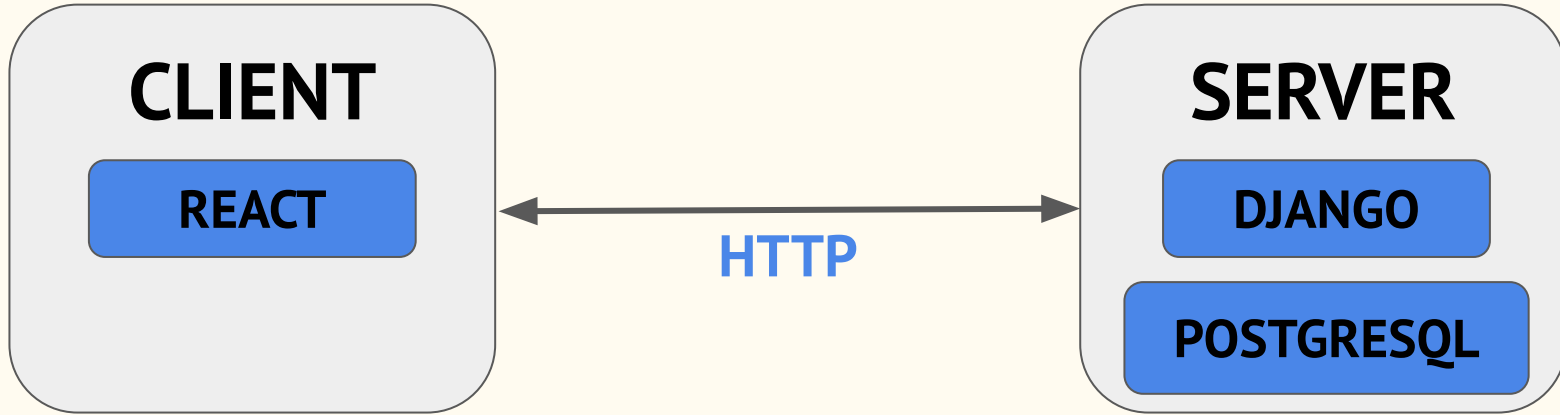
# BACKEND: OVERVIEW

**models.py**

**urls.py**

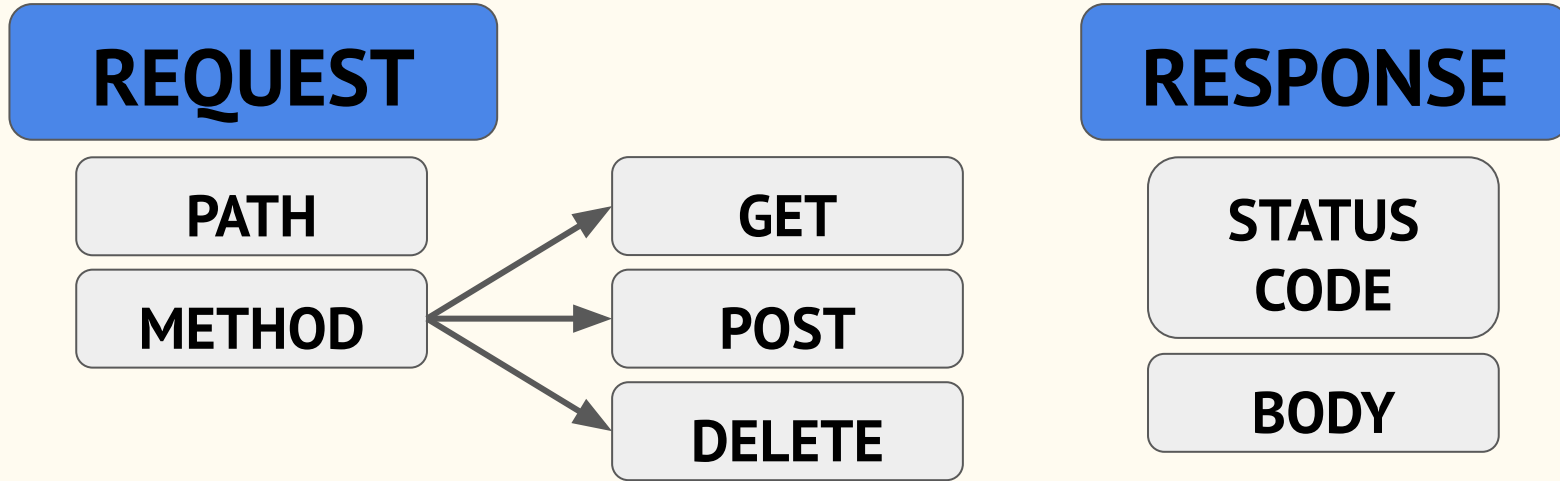
**views.py**

# PLAYERS





# HTTP MESSAGES



# DJANGO: URL MAPPER

PATH

`itemposting/create/<title>/<description>/<price>/`

## URL MAPPER

PATH 1

PATH 2

PATH N

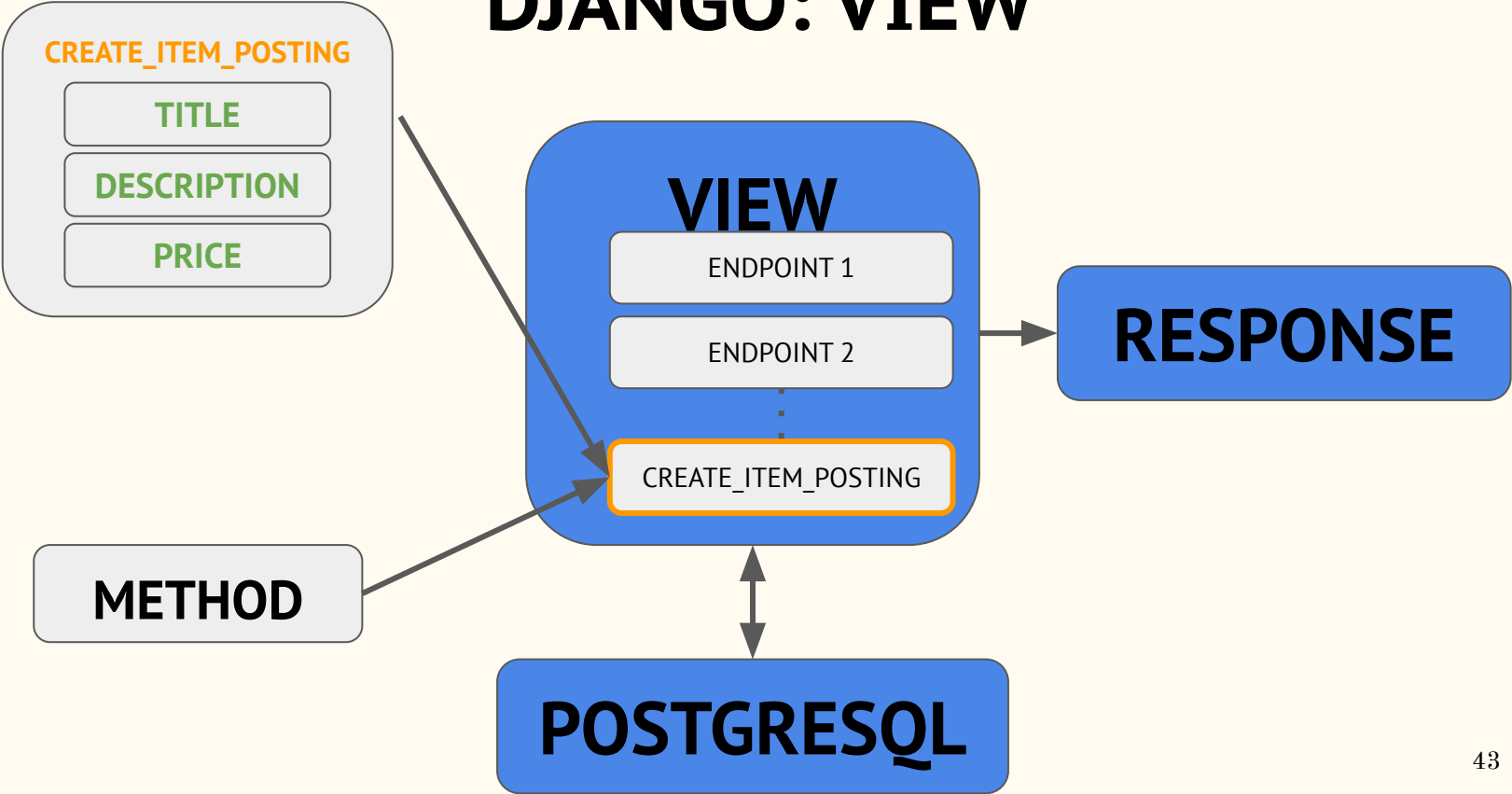
CREATE\_ITEM\_POSTING

TITLE

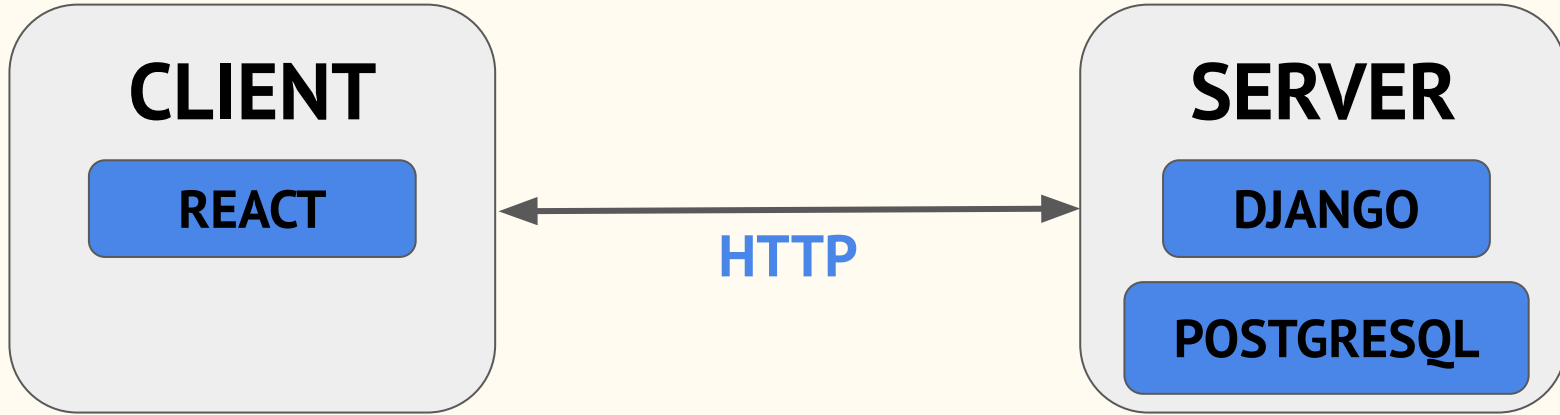
DESCRIPTION

PRICE

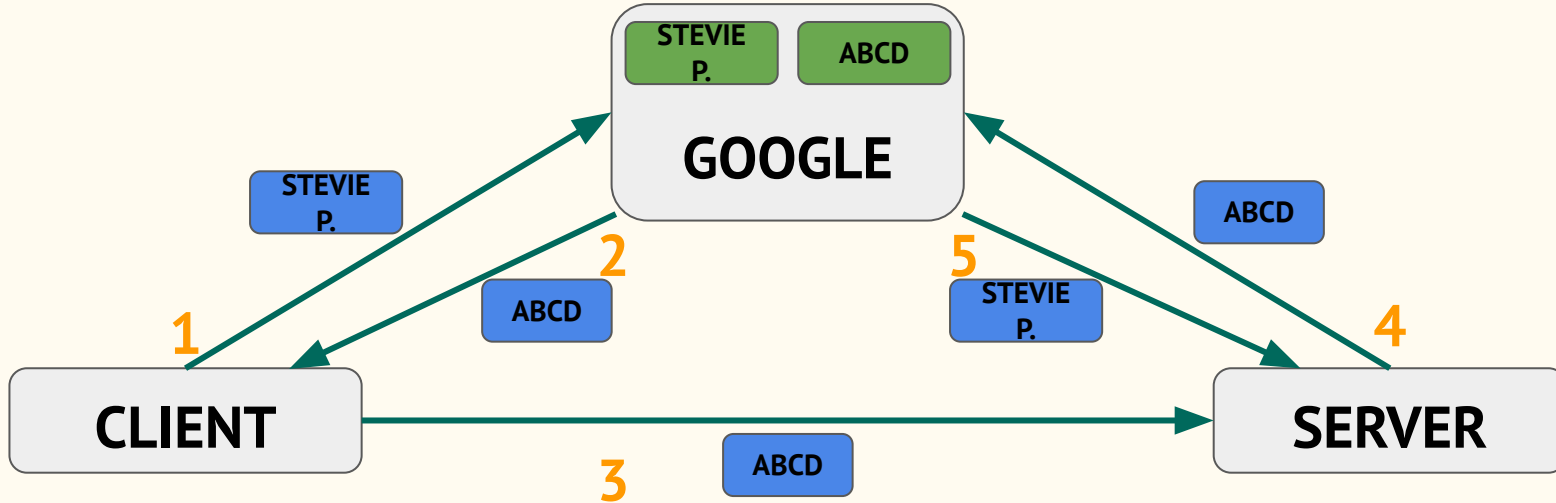
# DJANGO: VIEW



# CLIENT IDENTITY



# AUTHENTICATION



# Next Steps

Things we didn't get to and  
hopes for the future



# Future Site Functionality

- Upload photos for a listing
- Send email notifications to users
- Anything else next year's team cooks up!

# Roadmap to Release

- Add remaining functionality
- Perform usability testing
- Iterate using feedback from users
- Find a long-term server for site
- Make the Carleton community happy!



# Thanks for watching!

- Extra special thanks to Sneha Narayan, our amazing advisor
- Thanks to:
  - Mike Tie and Andrew Wilson for all their help with the technical side of our project
  - All the students, faculty, and staff who we surveyed and interviewed for their insight