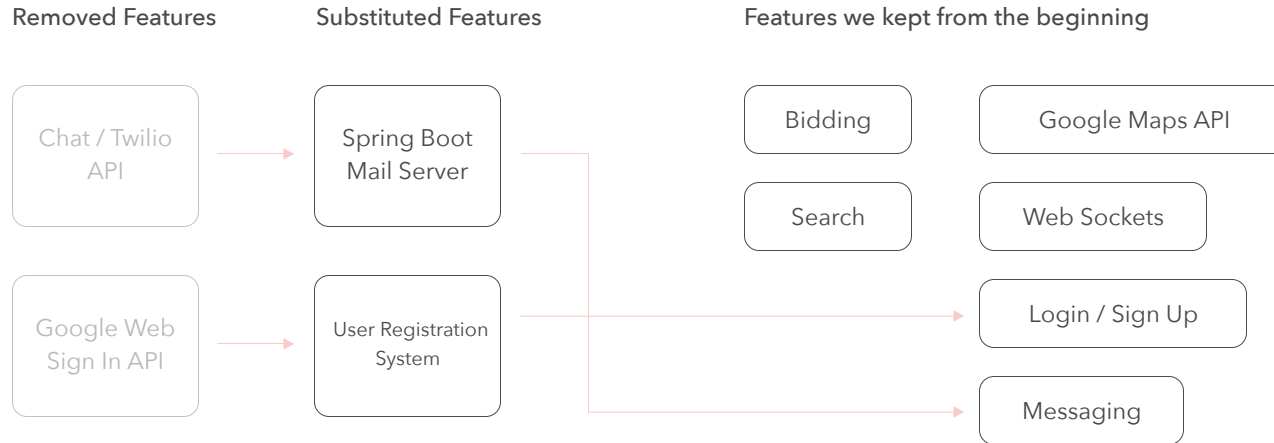Perigo

Problem

1. Facebook Marketplace and sub groups like Free and For Sale are not great interfaces for buying and selling of used items

2. Other alternatives like Craigslist are outdated and don't work well within a tight knit community like USC

Solution

Create an intuitive and easy to use web interface that allows
members of the USC community to trade, sell, and buy goods
from / with one another

Design and Development Decisions

Project Design

Removed Features	Substituted Features		Features we kept from the beginning

Chat / Twilio API → Spring Boot Mail Server

Google Web Sign In API → User Registration System

Bidding

Search

Google Maps API

Web Sockets

Login / Sign Up

Messaging

User Login Functionality

Functionality	Guest	Authenticated User
Viewing / Searching items	✓	✓
Bidding / Purchasing items		✓
Listing an item		✓
Adding item to saved list		✓
Notifications on bid items		✓
Messaging seller		✓
Searching items	✓	✓

Tools Used

Software and Programs

Icon Design, Page Layout, Prototyping

Testing AJAX, track merges, frontend / pair programming (teletype), communication

Outside Topics

Non-Relational Databases (mongoDB)
REST API
Password Hashing
Cookies
Image Encoding
User Registration

APIs Used

Google Maps

Outside Classes and Data Structures

Classes

Data Structures

| DES 323 (design theory) |

| CSCI 104 |

| GESM 111 (painting) |

| EE 250 |

| ITP 104 (web dev) |

| Sets
Hashmaps
Lists
Queues
Multimap |

Multithreading and Networking
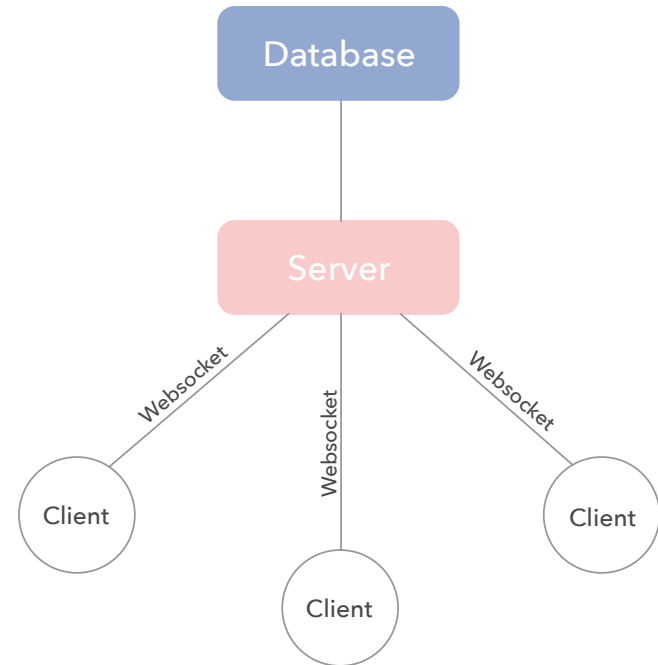
Multiple threads

Asynchronous AJAX calls to backend

A thread loops through the database to check if any bidding is expiring in 5 minutes or less

Another thread alerts users if any biddings are soon to expire

Networking and WebSockets

New thread for every new logged in user websocket connection

Teamwork

What worked

Coding as a Group

Half Frontend - Half Backend

Organizing the work on GitHub

Slack Channels

What didn't work

Slow start, communication could have
been better in the beginning

Version control was a hassle, lot of merge
conflicts