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 Other alternatives like Craigslist are outdated and don't work well within a tight knit community like USC
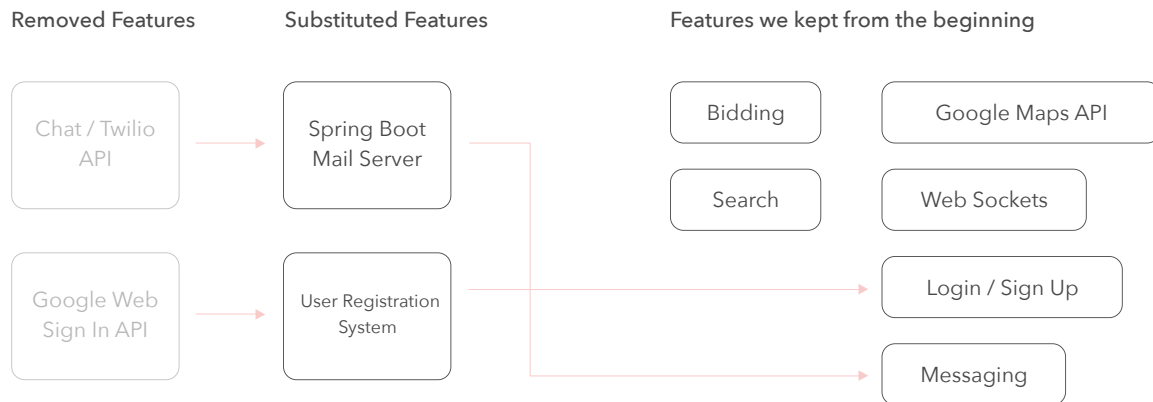
Solution

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

Bidding

Google Maps API

Search

Web Sockets

Google Web Sign In API

User Registration System

Login / Sign Up

Messaging

Outside Classes and Data Structures

Classes

DES 323 (design theory)

CSCI 104

GESM 111 (painting)

EE 250

ITP 104 (web dev)

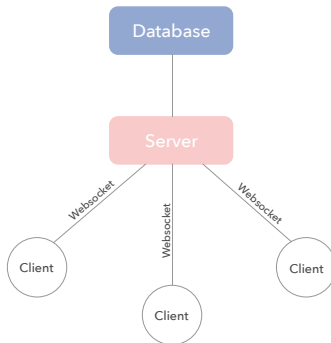## Data Structures

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

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
Version Control

APIs Used

Mailjet
Google Maps

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