

The background is a dark blue gradient. On the left, there is a large, semi-transparent circular image of a circuit board. Overlaid on this and the background are several geometric shapes: a large blue parallelogram and a green parallelogram in the upper left, and a series of white, stepped, rectangular blocks in the upper right.

UCLA Swap

A secure, online marketplace for
college students

By Alan Michael, Caroline DebBaruah,
Kenneth Tang, Gayathri Eleswarapu,
and Liam Meagher



Motivation





Need

- Create safe platform for UCLA students to buy/sell items
- Encourage more inter-student commerce
- Foster a greater sense of community on and off campus between students and alumni alike



Overview

We want to create a stronger sense of community at UCLA by creating a ecommerce site *for UCLA students by UCLA students*.

Create web application that:

- Sellers post listings
- Buyers can favorite and contact sellers
- Keeps track of accounts and user information



Engineering Goals

Core Functionalities

FR 1: Users can create accounts

FR 2: Users can login with their email and password (which is stored securely in a database)

FR 3: The application validates whether users have @ucla.edu emails on signup

FR 4: Users can list items with photos, titles, and descriptions

FR 5: Users can view items that other users listed

Supplemental Functionalities

FR 6: Users can like/heart posts to express interest in a listing

FR 7: Users can view a email address in a listing to contact to negotiate a transaction

FR 8: Users can sort/filter by time, price, and category of the items listed

FR 9: Users can tag an item by category when listing it



Technologies



App Architecture

Data Storage/Display

Frontend:

- React.js: UI/UX library
- Vite: Build tool
- TailwindCSS: CSS framework

Backend:

- NestJS: MVC framework based on Express.js
- MySQL: persistent database
- Docker: database containerization

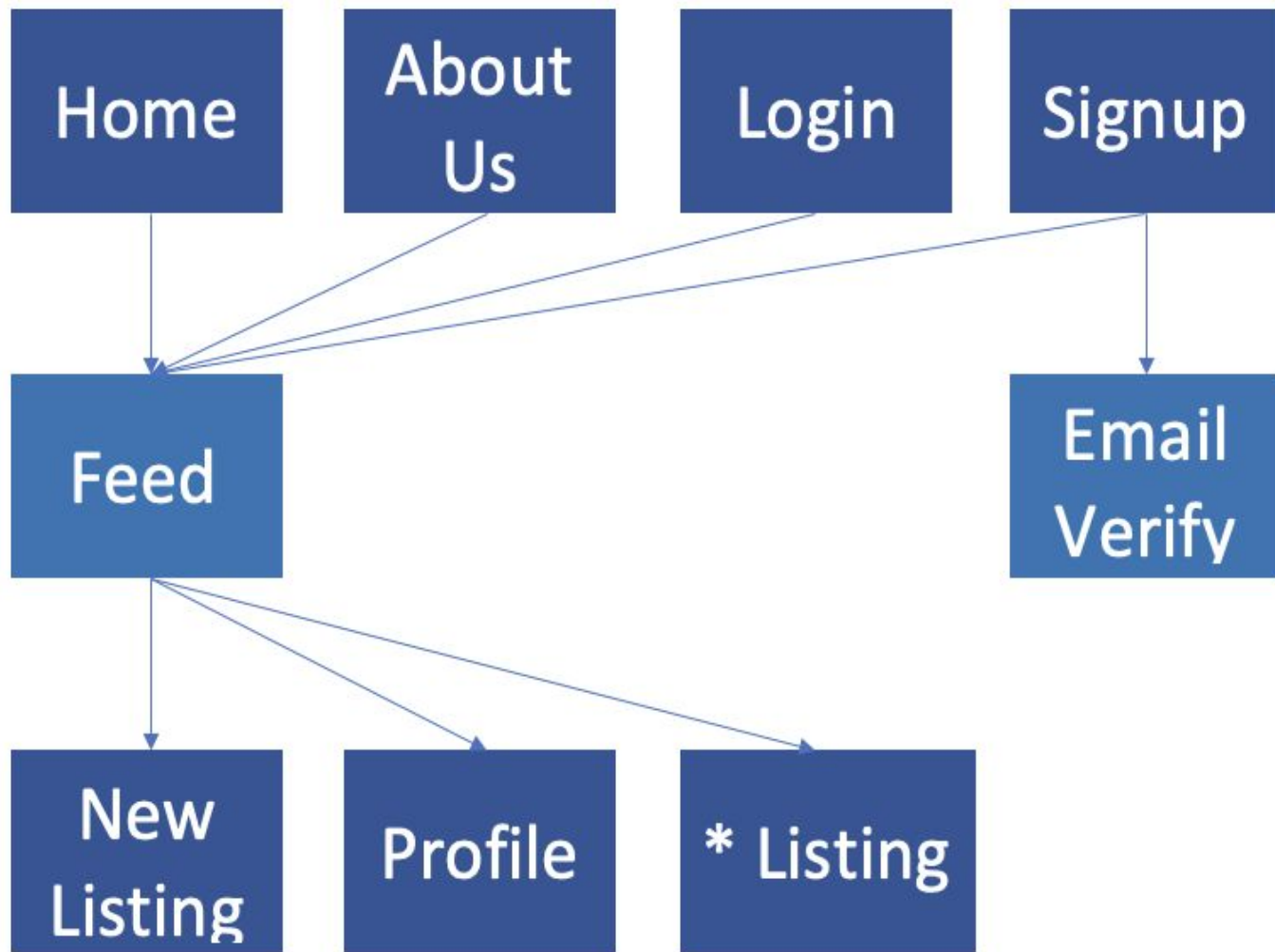
We stored user data including account information and posts securely in a SQL database which was hosted in a Docker container.

We stored records in the SQL database using an ORM (Object Relational Mapper) through our MVC framework

For ease of development and cross-platform support, we will host the SQL database in a Docker container.

API requests are made to the backend to update and retrieve data in the database.

UI/UX Flowchart



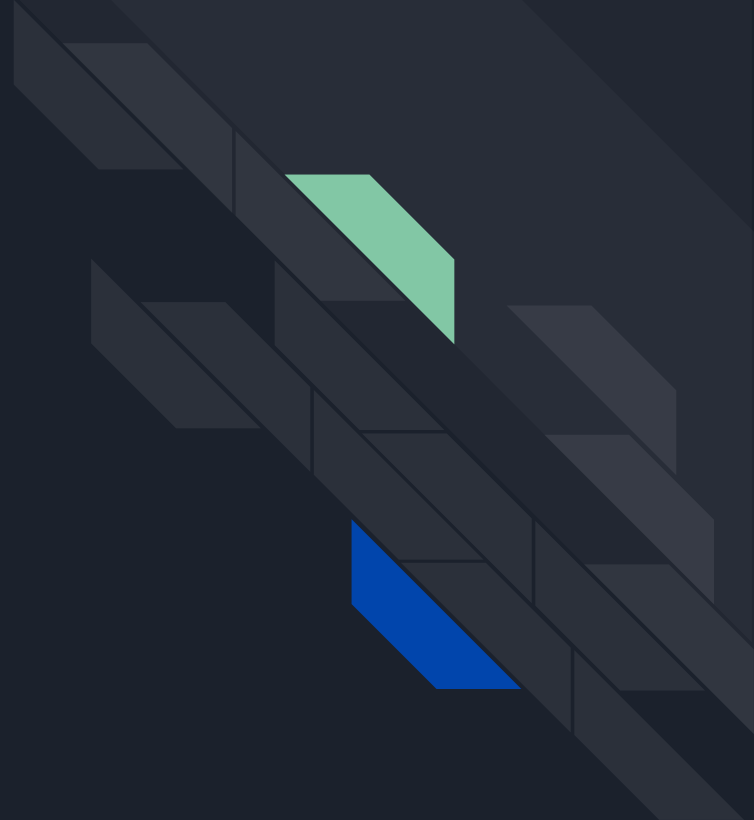


Authentication System

- User records are stored in database
- Users need ucla.edu email
- Verification link on signup
- Password security measures
 - At least 8 characters long
 - At least 1 number
 - At least 1 uppercase character
 - At least 1 lowercase character



Main Features



Sign Up

UCLA Swap

[About Us](#) [Signup](#) [Login](#)

Signup

Signup

Already have an account? [Login here.](#)

Password Checking

Signup

abc@ucla.edu

••••••••



••••••••



Signup

Password must contain at least one uppercase letter

[Already have an account? Login here.](#)

Signup

abc@ucla.edu

••••••••



••••••••



Signup

Password must contain at least one number

[Already have an account? Login here.](#)

Email Verification

UCLA Swap

[Signup](#) [Login](#)

Signup

test02@g.ucla.edu

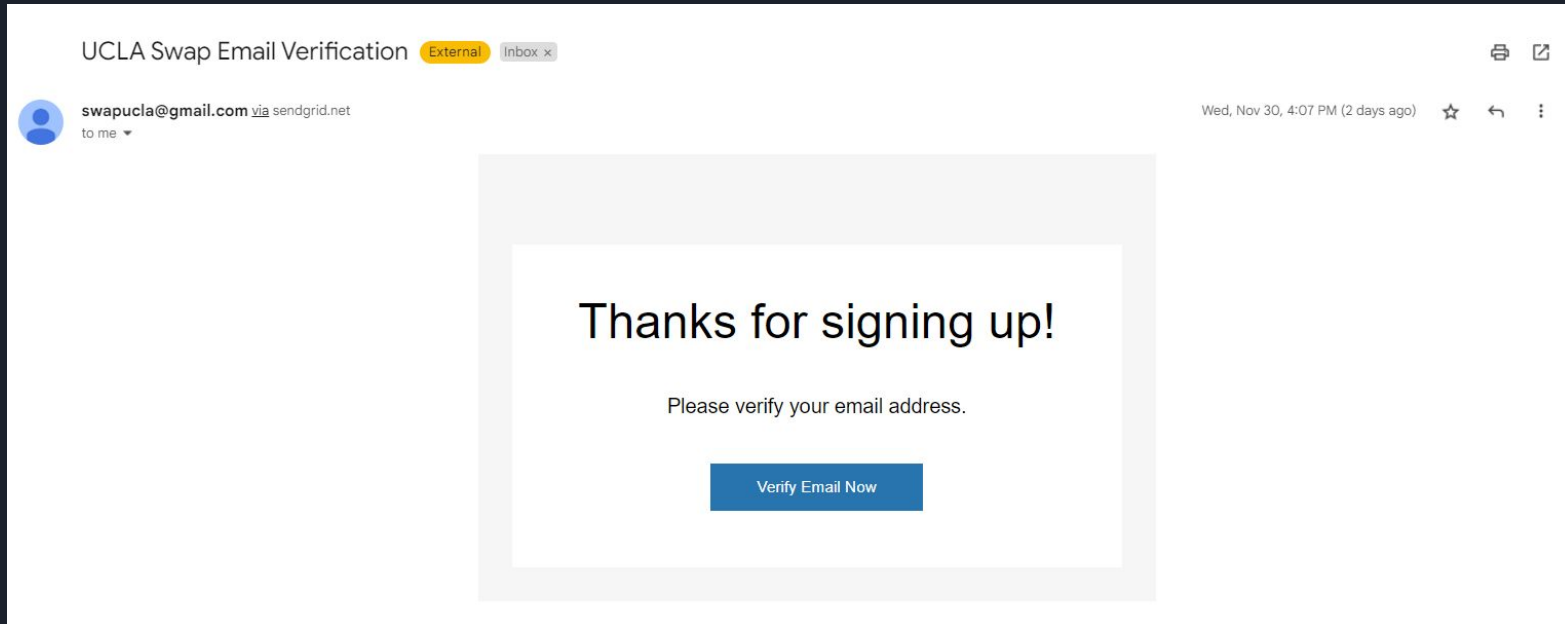
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•••••••• 

Signup

Already have an account? [Login here.](#)

Email Verification



Log In

UCLA Swap

[About Us](#) [Signup](#) [Login](#)

Login

cdebbaruah@g.ucla.edu

Login

[Don't have an account? Signup here.](#)

[Forgot password?](#)

Browse Listings

Displaying Dynamic Data

UCLA Swap

Feed Profile Logout

+ New Listing

Search

Categories

- ☒ Books
- ☒ Electronics
- ☒ Furniture
- ☒ Clothing
- ☒ Vehicles
- ☒ Other

Price

Minimum

 -


Maximum

Sort

Recent

\$200

Like New




12/2/2022

Kirby Plush


\$5

Poor



\$100

New




12/2/2022

Kirby Squishmallow Plush


\$18

Fair



\$12

Good




12/2/2022

Melatonin Gummies! Great for sleep!

\$7

Poor



Upload New Listing

Upload Data from Client to Back-End

UCLA Swap

Feed Profile Logout

+ New Listing

Search

Categories

☒ Books

☒ Electronics

☒ Furniture

☒ Clothing

☒ Vehicles

☒ Other

Price

Minimum - Maximum


Sort

Recent

Lyft Scooter Delivery

\$100

New




12/2/2022

Kirby Squishmallow Plush

\$18


Fair



Carthartt Denim Jean Jacket

\$12

Good




12/2/2022

Melatonin Gummies! Great for sleep!

\$7


Poor



Kirby Plush

\$5

Poor




12/2/2022

Wet Tennis Ball! Grey and used.

\$3

Poor



Downloads

Home

Gayathri - Personal

Today

lcecap132-install

ProfileGif.gif

SendEmail.gif

UserProfile.gif

20221202_021459

20221202_021449

20221202_021526

MakeListing.gif

Yesterday

PinkMug.jpg

StuffedAnimal.jpg

Earlier this week

SOC 1_Lecture 10.

SOC 1_Lecture 11.

Discussion_8_Gay

Discussion_9.pdf

Discussion_8.pdf

Search for Listing Titles/Descriptions

Search Through Server-Side Data

UCLA Swap

Feed Profile Logout

+ New Listing

Search

UC

Categories

☒ Books

☒ Electronics

☒ Furniture

☒ Clothing

☒ Vehicles


☒ Other

Price

Minimum - Maximum

Sort

Recent





12/2/2022

AKAI MPK mini MIDI keyboard

\$125

Fair







12/2/2022

Captain America Comic Print Shirt

\$35

Good






12/2/2022

among us ! among us ! among us !

\$100

New



Filter through Listings - Category

UCLA SwapFeed Profile Logout

+ New Listing

Search

Categories

- ☒ Books
- ☒ Electronics
- ☒ Furniture
- ☒ Clothing
- ☒ Vehicles
- ☒ Other

Price


Minimum

 -

Maximum

Sort

Recent





12/2/2022

Hot Wheels Mystery Pack

\$23

New







12/2/2022

Red Chevy Camaro Chevrolet Muscle Car

\$22000

Good



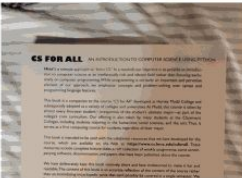


12/2/2022

CS For All: Using Python Textbook

\$18

Like New



Filter through Listings - Price

UCLA SwapFeed Profile Logout

+ New Listing

Search

Categories


- ☒ Books
- ☒ Electronics
- ☒ Furniture
- ☒ Clothing
- ☒ Vehicles
- ☒ Other

Price

Minimum - Maximum


Sort


Recent



12/2/2022


Wet Tennis Ball! Grey and used.
\$3
Poor






12/2/2022


Miniature Guitar Amp
\$20
Poor





12/2/2022

Water Bottle, not reusable, mostly empty
\$6
Poor



Filter through Listings - Time/Price/Condition

UCLA Swap

Feed Profile Logout

+ New Listing

Search

Categories

- ☒ Books
- ☒ Electronics
- ☒ Furniture
- ☒ Clothing
- ☒ Vehicles
- ☒ Other

Price

Minimum

 -


Maximum

Sort


Recent

Recent


Old



12/2/2022




12/2/2022




12/2/2022


Hot Wheels Mystery Pack
\$23
New



Red Chevy Camaro Chevrolet
Muscle Car
\$22000
Good



CS For All: Using Python Textbook
\$18
Like New



Like Listings

UCLA Swap

Feed Profile Logout

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Minimum - Maximum

Sort

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12/2/2022



Hot Wheels Mystery Pack

\$23

New



12/2/2022



Red Chevy Camaro Chevrolet

Muscle Car

\$22000

Good



12/2/2022



CS For All: Using Python Textbook

\$18

Like New



Send Email

UCLA Swap

[Feed](#) [Profile](#) [Logout](#)

Carthartt Denim Jean Jacket

\$12

Good

nithyam04@g.ucla.edu

[Send Email](#)



Stylish flair to boost your confidence and match anything!

Profiles

View other people's profiles

UCLA Swap

Feed Profile Logout

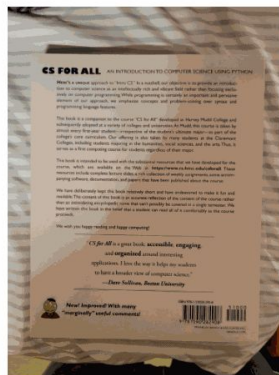
CS For All: Using Python Textbook

\$18

Like New

tiammeagher03@ucla.edu

Send Email



Perfect for any data science major or first-year student taking CS 30. It's a great investment because these skills will transfer to CS 35L later!

Profiles

View your own profile

UCLA Swap

[Feed](#) [Profile](#) [Logout](#)

+ New Listing

Search

Categories

- ☒ Books
- ☒ Electronics
- ☒ Furniture
- ☒ Clothing
- ☒ Vehicles
- ☒ Other

Price

Minimum - Maximum

Sort

Recent



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Kirby Squishmallow Plush

\$18

Fair

Carhartt Denim Jean Jacket

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Good



12/2/2022



Melatonin Gummies! Great for sleep!

\$7

Poor

Kirby Plush

\$5

Poor



12/2/2022



Wet Tennis Ball! Grey and used.

\$3

Poor



Additional Pages



Landing Page

UCLA Swap

[About Us](#) [Signup](#) [Login](#)

A marketplace for students by students

Buy and sell from your fellow Bruins!
Sign up today to trade quickly and
securely.

[Sign Up](#)



About Us

UCLA Swap

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Our Class of 2025 Team:

Alan Michael

2nd Year Computer Science
Major



Caroline Debbarauh

2nd Year Computer Science
Major



**Gayathri
Eleswarapu**

2nd Year Computer Science
Major



Kenneth Tang

2nd Year Computer Science
Major



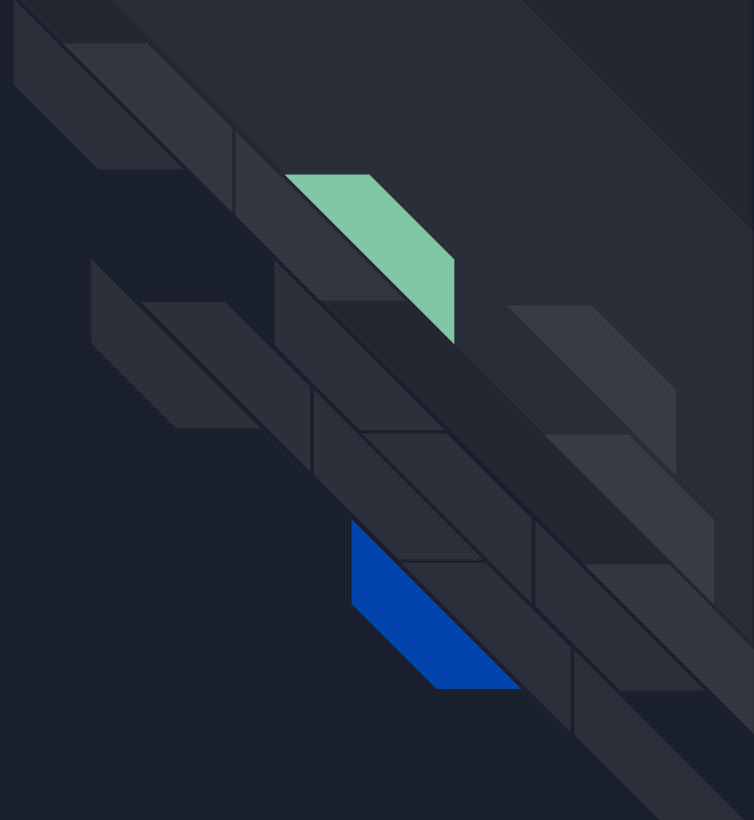
Liam Meagher

2nd Year Computer Science
and Engineering Major





Live Demo





Join Us!

<https://swap.yoru.app/>

