Eugene Brodsky

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Education

University of California, Berkeley - 2017-2021

Degree: BS in Applied Mathematics
CS Coursework: Structure of Programs, Data Structures, Algorithms, Security, Numerical Analysis, Social Justice in CS
Math Coursework: Discrete Math, Linear Algebra, Abstract Algebra, Real Analysis, Complex Analysis
Associations: Mu Alpha Theta, Cal Tennis

Personal Projects

Personal Website: https://eugenebrodsky.me

Horse - Social/Competition iOS app. Connects users via proximity and facilitates games of "horse".

- Used CoreLocation to update location to the backend, which returns nearby users. Used MapKit to display nearby users.
- Developed a RESTful API using Express on backend and Alamofire on client.
- Integrated JWT for session tokens allowing for authentication on protected routes. Supports client-side token storage.
- Server uses a normalized database schema on MySQL to effectively store and lookup data. Wrote SQL procedures to optimize database usage.
- Created bash scripts to support the development environment.
- Software: Node, JavaScript, Swift, MySQL, Express, JSON, Bash, Alamofire, Xcode

cScraper - A Craigslist scraping tool which alerts a user about new posts.

- Used BS4 to parse HTML for new posts, used smtplib for sending emails to users.
- Implemented new thread creation to allow for continued scraping while also listening for new requests.
- Created an API adhering to REST principles.
- Software: Python, Flask, JSON, React, Axios, Docker, Firebase

yRatio - A Chrome extension for Youtube. Displays the like to view ratio for the current video.

- Extracted and decoded information from the DOM.
- Monitored DOM for changes to detect dynamic page reloads.
- Software: JavaScript, jQuery, JSON, HTML, CSS,

SkaDice - A random skateboard trick generating app written in Swift for iOS.

- Enforced a constrained UI layout for a consistent look across all devices.
- Developed an interactive GUI– a rotating menu option selector which serves to create a unique user experience.
- Software: Swift, Xcode

Coursework Projects

RaceRunner - 2D tile-based game in Java.

- Designed a pseudo-random world generation algorithm, Locates the "largest" target for a structure.
- Supported game persistence by saving keypress data to file for future loading.
- Other features – race mode, game architecture, and graphic design.

File Sharing Client - An interface for an end-to-end encrypted file sharing system.

- Created a data structure to solve the enforcement of file ownership and privileges.

PintOS - Worked with a team of 4 to implement solutions for a skeletonized LinuxOS.

- Implemented multithreading, shell creation, syscalls for an x86 system.

Leadership/Experience

Mu Alpha Theta • Club Officer

- Hosted club meetings and promoted math club events. Scheduled with guest speakers to secure lectures. Developed incentives with instructors to boost math club turnout.

Institute of Transportation Studies at U.C Berkeley • Website Admin – Jan 2019 - June 2019

- Managed incoming data for ITS website. Restructured WordPress website to reflect ITS organizational changes and improve accessibility. Founded new processes for streamlining office routines and record keeping resulting in more productivity and less paper waste. Coordinated with guest lecturers in their lodging and accommodations while at U.C Berkeley.

Skills

proficient	familiar
Python, SQL, Git, GitHub, data structures, algorithms	Swift, JavaScript, Java, Go, HTML/CSS, Unix, Matlab, Bash Scripting