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Software Development Intern

OCR Project

June 27 – September 16, 2016 in San Marcos, CA

Connection to UCSD

I applied various programming techniques from my coursework at UCSD to my project. Many of the tools we learned are used in real life, and even when they weren't exactly the same, many tools had analogous features. For example, learning how to debug in Eclipse on Java still helped me debug in Xcode on iOS Swift.

Many basic programming skills carried over, too. Object-oriented programming in Java had analogues in Swift protocols. Professionally, I learned a lot about time management and scheduling, as well as the importance of bringing your best to the office.

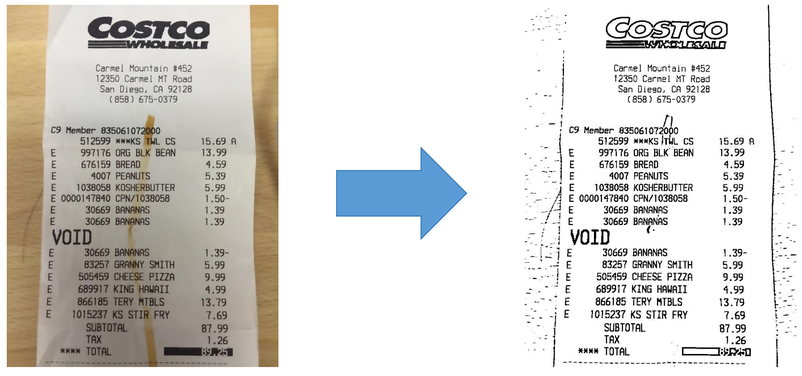
Useful Coursework

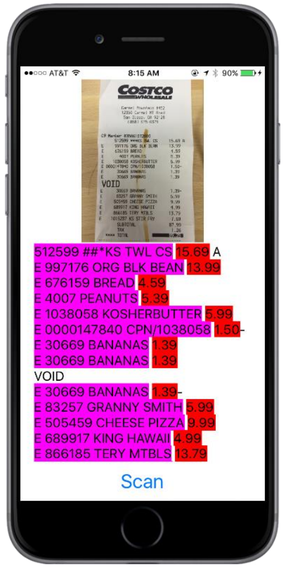
- CSE 15L: The most useful class I've taken so far. Covers various programming tools and techniques that are applicable in any coding setting. Having experience with vim and especially git were helpful in getting started.
- CSE 11: Though I didn't use any Java at all, I used many of the object-oriented programming concepts I learned in the class. They are applicable to any object-oriented language, including Swift.
- CSE 30: I didn't use any Assembly, but I did write a little bit of Objective-C and Objective-C++, close cousins of C and C++. Having a basic understanding of memory management is certainly valuable when working with these languages.

Follow-up Coursework

- CSE 110: I will be taking this class to follow up on software development methodologies and development tools.
- CSE 101: This will be my first algorithms class.

This summer, I worked on an iOS Swift application that scans receipts. Using text recognition, the app converts an image of a receipt to formatted data and upload it online for further usage.





Key Achievement

I had no experience with Swift or iOS development when I walked into the Intellecy office. Upon leaving, I had learned two new languages (Swift and Python), implemented two libraries, and connected to two online APIs. The overarching achievement for me was learning how to integrate various technologies into and creating an iOS application from scratch. I am especially proud of the work I did with the libraries and image processing on the iPhone.

This was all a matter of taking things one step at a time and familiarizing myself with the language. I grew as a programmer as I used my application every day and realized what wasn't intuitive.

Perks and Highlights

- Free coffee!
- Fast-paced hard-working environment that challenges and pushes
- Fun conversations in the workplace
- Small team that is easy to get close with

Technical Tools

- **Xcode** – The main IDE for programming for iOS.
- **vim** – Lightweight text editor that is fantastic for quick edits. Glad I learned this in class.
- **Python** – Easy to learn language that can be used to create "rough drafts" of code.
- **Tesseract** – Optical character recognition library now maintained by Google.
- **Bash** – Lots of scripting to automate processes
- **GIMP** – I wasn't expecting to use this, but it helps to try editing images in a photo manipulator before coding the algorithms.
- **Git** – Standard version control