

This summer, I worked at Cubic Transportation System in San Diego where I designed, developed Android NFC smartcard checker app for the company to use, and learned about layouts of different ticket data types.

What I've learned:

- Android Development:
 - Service
 - Multi-threading: Handler and AsyncTask
 - User interface design
 - NFC programming
- Advanced Java Programming:
 - TCP network programming,
 - concurrency
- Reinforced programming and debugging skills
- Time management
- Problem solving skill
- Public communication skill



Key Achievements:

When I took the job, it was very challenging. As a student who was rarely exposed to Android development before, I had to build an Android app from scratch, design user interface, and optimize the performance. Noticeably, my communication with my supervisor mainly relied on emails, which offered me rare opportunities of self-learning and problem-solving. I can say the greatest achievements I've got during my internship were the substantial advance of my programming and communication skills. My achievements on the project involve the design of a clean and responsive user interface, functions to unpack and decode smart card transit data, intense NFC and TCP programming, and time performance analysis. At the end of my internship, I made a presentation of the project to the engineers and product managers here in Cubic



Perks and highlight:

- Free coffee and tea
- Monthly Intern events to meet up with people in the company (Go Kart, Laser Tag, 5k Walk, public speaking training, etc.)
- Relaxing working atmosphere (“Flip Flop Friday” and “free message” that reduce working pressure)
- Lots of opportunities to know product management, marketing, sales and other non-engineering people



UCSD connection:

Useful classes Taken:

- CSE30: offered me the basic understanding bit manipulation, file I/O which I used a lot on transit data decoding.
- CSE100: provided a deep analysis of data structures. During the internship, I selected various data structures for different cases to get faster data access and manipulation.
- CSE110: offered me the chance to work in group and taught me generic knowledge about software development. During the internship, I learned to communicate with others in order to remove assumption about the implementation. The class also helps me a lot with my technical presentation

Courses that I think I would like to take:

During the internship, I need to use TCP network programming as well as multi-threading. I hope I can get more understanding through following classes:

- CSE120(Principles of Computer Operating Systems)
- CSE123(Computer Networks)
- CSE124(Networked Services)