Lachlan Ford

Education:

Normanhurst Boys High-School 2005 – 2010:
ATAR: 92.3
UNSW 2010 – Present studying Bachelor of Computer Science:
WAM (Weighted Average Mark): 74
COMPWAM (Weighted Average Mark, for computing): 80.5

Employment:

SmartSparrow 2010 – Present:
At SmartSparrow I have worked on Flash and HTML5 based educational simulations for:

- UNSW medicine (Virtual Laboratories)
- UNSW mechanical engineering (Energy Balance simulations)
- The ASU "Habitable Worlds" online course
- And many more (Monash University, Open Universities Australia, Macquarie University, University of Tasmania)

I also played a significant role in developing our virtual lab engine, researching ways in which to move from Flash to HTML5 in which I developed a HTML5 rendering and simulation framework (http://www.cse.unsw.edu.au/~ljef079/Cheddar/), and developed various other tools (Flex Threads, Grunt preloader manifest node plugin).

I also worked on the website frontend and server for the company's launch.

Shift Interactive 2008 (short term contract):
Worked on Flash Banner ads and a Flash based Facebook game.

Current Side Projects:

Gastap

- Game company I started out of high-school with two friends. Since then many more people have joined. Have participated in two gamejams (2010 and 2011) and are currently developing a game, our website and our first "proper" game.

  Gastap has provided us with many fun problems to solve over the years including:
  - Real time game networking code challenges.
  - Rendering challenges such as stencil shadows.
  - Collision detection challenges such as efficient real time polygon to polygon collision detection and response.
  - Clustering algorithms for intelligent ship fleet AI.

- Web design, game design, and Software Engineering challenges.
- Human management challenges (motivation, organisation, etc...)

Jammer

A peer to peer device agnostic networking service I have started developing for android with two university friends.

Year by year detail:

2005

- Participated in robocup.
- Taught myself Actionscript, in order to make Flash based games.

2006

- Achieved 3rd place in the ACMI "Screen-it" competition for Game Development.

2007

- Achieved 2nd in the Australian digital design competition in open animation.

2008

- Work experience at Shift Interactive, made flash banner ads and worked on a flash based facebook game.
- Undertook short term employment contract with Shift Interactive.

2009

- Participated in CompClub at UNSW which was a social computing group run by tutors of UNSW's high-school computing course. There we worked on interesting projects such as:
  - Attempting to make a persistance of vision clock out of a hard drive and "penguino" microprocessor.
  - An FTIR touch and display screen and air hockey game to go with it.
  - Wrote Genetic algorithms for a box2d based game to try and create walk cycles for entities to make them walk as long as possible.
- Attended NCSS camp where I was the backend manager for a social networking site called "Facepalm", which we developed over the course of the week.

- Achieved distinction in the AIO.
- Attempted to visit every train station in sydney in 24 hours alla TSP.
- Managed to get the North Sydney Region login password for the DET's network.

2010

- Successfully completed the HSC at Normanhurst Boys High-School
- Designed and coded the schools online prefect voting system.
- Completed UNSW's high-school computing course “HS1917” with a mark of 85.
- Part of the Hornsby girls progcomp team which achieved distinction.
- Shortlisted for art express for my year 12 animation.
- Gained scholarship offer to Sydney University worth $6000 for writing a crossword puzzle solver.
- Offered Business IT CO-OP sholarship to UNSW, shortlisted for Software engineering and computer science.

2011

- Commenced casual employment at SmartSparrow.
- In summer, began part time employment at SmartSparrow.

2012

- Semester 1
    - 85 in microprocessors, extended final game project with multiplayer using one board as a server and another as a client. Also included animations. Received full marks for that project.
- Semester 2
    - 85 in computer graphics, implemented phong and toon shaders in major project as well as functioning portals.
    - Worked on beacon tracking system in Robotic Software Architectures using openCV and worked on speech recognition.

2013

- Semester 1
    - 96 in Algorithms
    - Implemented software renderer for solar system with dynamic

lighting and shadows (planets shadowed others) which runs on an ipad in the browser.

Languages:

- AS3: VERY familiar.
- JS: Quite familiar, worked with various frameworks like backbone and requirejs and javascript based build tools. Also know coffeescript to an extent.
- C: Rather familiar, used in first year and Operating Systems.
- C++: Used it when I was able to (university assignments), made small source engine mods with it. Made a small first person openGL game scene with it. Currently using it to practice for the ACM programming competition.
- Java: Server development at SmartSparrow, android development, various assignments at university.
- Python: Used for assignments, robotics, NCSS backend, and various small projects.
- C#: Made minor projects in it (server side code for a game, used in unity, small XNA UDP multiplayer game).
- Currently Learning: Haskell, Scala, Ruby

Miscellaneous:

Familiar with version control systems such as git and svn after having used them extensively at SmartSparrow and uni

Currently Learning dvorak, out of curiosity and challenge

Developed in windows and unix environments

Worked with various technologies and software (thrift, grunt, tomcat, maven, node, Jira, gitlab, eclipse, visual studio, Adobe software etc...)

Currently practicing for the ACM programming competition and the UNSW CTF security competition, by completing past ACM problems and challenges like io.smashthestack.org. Have also joined the unsw Robocup team

Other Interests:

Acrobatics

Rock Climbing

Music; can play violin, piano and guitar to small extent

Digital Art