Team Inventory

27 September 2019

Astraea

Adam Schilperoort

Brandon Horner

Michael Partridge

Peter Kurtz

Trey Tangeman

Adam Schilperoort

as3324@nau.edu

Major: Computer Science
Hometown: Prescott, Arizona

Education
Highschool: Prescott High School, Prescott Arizona
GPA: 3.97

College: University of Arizona, Tucson
Relevant Courses:
- ECE 175 - Intro to C programming
- ECE 275 - Programming in C/C++
- ECE 220 - Basic Circuits

College: Northern Arizona University, Flagstaff
Relevant Courses:
- CS 249 - Data Structures
- CS 480 - Operating Systems
- CS 212 - Web Programming

Skills
Current skills backed by experience:
- **C Language** - Having taken 3 C-oriented classes, as well as programming in C for my job over 4+ months, my knowledge encompasses hardware interfacing, input/output, scheduling, algorithmic analysis, and large-scale project development.
- **Website Development** - Having worked on websites for several NAU clubs and teams, while taking CS 212, my website experience is enough to design a professional website.
- **Electrical/Computer Engineering** - As an ECE at U of A, I gained skills in basic circuit analysis, giving me confidence with cabling and hardware analysis.

Interests
- **Computer Hardware** - As a Junior in High School I assembled a gaming PC from parts and have loved computer hardware ever since. That carried into ECE and CS interests.
- **Robotics** - On the NAU Robotics Team and the Rocket Team, I gained experience with controlling motorized systems which were intelligently informed by live data collection and analysis. My work experience at NPOI working on a deformable mirror also gave me experience with automated control for a complex piezoelectric system.
- **Astronomy -** As a kid I was always interested in space exploration and envisioned myself traveling to another planet. My passion for everything space-related still carries on today, which is why I became interested in NPOI in the first place, as I can help astronomers by utilizing my knowledge of CS.

Brandon Horner

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Major: Computer Science
Hometown: Fort Collins, Colorado

Education

Highschool: Desert Vista, Phoenix, Arizona
GPA: 3.3

College: Northern Arizona University, Flagstaff, Arizona
Relevant Courses:
- CS 386 - Software Engineering
- CS 480 - Operating Systems
- CS 499 - Parallel Programming

Skills

Current skills backed by experience:
- **C Language** - I have been using C for a couple of years now. My CS 480 class had us build a simulation of an operating system in C. My parallel programming class is teaching me how to better create multi-threaded applications for more efficient programs.
- **Code Architecture -** Software engineering has taught me to understand the process of putting together a coherent piece of software. My semester's project involved creating a prototype of a cryptocurrency market analysing application which I am still working on.

Interests

- **Scripting -** I enjoy writing scripts for my favorite games to help automate time consuming tasks. Scripts can also be used to help with everyday computer tasks, making work more efficient. I have created GUIs for many of my scripts, which can be run on many systems and are intuitive to new users.
- **Computer Hardware -** I have built seven computers from scratch, including some cryptocurrency miners for myself and a client. These mining computers consist of many GPUs hooked up to a single motherboard.
- **Longboarding -** I have been longboarding for eight years. Downhill longboarding is exhilarating because you have no brakes! The challenge is stopping your board with nothing but your brain, body and your wheels.
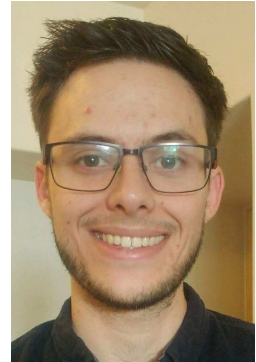
Michael Partridge

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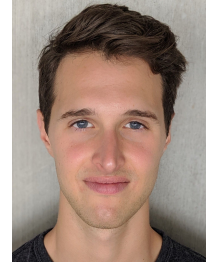
Major: Applied Computer Science
Hometown: Flushing, New York

Education

Highschool: Archbishop Molloy, Briarwood, New York
GPA: 3.7

College: Northern Arizona University, Flagstaff, Arizona
Relevant Courses:
- CS 200 - Intro to Computer Organization
- CS 249 - Data Structures
- CS 451 - Mechanized Reasoning about Programs

Skills

Current skills backed by experience:
- **GNU/Linux** - I use GNU/Linux full time and have exposed myself to multiple distributions including: Arch Linux, Fedora, and Debian.
- **Android** - I developed Tenso, an app that allows users to connect to WiFi and share existing connections leveraging NFC technology.
- **C Language** - My exposure to C through Linux and courses including: CS 200 and CS 451. Scheduled to take CS 480 next term. Reading *C Programming Language* (written by the maker of C).

Interests

- **Hardware** - I used a 12 year old ThinkPad X61s and 13 year old IBM ThinkPad T60 exclusively for two and a half terms at NAU. They had that amazing classic keyboard, no trackpad (only the trademark red trackpoint), and I ran Linux on them.
- **Cybersecurity** - Cryptography attracts me because of its relevance, but also because most modern systems actually expose their inner workings, yet remain secure. I am currently taking INF 638 Cryptography And Public Key Infrastructure.
- **Organization -** This is extremely valuable in Computer Science and team projects. CS and Linux have exposed me to organization standards and categorization techniques that have carried into my work and daily life. I thoroughly enjoy this continued exposure.

Peter Kurtz

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Major: Computer Science
Hometown: Phoenix, Arizona

Education
Highschool: Thunderbird High School, Phoenix, Arizona
GPA: 3.8

College: Northern Arizona University, Flagstaff, Arizona
Relevant Courses:
- CS 249 - Data Structures
- CS 480 - Operating Systems
- EE 222 - Intermediate Programming

Skills
- **C Programming** - Several courses required programs to be written in C including Operating Systems, which allowed for a better exposure to large scale projects written in C. Several of these courses required reading large code files which also helped me become fluent in C.
- **Code Architecture** - A few large scale projects required designing an entire code base from the ground up, which involved gathering multiple parameters to help design the architecture of the project. The software engineering course greatly helped with being able to plan out projects.

Interests
- **Astronomy** - The night sky has always been interesting to me, currently working in an internship at the United States Naval Observatory working on data pipeline at the NPOI.
- **C/C++** - My favorite language to work in is C, and many of the projects that interest me, specifically Astronomical ones, are written in either C or C++.
- **LEGO** - I enjoy building LEGO sets in my free time, as a way to work with my hands and have a creative outlet. Most of the official LEGO sets I build are Star Wars themed, but I enjoy building my own dioramas of historical events such as the Vietnam Conflict.

Trey Tangeman

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Major: Computer Science
Hometown: Phoenix, Arizona

Education
High School: Cactus Shadows High School, Scottsdale, Arizona
GPA: 3.9

College: Northern Arizona University, Flagstaff, Arizona
Relevant Courses:
- CS 430 - Computer Graphics
- CS 480 - Operating Systems
- CS 499 - Parallel Programming

Skills
- **C/C++ Programming** - I excelled in many C programming courses at NAU and taken on several personal projects in C/C++. One personal project I developed is a fully graphical chess application with OpenGL and ImGui for the UI. The application runs on Windows using WinAPI and Linux using SDL.
- **Systems Programming** - I am familiar with developing software targeted towards a particular system. I have programmed in Windows with WinAPI and POSIX in Linux.
- **High-performance Programming** - I developed high-performance software using multi-threading, SIMD, GPU acceleration, or memory optimizations. In CS 499 parallel programming, I developed a CUDA application that ran on Monsoon.

Interests
- **Low-level programming** - As a whole, I really enjoy programming with languages that are close to the hardware and also allow the manipulation of system resources, such as memory.
- **Computer Hardware** - I have built several computers from computer parts, even being paid to do it on a couple occasions. Whether it was for gaming or just home computers, I enjoy the process of picking out appropriate computer parts and assembling them.
- **Cooking** - I am an avid home cook. I especially like to cook French and Italian inspired dishes, which can range from simple pasta dishes to beef bourguignon.