SynthLang

Team Inventory

Feb 7, 2026

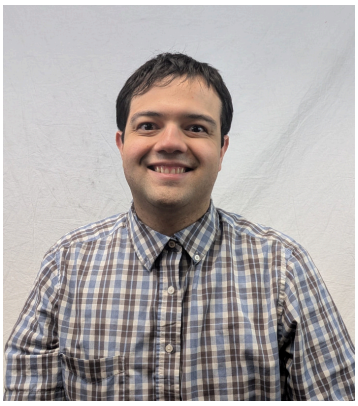
Project Sponsor Dr. Benjamin V. Tucker

Faculty Mentor Isaac Shaffer

Members

Paul:	Lead, Coder
Tyler:	Recorder, Coder
Logan:	Release Manager, Coder
Jalen:	Architect, Coder

Overview: The purpose of this team inventory document is to showcase the education, relevant skills, and work of every team member.



Biographical Info:

- Name: Paul Mayoral
- Major: Applied Computer Science
- Origin: Ash Fork, AZ

Education: Chino Valley High School

Relevant Coursework (NAU):

- CS 450 (Parallel Programming) where we have learned about parallel programming.
- CS 440 (Software Architecture) where we explored the design of software architectures and scripted in Node.js.
- CS 480 (Operating Systems) where I have written a simulator that can do FCFS-N and SJF-N.
- CS 345 (Database Systems) where I have learned about managing database systems in SQL.
- CS 470 (Artificial Intelligence) where I have learned about A.I.
- CS 386 (Software Engineering) experienced on how to make a software project within a team.

Work Experience:

Northern Arizona University, Flagstaff, AZ
Interns to Scholars - Database Research February 2025-May 2025

- Designed and implemented a relational database to track archaeological artifacts using SQL and front-end interfaces.
- Built a clean, user-friendly interface that improved usability for non-technical researchers.
- Collaborated with faculty to refine requirements and implement solutions aligning with project goals.

Student Programmer - Meteorology VR Development February 2024-May 2024

- Contributed to interactive VR educational experiences using Unity and C#, focusing on game logic and user interaction.
- Worked within an Agile team environment, communicated effectively with teammates, and integrated feature changes based on feedback.

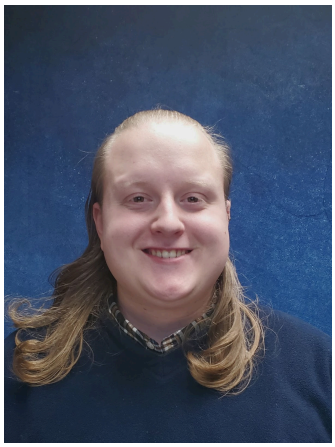
Student Unity Developer June 2023-July 2023

- Assigned to work on two educational web browser games to be more functional.
- Integrated Google Sheets using Google API to store and retrieve user data, demonstrating backend API interaction and cloud data handling.

Skills:

- Languages: JavaScript, Python, C#, C/C++, SQL
- Web: HTML, CSS, Node.js
- Databases: Relational databases, SQL schema design
- Tools & Concepts: Git/GitHub, Agile, cloud-based service

Biographical Info:



- Name: Tyler Bryant
- Major: Computer Science
- Minor: Mandarin Chinese
- Origin: Cave Creek, AZ

Education: Scottsdale Preparatory Academy

Relevant Coursework (NAU):

- CS450/453 (Parallel/GPU Programming: studied parallel programming techniques, GPU memory organization and CUDA shader development for the NAU Monsoon cluster.
- CS480 (Operating Systems): Developed a kernel simulator in C, gaining hands-on experience with memory management and file systems.
- CS212/312 (Web Development): Built a foundation for full-stack web development using the PERN stack.
- CS386 (Software Engineering): Learned modern development frameworks with emphasis on Agile methodology and team-based software design.

Work Experience:

Northern Arizona University, Flagstaff, AZ
Student Developer - CANIS Lab, Qöyangnuptu January 2024 - Present

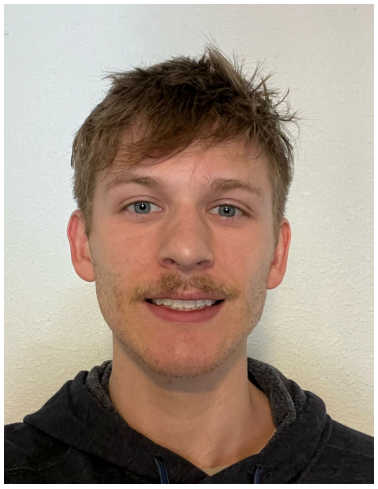
- Design and implement web-based user interfaces for a mental health resource database serving the Hopi-Tewa community
- Design and develop features for the companion mobile application, Qöyangnuptu
- Coordinate with a team to design, implement, and maintain software features

Skills:

- Web: HTML, CSS, JavaScript (JSX)
- Programming Languages: C/C++, Dart, Python, C#
- Technologies & Tools: Git/Github, Flutter, PostgreSQL, Firestore/Firebase, Node.js

Biographical Info:

- Name: Logan Hunt
- Major: Computer Science
- Origin: Coeur d'Alene, Idaho



Education: Timerlake High School

Relevant Coursework (NAU):

- CS 470 (Artificial Intelligence) Learned foundational artificial intelligence algorithms and Python packages.
- CS 386 (Software Engineering) experienced making a software project within a team.
- CS 312 (Web Programming II) Created a frontend and backend website

Work Experience (Personal Projects):

- Currently creating a kernel in C; implementing custom Interrupt Service Routines (ISRs) and exception handling for x86 architecture in the QEMU emulator.
- Built a two-stage bootloader in 1000 lines of x86 Assembly to transition the CPU from Real Mode to 32-bit Protected Mode.
- CHIP-8 Emulator:
  - Engineered a cycle and time accurate emulator for the CHIP-8/SUPERCHIP-48 architectures, mapping opcodes to simulated CPU instructions.
  - Implemented an emulated memory map, including registers, timers, and a stack, ensuring precise instruction timing and graphics rendering via SDL2.
- Developed a high-concurrency multiplayer roblox game using Lua; implemented server-side data persistence for player inventories and profiles.

Skills:

- **Languages & Systems:** C, C++, x86 Assembly, Lua, SQL, Manual Memory Management, Computer Organization, Information Systems.
- **Software Engineering:** Automated Test Scripts, Git/GitHub, Agile.
- **Systems & Networking:** Operating Systems, Real Time Operating Systems (RTOS).
- **Frameworks**: Angular, React, Node.js, REST APIs, Postman, Databases.

Biographical Info:

Name: Jalen Jensen
Major: Computer Science
Origin: Dilkon, Arizona

Education:

- Holbrook High School
- Northland Pioneer College (Associate of Science)

Relevant Coursework (NAU):

- CS 212 and 312 (Web Programming I and II) Created highly interactive websites using PERN stack as well as following MVC and RESTful architecture
- CS 345 (Database Systems) Basic concepts in database systems, including data manipulation language and data definition language with an overview of SQL
- CS 386 (Software Engineering) Applied software engineering and software architecture principles and techniques in the construction of complex computer programs in a team setting

Work Experience (Personal Projects):

Dilkon Community School, Dilkon, Arizona
Education Technician September 2021 - July 2023

- Created and organized funding for computer and music related clubs for K-8 students
- Assisted with the implementation of EAGL Talon Indoor Gunshot Detector for safety and response assistance with the Navajo Police Department
- Attended professional development gatherings in Florida, Nevada, and Alaska for improved work ethic and time management practices.

Personal Projects January 2020 - Present

- Created multiple frontend start up company website templates as a learning and practice opportunity for familiarity with HTML.
- Various Blender and CAD blueprints for 3D printing products for either commercial or personal use

Skills:

- Languages: C/C++, Python, SQL
- Web: HTML, JavaScript, CSS
- Program Management: GitHub
- Tools: PostgreSQL, MySQL, Node.js, React