

EE 492: Senior Design II

sddec23-05

DNA Data Storage

Jan. 2023 – Dec. 2023

Client: Professor Meng Lu

Faculty Advisor: Professor Meng Lu

Team Members:

Colin Frank – Software: GUI

Evan Walters – Software: GUI

Rachel San Agustin – Software: GUI & OxyGEN

Caden Wortman – Hardware & Integration: Projector & OxyGEN

Astha Upadhyay – Software: OxyGEN

Anna Hackbarth – Software & Logistics: OxyGEN, Document Management, Website

Week Summary and Updates:

Past Week Accomplishments:

- **Evan – Completed full integration with fluid flow system and can now adjust all needed components. Added all needed user inputs asked for by client. Adjusted GUI code to allow for quick turnaround testing when flow cell is ready for implementation.**
- **Colin – Completed full integration with fluid flow system and can now adjust all needed components. Added all needed user inputs asked for by client. Adjusted GUI code to allow for quick turnaround testing when flow cell is ready for implementation.**
- **Rachel – Collected and prepared materials to create flow cell. Handed glass slide to ETG to get holes drilled.**
- **Caden – Met with the ETG to get an extender for the lens and an L bracket to attach the projector to the base plate designed and built, designed and modeled the housing for the projector once**
- **Astha – Worked on to create flow cell for the final testing**
- **Anna – Helped prepare materials for flow cell creation, final poster creation and formatting, website updates**

Pending Issues:

- **Evan – Need to fully system test with flow cell and projector in place. Also need to add the variable correlated to distance between cells in with pixel distance.**

- **Colin – Need to fully test project as prototype. Also need to add the variable correlated to distance between cells in with pixel distance.**
- **Rachel – Waiting for ETG to drill the holes in the slide. Will complete flow cell construction once slide has been returned.**
- **Caden – Waiting for the email from the ETG that our parts are machined to install them, need to slice the housing files and print them**
- **Astha – Test the final flow cells**
- **Anna – Waiting for ETG to drill holes for slide. Website code file having trouble uploading properly, visiting ETG this week to see if they can assist.**

Individual Hours and Contributions:

Name	Tasks (11/9 - 11/22)	Hours	Cumulative Hours (F23)
Evan	Full GUI integration with Flow system. Added user inputs for needed components	16	67
Colin	Full GUI integration with Flow system. Added user inputs for needed components	16	61
Rachel	Flow cell construction.	8	25
Caden	Housing planning and design ETG meeting and machining request	5	39.5
Astha	Flow cell construction	3	20.5
Anna	Flow cell construction, website updates, final poster formatting	11	40.25

Upcoming:

Full system integration testing with the GUI controlling all aspects of the fluid control system while the new flow cell is in place and the projector is properly mounted.