

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 – GUI is not complete in Visual Studio. Implementation with the fluid system has started and the library of the SDK has been added to the GUI source code.**
- **Colin – GUI is not complete in Visual Studio. Implementation with the fluid system has started and the library of the SDK has been added to the GUI source code.**
- **Rachel – Met with graduate student to learn how to create flow cells.**
- **Caden – Multiple meetings to do further photoresist testing for the resolution of the projector, attempted debugging for the spinner used to do the photoresist testing**
- **Astha –**
- **Anna – Working to upload backlog of documentation to website, met with advisor to discuss technical specifications of flow rate, setting up time to meet with flow control team**

Pending Issues:

- **Evan – Communication between the GUI and fluid system is unknown – needs further testing. SDK is written with reference .NET Core 3.1 and GUI is written with reference .NET Framework – further research is needed to solve compatibility issues.**
- **Colin – Communication between the GUI and fluid system is unknown – needs further testing. SDK is written with reference .NET Core 3.1 and GUI is written with reference .NET Framework – further research is needed to solve compatibility issues.**
- **Rachel – Create two test flow cells: 1x 1 input, 1 output; 1x 2 input, 1 output**

- Caden – Finding what lens we need to get ordered to achieve the resolution we need
- Astha –
- Anna – The flow control team needs to reconnect and work on the test flow cells.

Individual Hours and Contributions:

Name	Tasks (10/26 - 11/8)	Hours	Cumulative Hours (F23)
Evan	GUI into VS, SDK implementation	12	51
Colin	GUI into VS, SDK implementation	12	45
Rachel	Flow cell creation	3	17
Caden	Photoresist testing, spinner debugging	5	34.5
Astha			17.5
Anna	Flow rate questions, documentation updates (packet and website code)	8	29.25

Upcoming:

The GUI team has included the SDK dll file into the GUI project so testing to see if the GUI can now directly communicate with the fluid system will start this week. Testing will start with basic functionality; we will create a new button with the sole purpose of testing to see if the specific functions like controlling the valve position will work.