

Microscope Slide Scanner

Date: 10/24/24

Client: Teri Stewart

Advisor: Dr. James Trevathan

Team: Lia Lejonvarn (Team Leader)

Amanda Kothe (Communicator and BSAC)

Hamad AIDhaheeri (BPAG)

Xavier Snider (BWIG)

Problem statement

The team has been tasked with finding a more efficient way to scan microscope slides using digital scanning. The client's department already has a scanner but it takes a while to scan one slide and the images are not of the best quality. Therefore, we must find a way to enhance the user quality of their digital scanner as well as the images themselves. The department has also asked our team to create software capable of housing the images. This project will benefit multiple labs who send in slides for processing including the primate lab and SMPH.

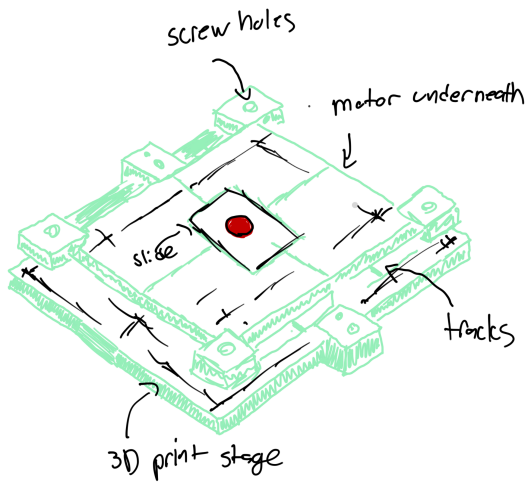
Brief status update

The team has started testing ImageJ's stitching program and has begun looking at the old scanner for ideas on how to continue with the automated stage.

Difficulties / advice requests

The team would like advice on their materials list.

Current design: Slide Glider



Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
									\$0.00	
									\$0.00	
Category 2										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	

Major team goals for the next week

1. Continue testing algorithms
2. Order materials
3. Design microscope base in SolidWorks

Next week's individual goals

- Amanda:
 - Start solidworks model for tracks
 - Design electronics in LT Spice

- Examine old scanner for ideas on mechanics and materials for project
- Lia:
 - Start prototyping automated stage
 - Test electronics in LTSpice
 - Start researching ways to automate cropping process
- Xavier:
 - Take apart old scanner and try to reuse the design for tracks
 - Research motors
- Hamad:
 - Determine the material required for prototyping
 - Determine the cost of the materials needed for prototyping
 - Explore the old Microscope slide scanner for usable materials

Timeline

Task	Sep			Oct				Nov				Dec		
	13	20	27	4	11	18	25	1	8	15	22	29	6	11
Project R&D														
Empathize														
Background...														
Prototyping														
Testings														
Deliverables														
Progress Reports	X	X	X	X	X	X								
Prelim presentation				X										
Final Poster														
Meetings														
Client	X	X		X		X								
Advisor	X	X	X	X	X	X								
Website														
Update	X	X	X	X	X	X								

Filled boxes = projected timeline
 X = task was worked on or completed

Previous week's goals and accomplishments

- Amanda:
 - Meet with client to gather materials and discuss product
 - Order materials
 - Design Electronics
- Lia:

- Started researching electronics design
- Tested stitching software
- Xavier:
 - Research the micro movements
 - Solid works once client gives us microscope
- Hamad:
 - Test different ways for our design to move around.
 - Determine which method will be the most accurate and efficient.

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Amanda	10/23	Team meeting/pick up scanner	1	1	9
Lia	10/23	Team meeting/pick up scanner	1	1	9
Xavier	10/23	Team meeting/pick up scanner	1	1	9
Hamad	10/23	Team meeting/pick up scanner	1	1	8