

***EE/CprE/SE 492 BIWEEKLY REPORT 5***

***Oct25th, 2023 – Nov 8th, 2023***

***Group number: sddec23-19***

***Project title: Bluetooth-Enabled Ingestible Capsule to Monitor Gut Activity***

***Client &/Advisor: Santosh Pandey***

***Team Members/Role: Chase Thompson, Cutler Thayer, Tucker Thomas, Robert Zukowski***

○ **Weekly Summary**

Ordered parts for the capsule and worked together on planning the vision prototype.

○ **Past week accomplishments**

- **Chase Thompson:** Started working on the user interface for the rapid reading software and the endoscope. Currently we are working on allowing the user to simply use the endoscope to record video through our software and will later implement the ability for live rapid reading of the image data as well as the ability to use rapid reading with previously recorded video and images.
- **Robert Zukowski:** Finished PCB layout, ordered board and parts. Began looking at arduino/raspberry pi for potential existing libraries w/ image sensor
- **Cutler Thayer:**
- **Tucker Thomas:** Unfortunately not much work could be done from my end as we are waiting for the board to be delivered.

○ **Individual contributions**

| <b><u>NAME</u></b> | <b><u>Individual Contributions</u></b>                                                                                                                                                                                                                                              | <b><u>Hours this week</u></b> | <b><u>HOURS cumulative</u></b> |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|
| Chase Thompson     | Created the repository for the user interface portion of the rapid reading software and researched different ways of sending the image data to the user interface.                                                                                                                  | 6                             | 16                             |
| Robert Zukowski    | Finished/ordered PCB as mentioned before. So far I have not found any libraries that do any parallel image sensor output conversion so I might have to write my own. I do have an idea of how I could potentially get code to display an image even though it might not be perfect. | 6                             | 20                             |
| Cutler Thayer      |                                                                                                                                                                                                                                                                                     | 2                             | 9                              |
| Tucker Thomas      | Waiting for board                                                                                                                                                                                                                                                                   | 1                             | 7                              |

○ **Plans for the upcoming weeks**

- Chase Thompson: Finish the endoscope view and begin working on implementing rapid reading abilities for previously recorded data.
- Robert Zukowski: The boards came in and it looks like I forgot to specify that vias shouldn't be covered in solder mask. The BGA part used is too small for an actual fanout to be done, so everything is via-in-pad and I have to go back with a tiny knife under a microscope and re-expose all the pads for anything to actually work. What fun :/
- Cutler Thayer:
- Tucker Thomas: Assemble circuit and begin testing