

EE/CprE/SE 492 BIWEEKLY REPORT 3

Sep 11th, 2023 – Oct 25th, 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:** Met with Dr. Pandey and discussed doing research into potentially getting a free trial of another company's Rapid Reading software in order to compare the outputs of the software. Also considered the use of machine learning in order to allow the algorithm to continue improving even after development by letting the users manually review the outputs.
- **Robert Zukowski:** Worked on PCB design for image sensor. Attempted to figure out a way to convert MIPI image data before sending it to the bluetooth microcontroller to save a significant amount of software headache
- **Cutler Thayer:** Looked into machine learning algorithms to attempt to implement rapid reading software.
- **Tucker Thomas:** Added nothing significant to note, was too busy with other courses.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Chase Thompson	Began research into using machine learning for the Rapid Reading software. Looked into which companies may offer a free trial of their software.	4	10
Robert Zukowski	PCB/schematic work	6	14
Cutler Thayer	Looked into machine learning products to see what would work with our attempt at rapid reading.	2	9
Tucker Thomas		1	7

○ **Plans for the upcoming weeks**

- Chase Thompson: Attempt to get access to a free trial of the Rapid Reading software and see if I can get it working.
- Robert Zukowski: I didn't realize until late the past two weeks that sending MIPI data directly over bluetooth is a pretty terrible idea. Ideally I can find a premade IC that can just convert MIPI directly into literally anything else. If that isn't possible then I'll just export the current finished design with MIPI headers broken out so that various testing can be done including sending it directly to a PC.
- Cutler Thayer: Work with Chase to access a free trial of rapid reading software so we can test it.
- Tucker Thomas: Develop circuit design for image capture.