CprE 492 - sddec21-14
IT-Adventures
Week 1 Report

August 30, 2021 - September 13, 2021
Client: IT Adventures
Faculty Advisor: Doug Jacobson

Team Members:

Dakota Berbrich - Robotics
Nolan Jessen - Robotics
Aaron Goff - Smart-IT
Noah Berkland - Smart-IT

Past Week Accomplishments

- Interface between Sphero RVR & Raspberry Pi + Lesson Plans - **Aaron and Noah**
    - Finalized getting the interface between the Sphero RVR & Raspberry Pi working since the Sphero RVR SDK and Python both updated over the summer, it caused additional conflicts that had to be resolved
    - Recorded and wrote a lesson plan on how to properly get the Raspberry Pi and RVR communicating
        - Created both a step-by-step walkthrough as well as a youtube video to guide students through this process
    - Wrote lesson plan on installing required programming software for high school students (PyCharm & Thonny Python IDE)
        - Created both a step-by-step walkthrough as well as a youtube video to guide students through this process
    - Wrote lesson plan for testing both IDE's and writing first program.
        - Created both a step-by-step walkthrough as well as a youtube video to guide students through this process
    - Wrote lesson plan for mounting Raspberry Pi to Sphero RVR
        - Created both a step-by-step walkthrough as well as a youtube video to guide students through this process
    - Wrote lesson plan for testing the interface between Raspberry Pi and Sphero RVR
        - Created both a step-by-step walkthrough as well as a youtube video to guide students through this process
    - Started writing FAQ guide for most common questions and problems

- ○ Reworked lessons to be more teacher friendly and incorporate the textbook.
- ○ Started writing Module 1 overview, covering the first month of lessons.
- ○ Fixed errors in RVR and Pi assembly instructions.
- ● Robotics - **Dakota and Nolan**
  - ○ Finalized timeline for lesson plan
    - ■ Between the senior design team and IT Adventures, there were some miscommunications in the initial design concepts. These were rectified, and a finalized schedule was created for the year
  - ○ Created lesson plans through December
    - ■ The lessons are only intended for the first semester, so this completes the majority of the lessons
    - ■ Included creating lessons on basic programming I/O, interfacing the RVR with the micro:bit and littleBits, and utilizing
  - ○ Created challenge template
    - ■ The small and large challenge template (for both digital and print) was created
  - ○ Finalized and submitted September lessons
    - ■ The lessons and introductory documents for September were verified and submitted, being publicly posted. These same steps will be taken for the coming months in the next few weeks

Pending Issues
- ● Finish FAQ guide and continue with Python lessons for Raspberry Pi to Sphero RVR - **Aaron**

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Dakota Berbrich	Finalized & submitted September Robotics lessons. Started testing future lessons.	10	20
Nolan Jessen	Finalized & submitted September Robotics lessons Created "Intro to Robotics" presentation	12	30

Aaron Goff	Debugging interface between Raspberry Pi & Sphero RVR + Sphero RVR lesson plan building	16	52
Noah Berkland	Continued working on and rewriting September Smart IT Lessons to be more teacher friendly and incorporate the text book. Began writing a Module 1 overview for the Smart IT side of the course.	8	18

Plans for Coming Week

- Finish Raspberry Pi & Sphero RVR FAQ - **Aaron**
- Continue creating lesson plans through the month of October for SmartIT - **Aaron and Noah**
- Finish Smart IT Overview - **Noah**
- Create lessons for October and November lessons. - **Noah**
- Brainstorm and start creating long-term Robotics challenge for spring competition - **Nolan and Dakota**
- Brainstorm small challenges for Robotics spring competition - **Nolan and Dakota**
- Create challenge documents and solutions for fall semester - **Nolan and Dakota**
- Finalize and submit October and November lessons - **Nolan and Dakota**