

Team Name: sddec21-14

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Report Period: Mar 15-Mar 28

### Summary of Progress in this Period

The team has made quite a bit of progress during this period in all areas of the project. The website is starting to take shape, with basic documentation and a template up for edit by all team members. This will allow us to quickly add documentation and FAQ's relating to the different lessons in the future. In addition, both architectures (using the micro:bit and the Raspberry Pi 4) have been more thoroughly explored, with some of the early issues being worked out. Finally, the team has started to lay out the lessons for the Robotics program. This will allow for the individual lessons to be more easily created over the next few months.

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### Pending Issues

Currently, we are facing an issue where the Sphero RVR SDK for the micro:bit does not support interfacing the native RVR sensors. This *greatly* limits what kinds of programs can be created, especially since the RVR has multiple sensors that the littleBits kit does not contain (such as a color sensor facing the ground). Without the native support, the team has had to decide whether to continue with just the micro:bit and the littleBits or to switch over to the Raspberry Pi for controlling the RVR in the Robotics program. The problem is that the Pi is much more complicated to start programming than the micro:bit, which would likely turn some students away from attempting it at all. Therefore, we are going to continue using the micro:bit architecture, but will also contact the Sphero technical department and ask that they start supporting the native RVR sensors.

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### Plans for Upcoming Reporting Period

In the upcoming period, the team will primarily focus on finishing the lesson outline and creating the first two months of lessons. Within the Robotics program, this will consist of the basics of programming. The first months will include documentation on setting up the micro:bit, creating presentations explaining the basics of different programming topics (such as *loops*), and some example programs to run and create (with some advanced challenges for the students who wish to tackle them). The Smart IT program will also start to be created, with an outline for the program being created and the first few months of curriculum really outlined.

Beyond these, the final challenges are also starting to be debated, looking at how the Sphero RVRs can be customized and can interact with each other. In previous years, the Lego robots would be able to compete against each other in a sumo competition. The RVR is considerably harder to customize, unfortunately, so we are working hard to determine how the students could customize them in a cost-effective way and compete against each other.

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