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Sprint 2 Report - Smart Irrigation - Team iSlug

What things should we stop doing?

During our second sprint we were able to obtain all of the essential equipment for our project. This includes water sensors, microcontrollers, WiFi modules and other necessary hardware to build our system. However, one of our issues during this sprint was coordinating times when we can all work on building the hardware system together. This is one of the most vital parts of our project. In regards to the hardware, we need to stop letting ourselves get distracted or too focused on other parts of the project such as writing these sprint plans and reports. Although they are important to the class and the management of the project, understanding how the hardware works is the only thing that will allow us to achieve all of our goals. To do that, everyone has to be comfortable with the material. We did have our sensors misplaced due to a miscommunication with Kevin. Unfortunately, that set us back a couple of days and we will make sure to take better care of our resources for the last remaining sprint.

What should we start doing?

During the next sprint we plan to get everyone on the same level of understanding in regards to what is happening in the hardware. Our last sprint will have to majority of the hands on work and therefore it is really important that everyone knows what is going on. We have been successful in dividing the work between ourselves, but now we need everyone to be involved with all parts of this project and not just their specialized role. The last few weeks are upon us and these are going to be the most difficult and time consuming. We have obtained all of our resources and we have started our product's construction, but still have a long way to go before our final goal. In order to reach our final goal in a timely manner, we need everyone to help out with configuring the product's hardware. This means that we need to meet more frequently to work as well as have a higher attendance rate at each meeting. This isn't to say the attendance is necessarily poor for all types of meetings (work and management), but we need to designate specifically work sessions that involve more than two people at a time to bolster our knowledge of how our hardware works as well as make more progress towards completion.

What is working well that we should continue to do?

We have had a subgroup type of strategy in which a few people work on separate parts of the project at once. This has been beneficial to getting the project off the ground. We need to continue this with slight adjustments as stated previously (getting everyone more involved and more frequently). This is crucial because we have found that in these subgroups we are able to get tasks from our board completed. For the most part, we get along well and we are able to depend on each other. This trust that we have established as a team has worked well for us and will only continue to grow with the more time we spend working together and supporting each other when we run into issues that prevent us from getting work done.

What work was completed, and not completed?

Here are the tasks and User Story Listings we wanted to achieve during this sprint.

1. (3) As a user of the system, I need a user manual for the Smart Irrigation Project so that I know how to operate the system.
   1.1. Design a simplified user manual highlighting the various processing areas of our irrigation system and what they do. (3 hours)
   1.2. Make a chart showing each software processing area of our system. (2 hours)
   1.3. Make a flowchart showing each hardware processing area of our system and how it interacts with the software. (3 hours)
2. (13) As a farmer, I need the system to be able to deliver water to the plants so that they are not stressed by dehydration.
   2.1. Have the water sensors identify the appropriate soil moisture level through experimentation and using the "Watermark Soil Moisture Manual." (4 hours)
   2.2. Determine what pump or valve we will use to deliver water to the plants. (4 hours)
   2.3. Create a class that is specific to opening and closing the pump or valve that will deliver water to the plants. (4 hours)
   2.4. Test our system to see if water is actually being delivered to the plants. (4 hours)
3. (21) As a farmer, I need the system to be capable of running off of solar power so that I don't have to waste money on higher electricity bills and so that I don't have wires crisscrossing my field. (A potential electrocution hazard!!)
   3.1. Talk to Kevin Bell about how we will be using our solar panel and what kind of power usage we will be using to power the arduino and sensor. Question to ask Kevin: Will the solar panel be used to pump the water or will or is there an external power source already implemented for the pumps we will be drawing water from? (4 hours)

We were able to accomplish a majority of these tasks and took into consideration each user story along the way during Sprint 2. We did not accomplish the User Story regarding the solar power because we do not have the all of the resources for it yet and we decided to give more focus towards working with our sensors as they proved to be difficult to work with.

What is our rate of completing work?

User story 1 = Story points 3
User story 2 = Story points 13
User story 3 = Story points 21

Total story point count = 37. The estimates on our story points were pretty accurate for sprint one in terms of difficulty level and how much effort and time it took to accomplish certain tasks.

We put a total of 24 hours into sprint two, each of us doing 4 hours of work. We stayed on task during sprint two, but still missed out on some of the higher end, more challenging goals. We believe that is okay as we still are accomplishing a lot. The final sprint will be more challenging as it is the last one for the entire project. We are estimating that it will consume the most of our time.