Sprint 2 plan

Product name: Automated Cell Counting
Team name: Cell Counting Project
Release name: ACC alpha v1.0
Release date: 06/04/2021
Revision number: 1
Revision date: 04/21/2021

This sprint we would like to start implementing the machine learning model. To do this we need to annotate our data and implement a way to save data.

Task Listing:
- (13) As a lab researcher, I want to be able to not have to manually count the cells so that I can use my time for something else.
  - Learn how to use our decided model (5 hours)
  - Write a skeleton pipeline that handles basic I/O interfacing with our application (3 hours)
  - Write a training script for the model (2.5 hours)
  - Do K fold validation for our model (2 hours)
  - Hook up the model to the skeleton pipeline (1.5 hours)
  - Hook up the backend of the program to the UI (2 hours)
  - Total Hours: 16 hours
- (8) As a lab researcher, I don't want to count specks of dirt or other visual clutter.
  - Annotating more data (6 hours)
  - Augmenting data (4 hours)
  - Tune training hyperparameters (2 hours)
    - Re-training the model to exclude the specs of dirt from the count
  - Consider other models (if necessary) (5 hours)
  - Save pretrained weights in an organized place (1 hour)
  - Total Hours: 18 hours
- (1) As a lab researcher, I want to be able to save previous images and the data I got from them so that I can look at them later and not have to spend the time to redo past results.
  - Implement code to allow users to download a CSV with their data (1 hour)
  - Total Hours: 1 hour

Team Roles:

- Jorge Tapias Gomez: Product Owner
- Sriram Ramesh : Developer
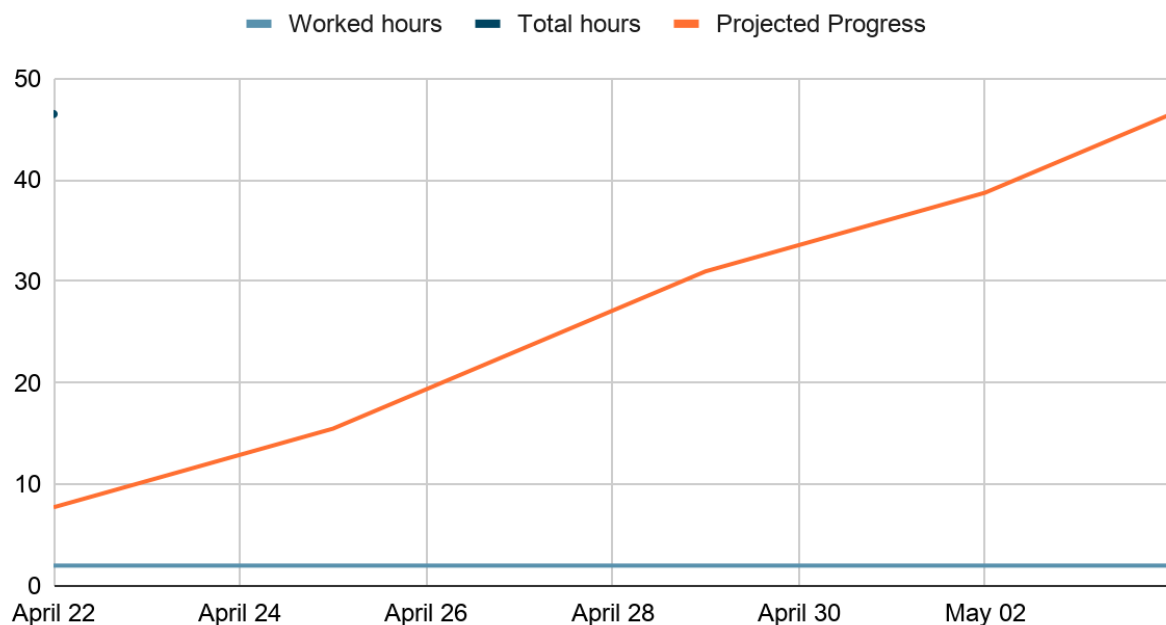- Aaron Swoiskin : Scrum Master
- Dhruv Tummala : Developer

Initial Task Assignment:

- Jorge Tapias Gomez:
    - As a lab researcher, I don't want to count specks of dirt or other visual clutter.
        - Annotating more data (6 hours)
- Sriram Ramesh:
    - As a lab researcher, I want to be able to not have to manually count the cells so that I can use my time for something else.
        - Learn how to use our decided model (5 hours)
- Aaron Swoiskin:
    - As a lab researcher, I want to be able to not have to manually count the cells so that I can use my time for something else.
        - Learn how to use our decided model (5 hours)
- Dhruv Tummala:
    - As a lab researcher, I want to be able to save previous images and the data I got from them so that I can look at them later and not have to spend the time to redo past results.
        - Implement code to allow users to download a CSV with their data (1 hour)
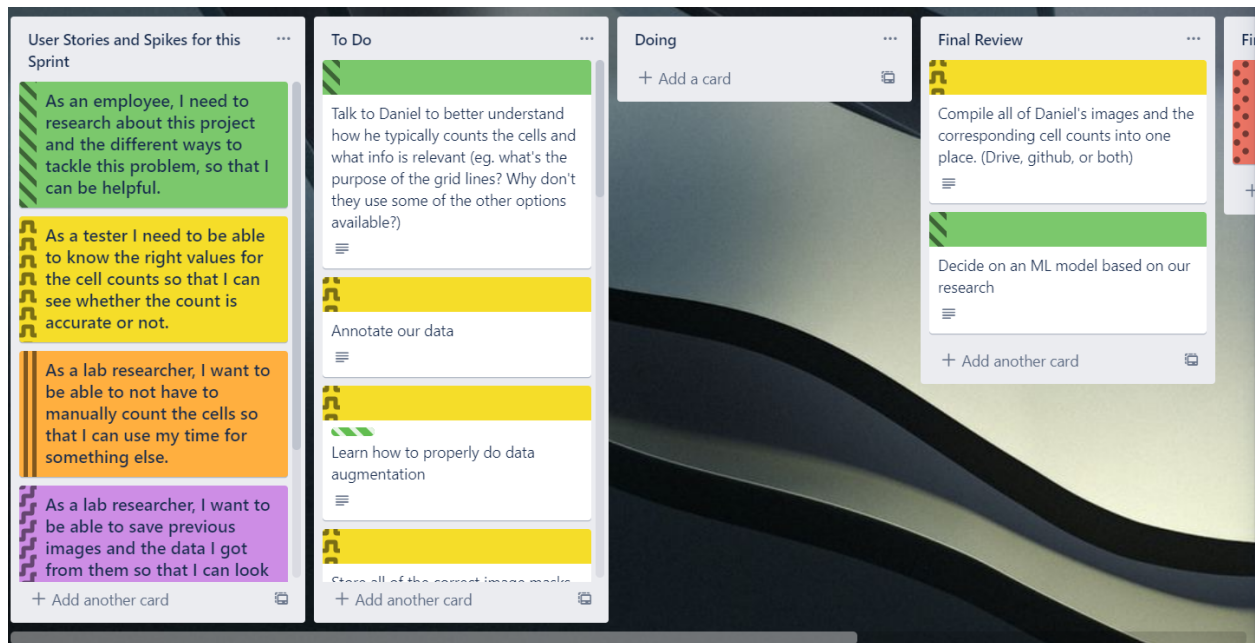
Initial Burnup chart:
The chart will be kept track of at this link. Below is a screenshot of the chart after our first scrum meeting.

Burnup chart

Initial Scrum Board:

The scrum board is made on a trello board at this link. Join to be able to see the board at this link (only click once). Below is a screenshot of the trello board at the start of the sprint.

User Stories and Spikes for this Sprint

- As an employee, I need to research about this project and the different ways to tackle this problem, so that I can be helpful.
- As a tester I need to be able to know the right values for the cell counts so that I can see whether the count is accurate or not.
- As a lab researcher, I want to be able to not have to manually count the cells so that I can use my time for something else.
- As a lab researcher, I want to be able to save previous images and the data I got from them so that I can look

+ Add another card

To Do

- Talk to Daniel to better understand how he typically counts the cells and what info is relevant (eg. what's the purpose of the grid lines? Why don't they use some of the other options available?)
- Annotate our data
- Learn how to properly do data augmentation
- Store all of the correct image masks

+ Add another card

Doing

+ Add a card

Final Review

- Compile all of Daniel's images and the corresponding cell counts into one place. (Drive, github, or both)
- Decide on an ML model based on our research

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The tasks are color coded with the user stories they correspond to. The user stories are in full color, while the tasks have only a colored header at the top. The time estimates are in the task descriptions. Whether some tasks need to be done hinge on the results of other tasks.

Scrum Times:

Sunday: 5:00pm
Tuesday: 5:00pm <- TA section
Thursday: 5:00pm