Team Copy-Waste
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Team / Instructor Scrum - 3
Sept. 24, 2021 - Oct. 8, 2021

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**Team Member Roles:**

- Nolan Flegel - Machine Learning Lead
- Rishabh Prasad - Front-End Services Lead
- William Peers - Back-End Services Lead

**Business Needs:**

- Our business need is to reduce risk and cost to municipalities and waste management employees. As recycling rates increase, the events are a growing concern. An event that happened recently at a recycling facility in Regina, emergency services responded to a fire, presumed to be caused by batteries in the recycling stream.
- **Emterra Fire Article:** Firefighters knock down recycle depot fire in Regina's west end
    - https://www.cbc.ca/news/canada/saskatchewan/emterra-recycle-depot-fire-1.6202918

**Status:** Green

- We have made great progress with developments in the universal bin detector and dashboard, meeting often, and recording meeting minutes with our scheduled weekly sprints

**Individual Contributions:**

- **Nolan**
    - Annotations using SuperAnnotate, completed Yolo training tutorials, created a script to separate training and test data, as well as a script to convert annotation results to YOLO format
- **Rishabh**
    - Built dashboard architecture with React, and implemented Mapbox maps with GeoJSON layers
- **Will**
    - Annotations using SuperAnnotate, separated and categorized datasets for testing and training, and completed various YOLO training tutorials

**Project Issues / Changes:**

- Having troubles finding a tool for converting our annotated images from SuperAnnotate format to Yolo format. This conversion is necessary to begin training a Yolo model. As no tool was found, we created a custom script to carry out the conversion
- Issues with Green Screen Integration but have developed a plan to resolve this

**Documentation and Overview:**

- Green Screen dashboard is developing with the base structure being complete with panels, user authorization and map integration
- Collected Images are being annotated and categorized for the Bin Detector model to be trained and tested
- Mitacs Proposal has been submitted!
- Trello board is being actively used
- Meeting minutes are being noted at the end of every weekly sprint

**Next Up:**

- **Team**
  - Coordinate meetings with Prairie Robotics to prepare and plan for the development of the Copy-Paste pipeline
- **Nolan**
  - Train and test bin detector, run detector on simulation mode of Edge Device
- **Rishabh**
  - Resolve integration issues with Streamsight API, develop tests for the dashboard
- **Will**
  - Begin training and testing the bin detector, and benchmark the detection model

**Team Reflection:**

- **Does the team feel "on track"?**
  - We believe we are still on track
- **What progress does the team particularly feel good (great) about?**
  - We made great progress in the last 2-3 weeks on the dashboard and the bin detector which feel great about.
  - Mitacs proposal being submitted is also a big win for us
- **What barriers (if any) does the team feel are a current impediment to success?**
  - There have been some unexpected integration issues with PR API which are currently being resolved
  - Annotation format compatibility issues have proven somewhat more tedious than expected
- **What help (if any) does the team require to move positively forward?**
  - We will need to coordinate with Prairie Robotics to test our bin detector
  - We will also need to coordinate with Sam regarding the next phase of our project, to gather any additional requirements and form objectives
- **What questions or concerns does the team have (if any)?**

- We are slightly behind according to our proposed timeline given in our Gantt chart. However, we are not using the Gantt chart as strict deadlines but more as a means of general assurance that we are progressing at a pace that will allow us to complete all of our goals by the end of the 8 month schedule.