## sddec22-01 | Jack-o-Lantern Tracker
Weekly Report 8
04/03/2023 - 04/09/2023

**Client**
Nathan Brockman
**Advisor**
Judith Islam
**Team Members**
Kyle Goben  – *Team Lead, Frontend*
Kiara Sta. Maria – *Frontend*
Omar Muhammetkulyyev  – *Backend*
Phuoc (Johnny) Nguyen – *Backend*

## Weekly Summary

During the week of Apr. 4th, we met with the client and presented a partially working app for the volunteer side of a project. Nathan provided feedback during the meeting, and the team discussed plans for stencil recognition. The team initially had doubts about the reliability of the AI component, but Nathan expected that the AI would not be initially accurate and could be improved through future training. Admins can lock a day for updating a specific status, and users can upload images of stencils and carved pumpkins for AI training in future events. AWS was chosen as a storage option due to its low cost. Nathan emphasized that the AI part of the app is mainly for the admin's convenience during the event, which will take place in the first three weeks of October.

## Pending Issues

I. *Team's Work Progress*

- ○ Build up and improve upon the diagrams.
- ○ Continue to create screen sketches for the admin side.

II. *Individual TODOs*

- Kyle
  - ○ Continue to work with image classification experts to improve the current AI weight model produced by TensorFlow.
  - ○ Get SQL tables updated for value with week and stage lockouts.
  - ○ Write a basic interface for Admin to allow interaction with stencils on the Admin side.
  - ○ Write an endpoint for stencil modification/status modification from the admin.
- Omar
  - ○ Review the front-end code and understand how it connects with the database in Next.js.
  - ○ Research ways to containerize the backend with Docker
- Johnny
  - ○ Continue to work with Kyle to prepare SQL queries to create, update and filter the data from the Database.
  - ○ Research how to code on React/Next.js.
- Kiara
  - ○ Update screen sketches for the admin side to get feedback before adding more details.
  - ○ Compile requirements in a unified, comprehensive document
  - ○ Research on how to code on React/Next.js.

## Individual Contributions

| | **Tasks Accomplished** | **Hours this week** | **Hours total** |
|---|---|---|---|
| Kyle Goben | <ul><li>Meeting with the team and client.</li><li>Send emails to the Client and Advisor.</li><li>Updated the team website:<ul><li>Team description</li><li>New reports and design documents uploaded</li></ul></li><li>Wrote post status API for backend</li><li>Connected volunteer buttons to the backend</li><li>Successfully got the volunteer side working to allow full functionality</li><li>Finalized a release, published on the server, and sent to Nathan and Kathleen for testing and feedback</li><li>Met with experts in Image processing and AI image classification<ul><li>Found resources in Tensorflow to allow for image classification of stencils</li></ul></li><li>Generated a basic AI weight model for classification<ul><li>Currently in an extremely low accuracy state</li><li>Working with an Expert to improve accuracy and image processing</li></ul></li><li>Weekly Report 8.</li></ul> | 10 | 69 |
| Omar | <ul><li>Meeting with the team.</li><li>Weekly report 8.</li><li>Researched Deep-feed-forward and Convolutional neural networks<ul><li>Learned about convolutional, pooling, and fully-connected networks layers</li><li>Looked into AlexNet and GoogLeNet</li></ul></li><li>Testing Design Document.</li></ul> | 8 | 55 |
| Kiara Sta. Maria | <ul><li>Meeting with the team and client.</li><li>Tried to pull the latest updates in the local environment for coding</li><li>Weekly report 8 (advisor meeting).</li></ul> | 6 | 56 |
| Phuoc Nguyen | <ul><li>Meeting with the team and client.</li><li>Work with Kyle to prepare SQL queries to create, update</li></ul> | 6 | 56 |

| (Johnny), | and filter the data from the Database.<br>● Weekly report 8 (Weekly Summary).<br>● Testing Design Document. | | |
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## Plans for Next Week

Next team meeting on Apr 11th (Tue) – *Everyone*

- Discuss the work that has been completed since our meeting on Apr 4th.
- Talk through what we found out about AI models
    - Look into Kyle's basic AI model and discuss ways to improve
- Review the front-end prototype for admin web pages and find ways to make improvements to further develop the design.
- Review the backend side with the overall project structure.
    - Figure out what other handlers we need for the backend admin side
    - Start working on the admin web pages

Next advisor meeting on Apr 12th (Wed) – *Everyone*

- Show our admin web page Figma design.
- Show our admin the running Visitor site.
- Show the Project Description Document.
- Ask for possible improvements.

## Summary of Client Meeting

*April 04, 2023*

During last week's client meeting, we showed a partially working app for the volunteer side of our project (where putting in a stencil code in the textbox will pull up the stencil info associated with it). We also talked about the plans for the stencil recognition. Some notes during the meeting include:

- At first, the team had doubts about the AI part of our project because it could be unreliable, but the client was expecting the AI to not be as accurate beforehand, and through future training, it will be improved hopefully.
- Admins will have the ability to lock a day to only update a certain status. For example, during carving day, admins will lock the status only for carving updates.
- In the dashboard, it will be nice to see a pumpkin to know if it's week one or week two or flagged (i.e., unfinished).
- Give the ability to upload pics of stencils/carved pumpkins for AI training in future events.
- AWS was a good option because storage space cost was only low.
- On the public side, it will be fun to let visitors interact with "PumpkinAI" with a "yes" or "no" (i.e. if the stencil recognition AI is correct or not).
  - Better training for AI by asking for accuracy from users.
- It was pointed out by the client that the AI part of our app was really for the admin's convenience because stencil recognition will be immensely helpful during the event.
- The event will be during the first three weeks of October.

The next Client Meeting will be on Apr 18th, 2023, at 4 PM.