
SC22
3rd Annual Hackathon!
HPC IN THE CITY: DALLAS
NOVEMBER 3-7, 2022
Team Goals
cloudycluster
by Omnibond
intel
TACC
Google Cloud
XSEDE
Extreme Science and Engineering Discovery Environment
globus online
SGCI
Science Gateways Community Institute

EcoLocation Project Status

Morning, Saturday November 5, 2022

Team Goal:

-Create a Website that will connect Organizations in support of environmental efforts with the people they're looking to fund.

Current Progress:

-Website Structure Blueprint - Completed ✅

-Home Page Wireframe - Completed ✅

-Home Page Front End - In Progress

-A SQL server connection between Backend and Front End

-Prototyped w/ simple credentialing

Current Tasking:

-Wireframing - Khadar Coleman

-Home Page Front End - Govnor Payne

-Announcements Page Front End - Khadar Coleman

-Login and Registration Page Front End - Govnor Payne

-Backend - Collaborative Effort

Future Tasks:

-Backend to store credentialing and profiles, utilizing Javascript

-Login and Registration Page Wireframing

-Login and Registration Page Front End

-Announcements Page Wireframe

EcoLocation Project Status

Evening, Saturday November 5, 2022

Team Goal:

-Create a Website that will connect Organizations in support of environmental efforts with the people they're looking to fund.

Current Progress:

-Website Structure Blueprint - Completed ✅

-Home Page Wireframe - Completed ✅

-Google Cloud SQL setup - Completed ✅

-Home Page Front End - In Progress

-A SQL server connection between Backend and Front End

-Prototyped w/ simple credentialing - In Progress

Current Tasking:

-Wireframing - Khadar Coleman

-Home Page Front End - Govnor Payne

-Announcements Page Front End - Khadar Coleman

-Login and Registration Page Front End - Govnor Payne

-Backend - Collaborative Effort

Future Tasks:

-Backend to store credentialing and profiles, utilizing Javascript

-Login and Registration Page Front End

EcoLocation Project Status

Morning, Sunday November 6, 2022

Team Goal:

-Create a Website that will connect Organizations in support of environmental efforts with the people they're looking to fund.

Current Tasking:

-Front End - Govnor Payne

-Login and Registration Page Front End - Govnor Payne

-Backend - Khadar Coleman lead, collaborative effort

Current Progress:

-Website Structure Blueprint - Completed ✅

-Wireframing - Completed ✅

-Google Cloud SQL setup - Completed ✅

-Home, Announcements, and Login Page Front End - Completed ✅

-RESTful API w/ APACHE server connection utilizing mySQL and PHP- Completed ✅

-Backend User Credentialing system w/ End User security levels- Completed ✅

Future Tasks:

-Merging of Backend and Front End- In progress

-Registration Page Front End - In progress

Mr Roger's 20 Min Neighborhoods

- **We've learned to use Google API Platform!**
  - Able to tell us the time it takes to get from one destination to another
  - Able to allow the user to input their mode of transportation: Walking, driving, bicycling

- **Next Goals:**
  - Have the ability to find a restaurant in within 20 min of a set location
  - Start on the readme.md file for proper documentation

- **Blocker:**
  - Need help using the API to find specific places on google such as restaurants

Mr. Roger's 20 Min Neighborhood Progress

- **Achieved Goals:**

  Setup Google Map API credentials and install Google Maps python pip library

  Got Routes API, Places APIs, and other methods to find multiple results of places nearby

  Used python library googlemaps with built-in API calls to simplify API calls.

  Parsing the JSON return structure to extract the information we need to build out a database

- **Next Goals:**

  Writing code design and pseudocode for whole program. Defining modularity

  Work on computing the results of places within 20 minutes depending on transportation mode

```python
import os
import requests
import googlemaps

API_KEY = (os.getenv("API_KEY"))
FIND_PLACE_TEXTQUERY = "textquery"
FIND_PLACE_PHONENUMBER = "phonenumber"
gmaps = googlemaps.Client(key=API_KEY)
```


{'destination_addresses': ['New Jersey, USA', 'Ohio, USA', 'California, USA'], 'origin_addresses': ['Maryland, USA'], 'rows': [{'elements': [{'distance': {'text': '280 km', 'value': 279547}, 'duration': {'text': '2 hours 54 mins', 'value': 10457}, 'status': 'OK'}, {'distance': {'text': '740 km', 'value': 740055}, 'duration': {'text': '7 hours 5 mins', 'value': 25496}, 'status': 'OK'}, {'distance': {'text': '4,482 km', 'value': 4481878}, 'duration': {'text': '1 day 18 hours', 'value': 150554}, 'status': 'OK'}]}], 'status': 'OK'}

{'candidates': [{'place_id': 'ChIJN68h5T8ruIcRMaRNdl44cvU'}], 'status': 'OK'}

{'html_attributions': [], 'result': {'address_components': [{'long_name': '301', 'short_name': '301', 'types': ['street_number']}, {'long_name': 'West Main Street', 'short_name': 'W Main St', 'types': ['route']}, {'long_name': 'Independence', 'short_name': 'Independence', 'types': ['locality', 'political']}, {'long_name': 'Montgomery County', 'short_name': 'Montgomery County', 'types': ['administrative_area_level_2', 'political']}, {'long_name': 'Kansas', 'short_name': 'KS', 'types': ['administrative_area_level_1', 'political']}, {'long_name': 'United States', 'short_name': 'US', 'types': ['country', 'political']}, {'long_name': '67301', 'short_name': '67301', 'types': ['postal_code']}], 'adr_address': '301 W


```
distance.get('destination_addresses').get('origin_addresses').get('rows')[0][1]
{
    'destination_addresses':
        [
            'New Jersey, USA',
            'Ohio, USA',
            'California, USA'
        ],
    'origin_addresses':
        [
            'Maryland, USA'
        ],
    'rows':
        [
            {
                'elements':
                    [
                        {
                            'distance':
```

Mr Roger’s 20 Min Neighborhoods

- **Achieved goals:**

  Wrote a README file for our git repository, to be updated as needed

  Activated Cloudycluster and set up an interactive session using Jupyter notebook

  Work on computing the results of places within 20 minutes depending on transportation mode

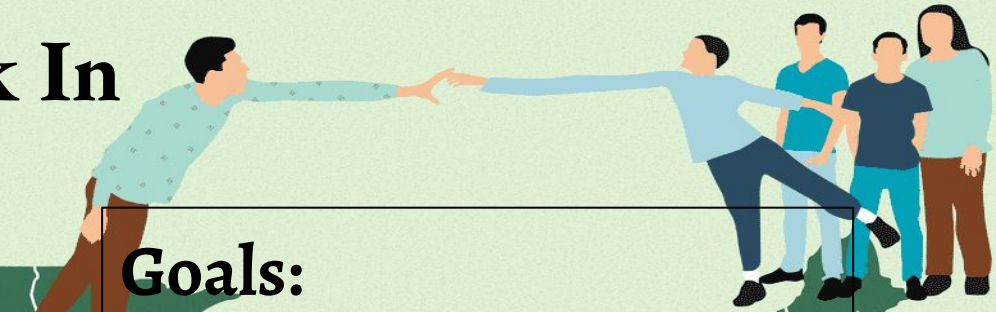
- **Next goals:**

  Migrating the project to Cloudy cluster

- **Blockers:**

  Need help with migrating the project from repl.it to Cloudycluster - talked to Cole

Emote-Ping 2nd Check In



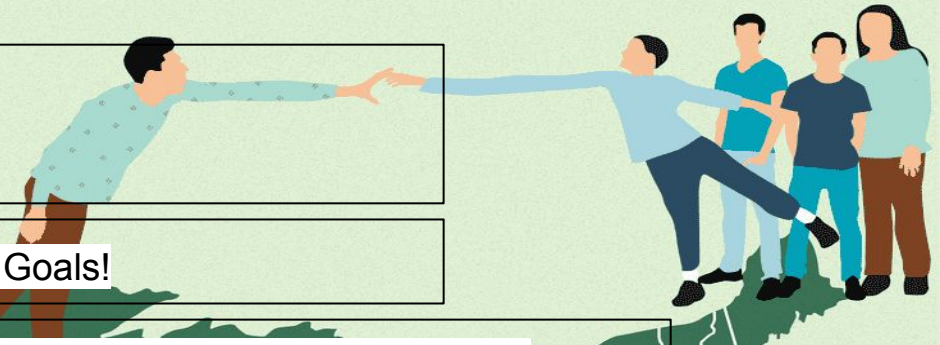
Tasks:

- ❑ Determine what bodily functions can a watch keep track of.
- ❑ Determine how to different emotions based on recorded bodily functions.

Goals:

- ❑ Figure out how to determine and differentiate between emotions based on bodily functions.

Emote-ping 3rd Check In



Where we are currently!

1. We have identified devices to determine emotion based on heartbeat or temperature

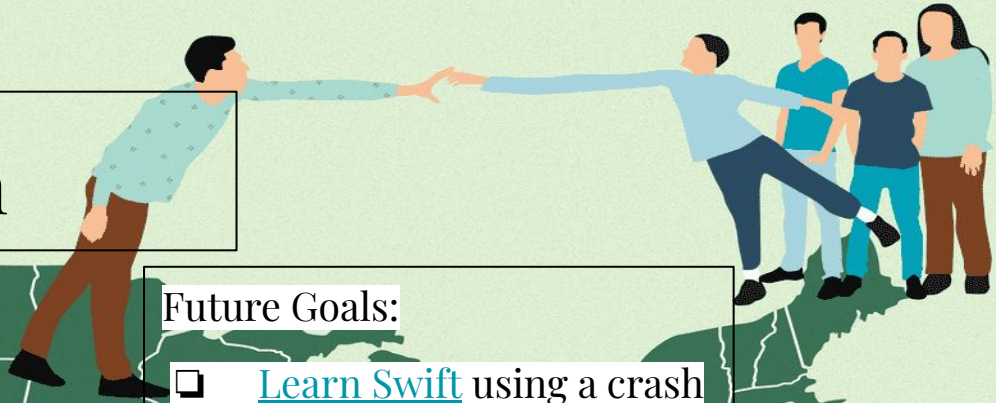
What we learned:

1. Apple watch tracks temperature (Specify version)
2. Fitbit watch tracks heartbeat

Next Goals!

1. Settling on which devices are best for conveying the best emotions. (work from a current data set)
2. Identifying which coding language we will need to utilize (make sure that the language can communicate with the current scripts)
3. Work on README.md file for documentation

Emote-ping 4th Check In



Progress:

- ❏ Determined that we will focus on the apple smartwatch.
- ❏ Identified that we need to use swift for the backend of the application

Future Goals:

- ❏ Learn Swift using a crash course. (Spending no more than 3 hours)
- ❏ Start the backend of the application.
- ❏ Determine the frontend design for the app. (design should be simple since it will be a watch application)

TEAM GENIE: Goal & TASKS

Goal:

To design a LAMMPS Granular Chute Simulation showing grains flowing into a grain silo.

✓ **Task 1:**

Install all necessary software on Cloudy cluster.

✓ **Task 2:**

Run LAMMPS

Nov. 4

❑ **Task 3:**

Create a job script to run LAMMPS with MPI

❑ **Task 4:**

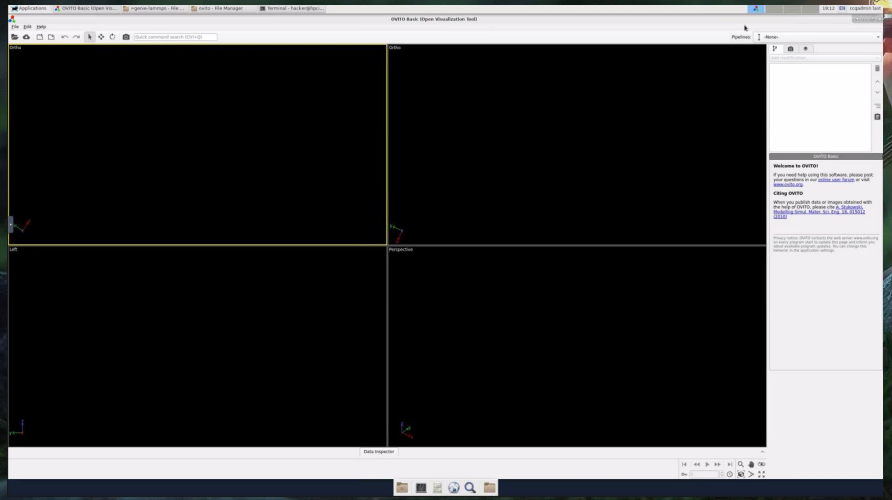
Visualize the output with OVITO

Nov. 5

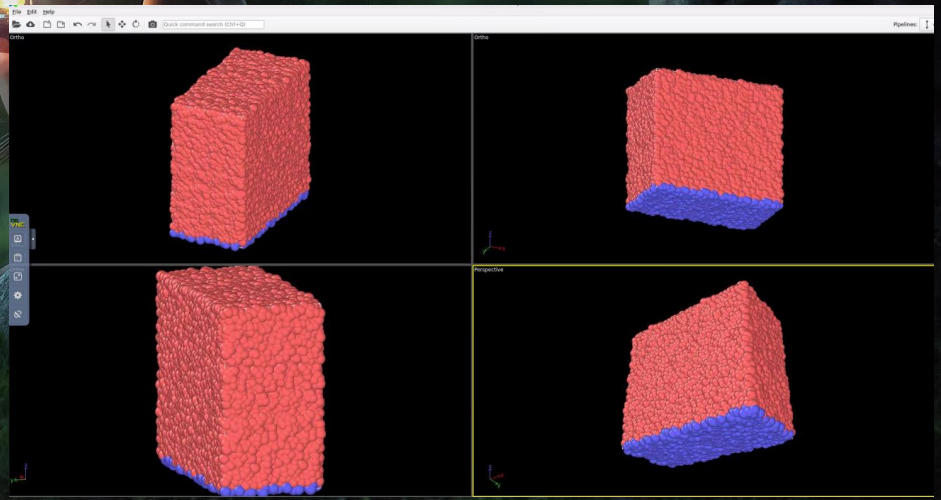
TEAM GENIE: 1-Day Progress

- We made our script and put in a job to use LAMMPS to create a dump file.
- Got Ovito running on our VM.
- Created a dump file from our initial data and visualized it using Ovito.

OVITO Start



OVITO Initial Output



TEAM GENIE: Goal & TASKS

Project Status: We accomplished our tasks yesterday and even produced something akin to grain falling into a square silo.

✓ **Task 3:**

Create a job script to run LAMMPS with MPI

✓ **Task 4:**

Run LAMMPS

Nov. 5

❑ **Task 6:**

modify LAMMPS simulation to allow us to fit cylindrical walls in a rectangular cuboid.

❑ **Task 5:**

Modify our simulation to make our spheres act and/or look more like grain

❑ **Task 7:**

Start work on our final presentation

Nov. 6

Bio-Sensing Dashboard

Team goal: Create an online dashboard to visualize data collected at the two sensor locations.

Task 1: Create Structure of Dashboard without Data

Task 2: Map of Sensor Locations that Link to Sensor Data

Task 3: Add Data

- Task 3.1: Generate Graphs for .csv data visualization
- Task 3.2: Add a .wav audio player

Bio-Sensing Dashboard Check-in Saturday

Python - Were able to get graphs working and navigate through all our DataFrames

Web Framework - Basic, yet functional

Having trouble getting JavaScript to read our CSV file. Trying Python with it, but not looking great so far.

Next step: Cloudy Cluster

Bio-Sensing Dashboard Check-in Sunday

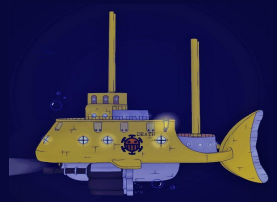
Python - Improved the functionality. Still trying to get the html to work with python. If it doesn't get done by 3pm est, we're just gonna go back to JavaScript.

Web Framework - Basic, yet functional. Getting CSS started.

Trying Python with html, but not looking great so far.

Next step: Update the Github and README. Clean up the mess that currently resides there.

Sonar Skills



Crew Members:

- Tahmuras Pirimov
- Andrianina Raharijao
- John Cabrera
- Jonathan Kurtz

Deck Officers:

- Hector Santiago
- La Tasha Robert
- Geoffrey Reid

Team Goal:

- Make observations from our data set.

Team Tasks:

- Gather requirements and Major factors to look out for.
- Analyze the data in order to answer those requirements and factors
- Learn to utilize needed tools.

Sonar Skills

Team Goal: Make a dashboard that informs on the correlation of soft skills and school performance in a student's success in the sonography program.

Crew Members:

- Tahmuras Pirimov
- Andrianina Raharijao
- John Cabrera
- Jonathan Kurtz

Deck Officers:

- Hector Santiago
- La Tasha Robert
- Geoffrey Reid

What we accomplished:

- Made a Github repository
- Setting up SQLite into Jupyter NoteBook
- Formated data sets.

Team Tasks:

- Analyze the data in order to answer those requirements and factors.
- Set up Google Cloud Platform.

Sonar Skills

Team Goal(updated): Make a multilinear regression model, in order to see which factor in a student's grade has the most weight in determining if they pass

Crew Members:

- Tahmuras Pirimov
- Andrianina Raharijao
- John Cabrera
- Jonathan Kurtz

Deck Officers:

- Hector Santiago
- La Tasha Robert
- Geoffrey Reid

What we accomplished:

- Further cleaned and reformatted the data.

Team Tasks:

- Make a regression model.
- Set up Google Cloud Platform.
- Get more information on our data set.