# Project Plan

Project Team 10

Project Title : *"Visualizing Probabilistic Whereabouts of Moving Objects"*

Project Overview

For our project we are going to design & create a web-based application for visualizing the probabilistic whereabouts of moving objects.

Plotted Data on a Map

- Given a dataset of positions varied with time, use a set of tools to express the probability of the object existing at a given location in between any two samples (Generalize to chains of samples).

- Provide users with an interface that enables the user to enter queries and visualize results.
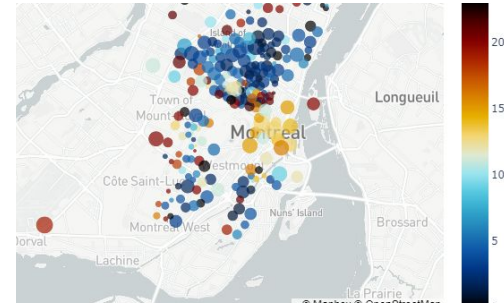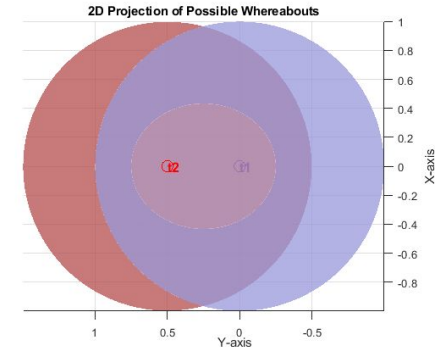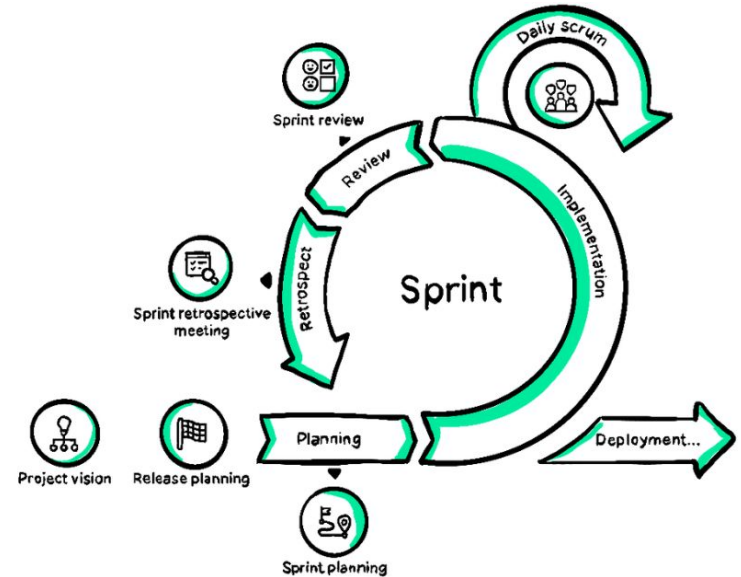

Visualizing Whereabouts in Space

Project Management Style

- **Utilize Agile Project Management Style**

- Majority of tasks are software development

  - Unforeseen obstacles

  - Difficult to estimate time for implementation

- Allow for frequent communication about issues

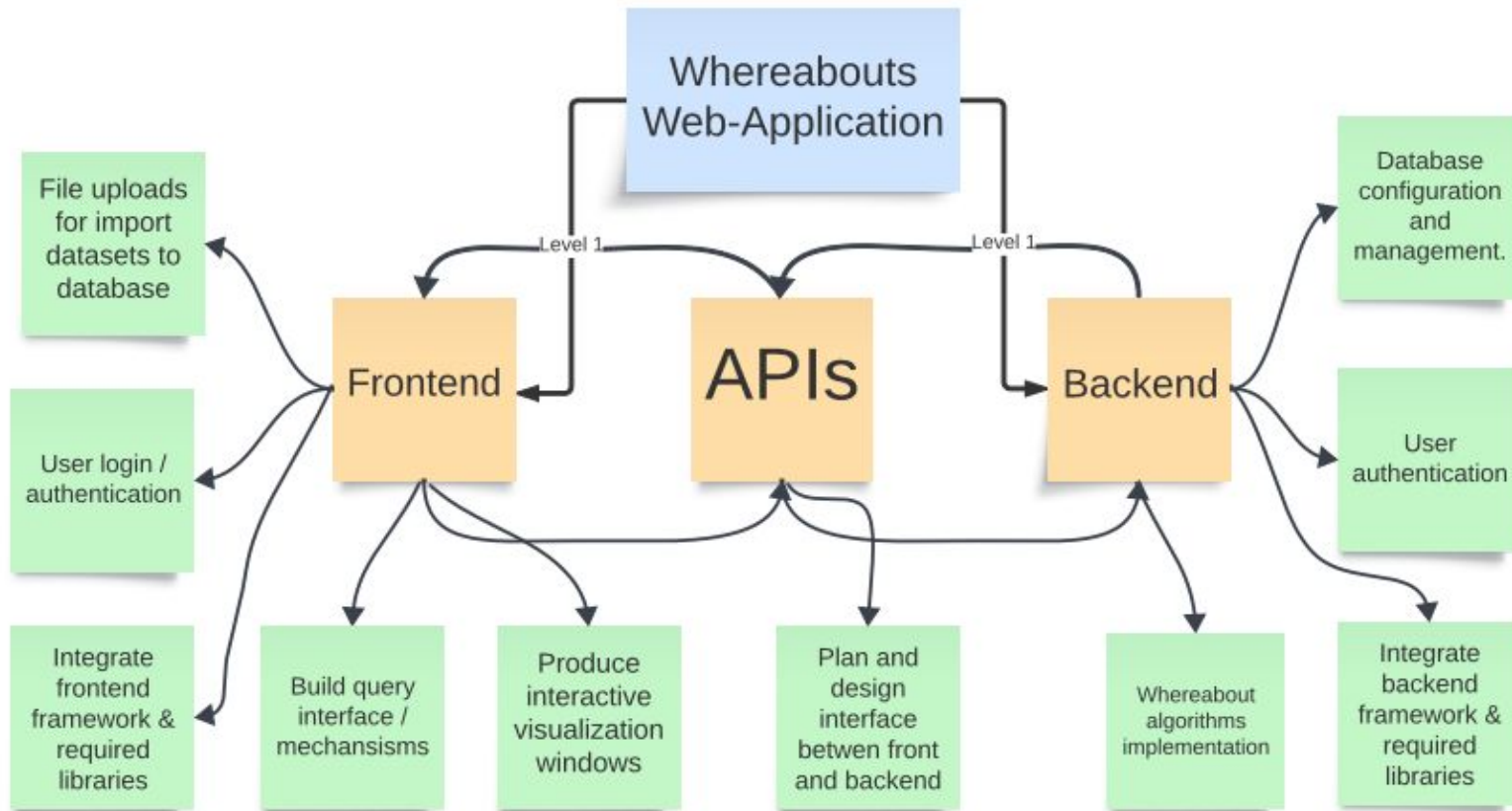- Flexible deadlines with consistent progress

Task Decomposition (High Level)

Main Task : *Produce Whereabouts Web-Application*

Subtasks
- Design Backend API
  - *Interface facilitating requests to backend functionalities.*

- Frontend
  - *Integrate frontend framework and required libraries*
  - *Build out input/interaction and visualization functionalities*

- Backend
  - *Integrate backend framework and required libraries*
  - *Algorithm implementation and database management functionalities*

Whereabouts Web-Application

File uploads for import datasets to database

User login / authentication

Integrate frontend framework & required libraries

Frontend

Level 1

Build query interface / mechansisms

Produce interactive visualization windows

APIs

Plan and design interface betwen front and backend

Level 1

Backend

Database configuration and management.

User authentication

Whereabout algorithms implementation

Integrate backend framework & required libraries

Key Milestones, Metrics, Evaluation Criteria

Milestones
- Completed - choose software for front-end and back-end
- Backend and Frontend connected
- First algorithm and visualization done
- All planned algorithms and visualizations done

Metrics
- Non-Functional Requirements

Evaluation Criteria
- All other Requirements
- Standards

Key Risks and Risk Mitigation

Risk -
- Front end & Back end compatibility and communication
- Unforeseen events/issues
- Bugs/Minor issues

Probability -
- Moderate to low

Consequences -
- Time Delay(s)
- Functionality of end product features

Mitigation -
- Inter-team Communication
- Proactivity