

Contextualization/Design Check-In

Project Team 10

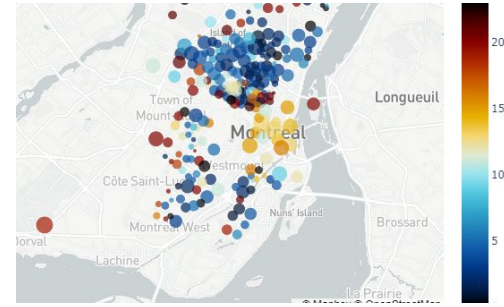
Project Title : *“Visualizing Probabilistic Whereabouts of
Moving Objects”*

Advisor and Client: Dr. Goce Trajcevski

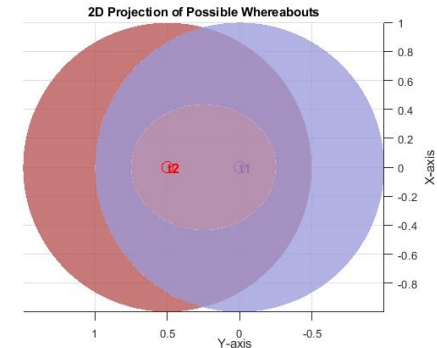
Project Overview

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

- 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.

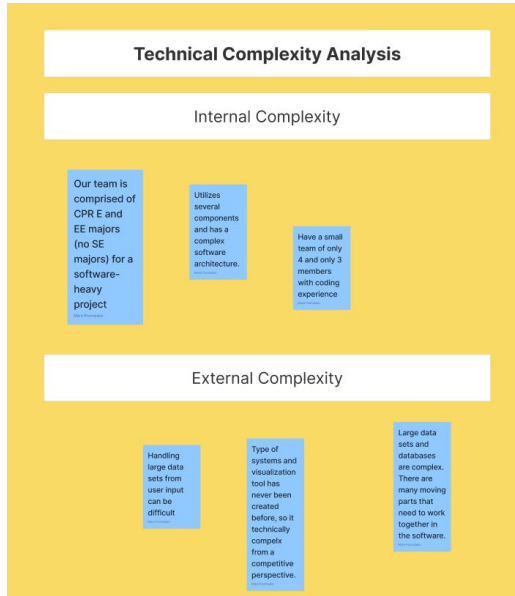


Plotted Data on a Map

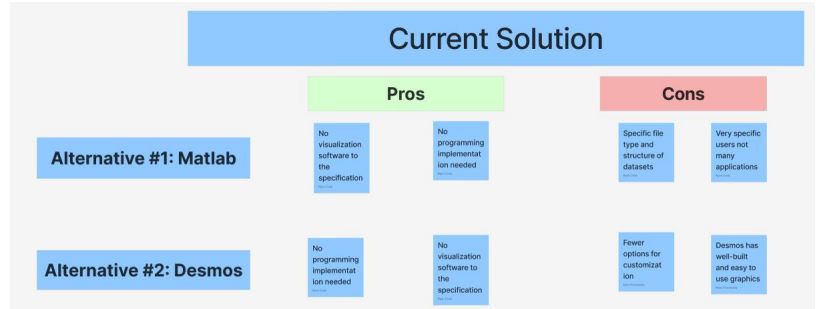


Visualizing Whereabouts in Space

Artifacts



Technical Complexity



Pros / Cons



Journey Map

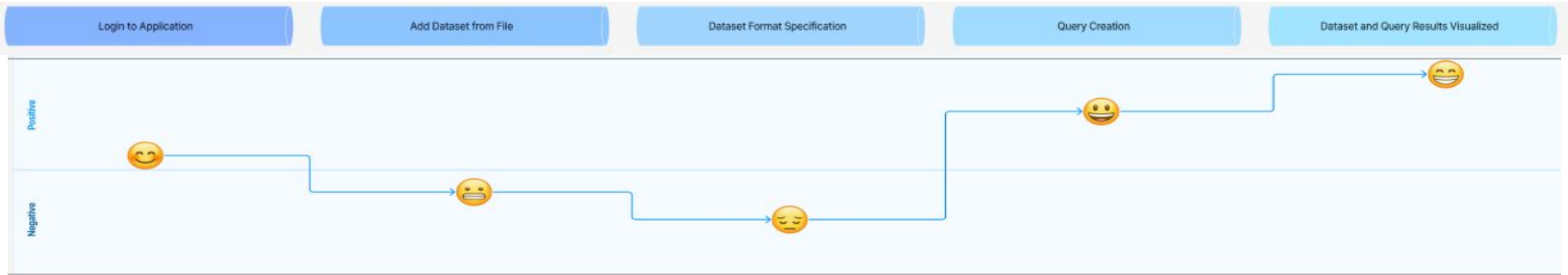
Human

Design's Addressing of User Needs

- User accounts – dataset privacy
- Dataset upload - delimiter based parsing
- Whereabout queries - multiple algorithms & query types
- Visualization - 2D with map overlay or 3D white space background

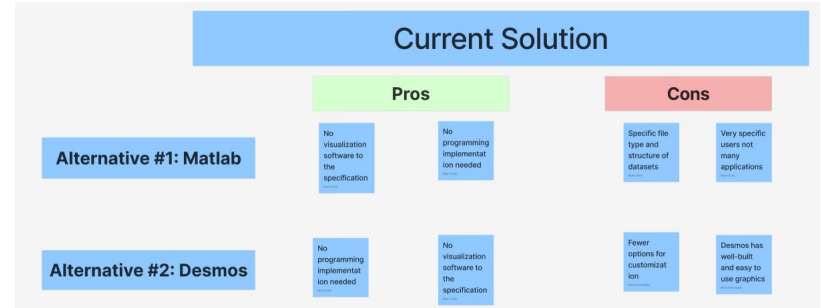
Possible Improvements

- Dataset upload - open source libraries for parsing complex file formats
- Dataset formatting - UI feedback and automated format suggestions



Economic

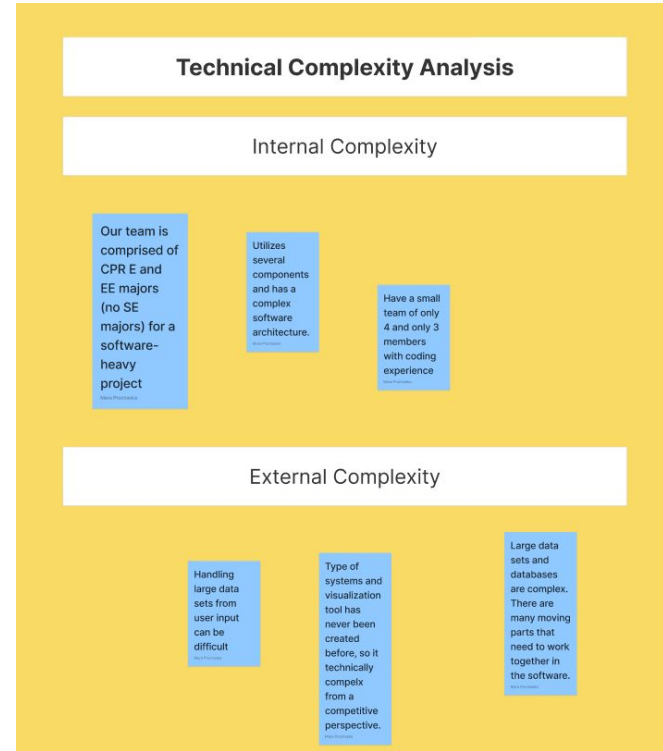
- No existing tool does the same type of visualization
- Does not require programming by the user
- Can apply to many types of data sets
- May not have as strong of a UI
- Limited styles of data sets expected



Pros / Cons

Technical

- Team is EE and CPR E, which is difficult for SW based project
- Involves data storage and manipulation
- Uses complex software architecture



Technical Complexity