Team Contract

Communication

1. Team Meetings

When and how often will your team meet? How long should each meeting last? What software or tool will you use to host these meetings? Will someone take notes (record minutes)?

Our team will meet on a weekly basis. The time and the duration of the meeting will depend on the workload of the according week. The meeting will be held on Zoom recording. Notes will be taken during each meeting on the responsibilities of each team member.

2. Assistance

How will your teammates be able to contact you if they need your help or opinion on a task? How quickly should you be expected to respond?

Each team member will be able to contact other team members through the group chat. We will respond as fast as possible.

3. Respect

An effective team needs to have an environment which encourages open expression of ideas. How will you ensure that every member has an opportunity to speak and, more importantly, that every member will actively listen and engage with the thoughts of others?

We will ask each member to respect each other's opinions. While following along with the opinions of the majority, we will always be open to different perspectives within the group.

Collaboration

1. Work distribution

How will you assign workload for this project? How will you address unexpected complications or unforeseen work? You are encouraged to identify the strengths and desires of each team member when distributing work. You do not need to all work equally on a particular deliverable – it is the overall work that should be largely equal.

Detailed workload assignments will be determined at a later time pending on more project details. The general workload assignment will be based on each member's strength and interest. If any of our team members faces unexpected challenges, one is welcome to ask for help, which the whole team should be willing to solve the problem together.

2. Time Commitment

How many hours of work per week is expected of each group member? Are there prior time commitments that need to be accounted for? How will you address conflicts or commitments when they do occur?

5-7hours per week, depending on the efficiency of each member and the workload of each week. Prior time commitment will be the research on different algorithms that we are going to use and getting familiar with the dataset.

3. Conflict Resolution

How will the team resolve situations where there is a disagreement between members? Situations where one or more members have not accomplished their tasks? Situations where one or more members are habitually late? You are encouraged to bring such issues to course staff, but only after first trying to resolve the issue yourself.

If there is a disagreement we will let all members discuss their opinions on the matter first and make sure each members' opinion is understood by everyone. Then as a team we will decide a solution.

It is fine if a member occasionally misses a meeting but if it happens every time then the other members should issue a warning. If a member is still regularly absent after a warning then we will contact course staff.

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Project Goals

Summary of dataset : Using openflights dataset

This dataset contains information about the world airline network, where each vertex represents an airport and each edge represents a directed flight between two airports. This dataset also includes the airport enplanement for 447 airports located in the United States.

Reference: https://www.cs.cornell.edu/~arb/data/spatial-OpenFlights/

We decide to use the open flights dataset. https://openflights.org/data.html This dataset has a format of

Airport ID	Unique OpenFlights identifier for this airport.
Name	Name of airport. May or may not contain the City name.
City	Main city served by airport. May be spelled differently from Name.

Country	Country or territory where airport is located. See Countries to cross-reference to ISO 3166-1 codes.
IATA	3-letter IATA code. Null if not assigned/unknown.
ICAO	4-letter ICAO code. Null if not assigned.
Latitude	Decimal degrees, usually to six significant digits. Negative is South, positive is North.
Longitude	Decimal degrees, usually to six significant digits. Negative is West, positive is East.
Altitude	In feet.
Timezone	Hours offset from UTC. Fractional hours are expressed as decimals, eg. India is 5.5.
DST	Daylight savings time. One of E (Europe), A (US/Canada), S (South America), O (Australia), Z (New Zealand), N (None) or U (Unknown). See also: Help: Time
Tz database time zone	Timezone in "tz" (Olson) format, eg. "America/Los_Angeles".
Type	Type of the airport. Value "airport" for air terminals, "station" for train stations, "port" for ferry terminals and "unknown" if not known. In airports.csv, only type=airport is included.
Source	Source of this data. "OurAirports" for data sourced from OurAirports, "Legacy" for old data not matched to OurAirports (mostly DAFIF), "User" for unverified user contributions. In airports.csv, only source=OurAirports is included.

Traversals:
DFS

Covered Algorithms:
Shortest Path: Dijkstra’s Algorithm

Uncovered Options:
Landmark Path

We decided to implement the algorithm above to find the shortest path between cities. Some conditions might be given. For example, the path must go through some city other than the starting point and the ending point.