CSCI 3901 Final Project

Milestone 1

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Problem

The problem statement is about to create the family tree and store the images of the individual and data into the database. So, the major two module are to create the family tree and a media archive.

Data need to solve this problem

System will need following data to solve the problem

- Name of the individual
- Date and location of birth
- Date and location of death
- Gender
- Occupation
- References to source material
- Notes on the individual

All the data will be accepted as String data type. Apart from that, name should be alphabetical string, date should be formatted as Date format ex.: MM/DD/YYYY, location should be the alphanumeric value, gender should be “Male”, “Female” or “Other”, Occupation should be alphanumeric value, References to source material can be text and notes can be any string.

Relations need to store in tree

- Parent / child relations
- Partnering ceremony relations
- Partnering dissolutions

These data will be store into the Tree. All the data of the individual will be store into the vertices and the relations between two individuals will the edge of the tree. On the other end, the metadata of the media are stored into the data base because that are the data we will need into the longer term.

The metadata of the picture includes:

- Filename
- Date of the picture taken
- Location of the picture taken
- Tags
- Individual in the picture

Assumptions

We are only considering the biological family relations to solve this problem

Data structure

For this problem I will use the Tree data structure to implement the relationships between the family members.

Solution

For finding the relation between member A and B then first to find the common parent node for the nodes. If there is no common parent node that means that there is no relation between member A and member B. But if there is parent node then system will find the relation between the nodes.

Way to find common node:

For finding the common node, firstly, system will go through the root node of the of the member node A and store every member into the list. and then system will find the root node for the member B and store every member into another list. Now, common element in the list the common parent for both members.

Output

- the relation between two family members (nX cousins nY removed or sibling, aunt, uncle, niece, nephew)
- list of the descendants of member A for N generations
- list of the ancestors of member B for N generations
- list of media filtered by specified parameter (tag, place, set of people)

Edge Cases to consider

- if member A and member B have common parents X and Y then which come to consider.
- Tree has only one root but in this scenario a family member can have more than one parent.