

CSCI 3901 - FINAL PROJECT

MILESTONE 1:

HIGH-LEVEL BREAKDOWN ANALYSIS OF THE PROBLEM

High-level breakdown analysis of the problem:

- Overview
- Questions answered after analysis.
- Items that need clarification
- My approach about items that need clarification

Overview:

The project records some information about individuals. It records some information about the media files. Later it builds a family tree with the information about the relationship between two people.

In the reporting part, i.e., the expected results, we need to find out the relationship between individuals in terms of cousinship and degree of removal, to find out their ancestors, and descendants.

Another part in the reporting is to work on the media archive. Using information about media archive and the information about individuals, certain information needs to be retrieved.

Questions answered after analysis.

1. What comes in to the program? Do different data or modes need to be handled differently?

Ans: Regarding an Individual and his/her relationships:

Person name, Person attributes like gender, DOB, passed as string.

References for the person, Notes about the person, passed as string.

Child of any individual is recorded.

Two people are Partnered or dissolution between two people.

Regarding the media files

File Location passed as String

File attributes like year, date city, passed as String.

Takes information about list of people in a specific file.

Add tags to a specific media file. (One file can have multiple tags)

2. What transformations do I need to make to the data? Are there sub-problems or patterns that I can use?

Ans: Transformations on data:

Insert data into the table

Update values of the columns for Person attributes

Update the values of columns for File attributes

Update/ delete relationship for partnering and dissolution

1. What part of the data is processed right away?

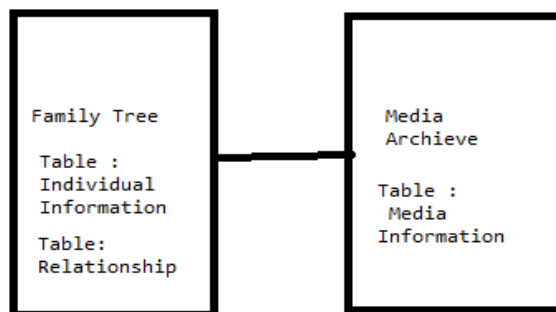
Ans: All the data from the user regarding the Person information, Media Information needs to be stored in the table for mapping later during reporting. So, no data is processed right away.

2. What part of the data do I need to keep longer?

Ans: All the data regarding family tree and Media archive needs to be stored for longer period.

3. What tasks do I need to do to with that longer-term data? How do I organize or store the data to make those tasks easy?

Ans: Data can be organized in form of table. 3 tables to be built for storing and mapping data.



4. What goes out of the program?

Ans: The output of the program as the output of the reporting functions:

- Locate person in family tree.
- Locate file in media archive.
- Find person name for person object
- Find relationship between 2 people in terms of cousinship and degree of removal
- Find set of descendants within stated generation
- Find set of ascendants within stated generation
- List of notes and references for a person

- Set of media files within a particular date
- Set of media files for a particular location between a range of dates.
- List of media files for a range of dates, with a particular set of people.
- List of files which have the specified person's direct children in it.

5. What assumptions can I make? Are any given? Can I reasonably make any of my own?

Ans: It is assumed that the following are taken as **Strings** from the keyboard.

Information that we store about individuals will include

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

Information about media files

- The filename of the picture on some central hard drive
- The date when the picture was taken
- The location of the picture
- Tags for the picture, which could identify a trip name of the picture or some other tags.
- The individuals seen in the picture (List of people)

The following are taken as integers (For reporting part)

- Person Id
- Generations

6. What constraints exist?

Ans: We cannot find the Biological Relation between two people in terms of common cousinship and degree of removal, if they do not have any common ancestor. They might have common children, but without common ancestor it is not possible to find the degree of removal and cousinship.

7. Are there strange cases to handle?

Ans: Few strange cases visible now are:

- Partnering one person with more than one partner, without dissolution of the first relationship.
- Child Cannot have more than two parents.

8. What is important for the solution to do?

Ans: Nothing more than the reporting functions require.

9. Who are the users and how will they use it?

Ans: Users can be two kinds of people:

One who want to keep a track of family relations and find out information about ancestors and descendant.

Second people who want to find information about media files, and people in it, without actually opening the photos.

Items that need clarification:

- How many databases are to be created?
- How many tables are required?
- Does the partnering and dissolution have any effect on the family tree?
- Does it mean that if a relationship is symmetric, if one person is assigned a child, the other person automatically has a relation with the child too?
- What should be the unique identifier for classes, Person Identity and File Identifier, i.e., primary key which can be used to map the particular person or file, and its attributes.
- What should be returned when there is no biological relationship found between people.

My approach about items that need clarification:

- According to me 2 databases must be created, one with family tree information, and another with media archive stored.

- In total 3 tables are required as of now; it may change later while implementation further proceed.
 - Person Information
 - Tree relationships
 - Media Files Information
- Except the assigning of child because of the symmetric relationship, there is no impact of the partnering and dissolution on the family tree.
- According to my understanding, the relationship is symmetric, which means if one person is assigned a child, partnered individual will also have that as a child.
- Person id and File id can be used for each entry in the table.