Project Proposal

Date:

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Team Members:

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Project Platform: Python (Jupyter Notebooks)

Project Description:

Our team's project is a web application that organizes social workers and their clients. On the website, one can query the database for social workers, individuals and families that receive help, and sort by various parameters, such as: worker's specialization and location, individual's reason for needing assistance, demographics, location, etc..

Entity Sets, Relationship sets, Business Rules:

Social Worker:

- Each social worker has a key attribute SSN (ssn)
- Other attributes: employee name, title, and date started working
- Each social worker specializes in exactly 1 issue
- Each Social Worker has exactly 1 entry in the Contact Info table

Individual:

- Each individual has a key attribute SSN (ssn)
- Other attributes: name, date joined
- Each individual can be a part of 0, 1 or more families
- Each individual can be a part of 0 or 1 Schools
- Each individual can be a part of 0, 1, or more entries in the Employment table
- An individual has exactly 1 issue (say, it's the main issue)
- An individual has exactly 1 social worker assigned to them

Family:

- Each family has a key attribute Family ID (fid)
- Other attributes: last name, date joinen
- Each family has at least one member ("Individual")
- A family has exactly 1 issue (say, it's the main issue)

- A family has exactly 1 social worker assigned to them

School:

- Each school has a key attribute School ID (sid)
- Other attributes: advisor assigned to the individual
- An individual can attend at most one school
- A school is only included in the database if it has at least one student

Employment:

- Each place of employment has a key attribute Employment ID (eid)
- Other attributes: position held by the individual
- Employment can have 0 or 1 entry in the Contact_Info table
- An individual can have 0, 1 or more place of employment
- A place of employment is only included in the database if at least one of the individuals works there

Contact Info:

- Each contact info record has a key attribute SSN of an Individual or Social worker (SSN)
- Other attributes: address, phone number, email address
- Each Social Worker has exactly 1 entry in the Contact Info table
- Each Individual can have 0 or 1 entry in the Contact Info table

Issues:

- Each issue has a key attribute Issue ID (iid)
- Other attributes: description
- Each individual or family has at least one issue
- Each social worker specializes in at least one issue

ER Diagram -> Schema

After careful review, we made some changes to the business rules, to better accommodate the purpose of our application. We applied techniques we've been told in the lecture to translate the diagrams into the relational schema.

Data Acquisition:

The data for the database was fabricated and placed into the schema.sql file as INSERT statements.

User Interface:

Our user interface is specific to social workers within the network. Social Workers will have the ability to add information to the database, i.e. a social worker can manually enter the address information of a family under their care. Additional functionalities allow the user to search about other workers, individual client members, make statistical analysis of provided informations i.e. average age of children under a particular entity attribute, research if an individual has additional family members within the program.