Capping CS/IT/IS Project
CMPT 475-200

Homework 2 - Revised

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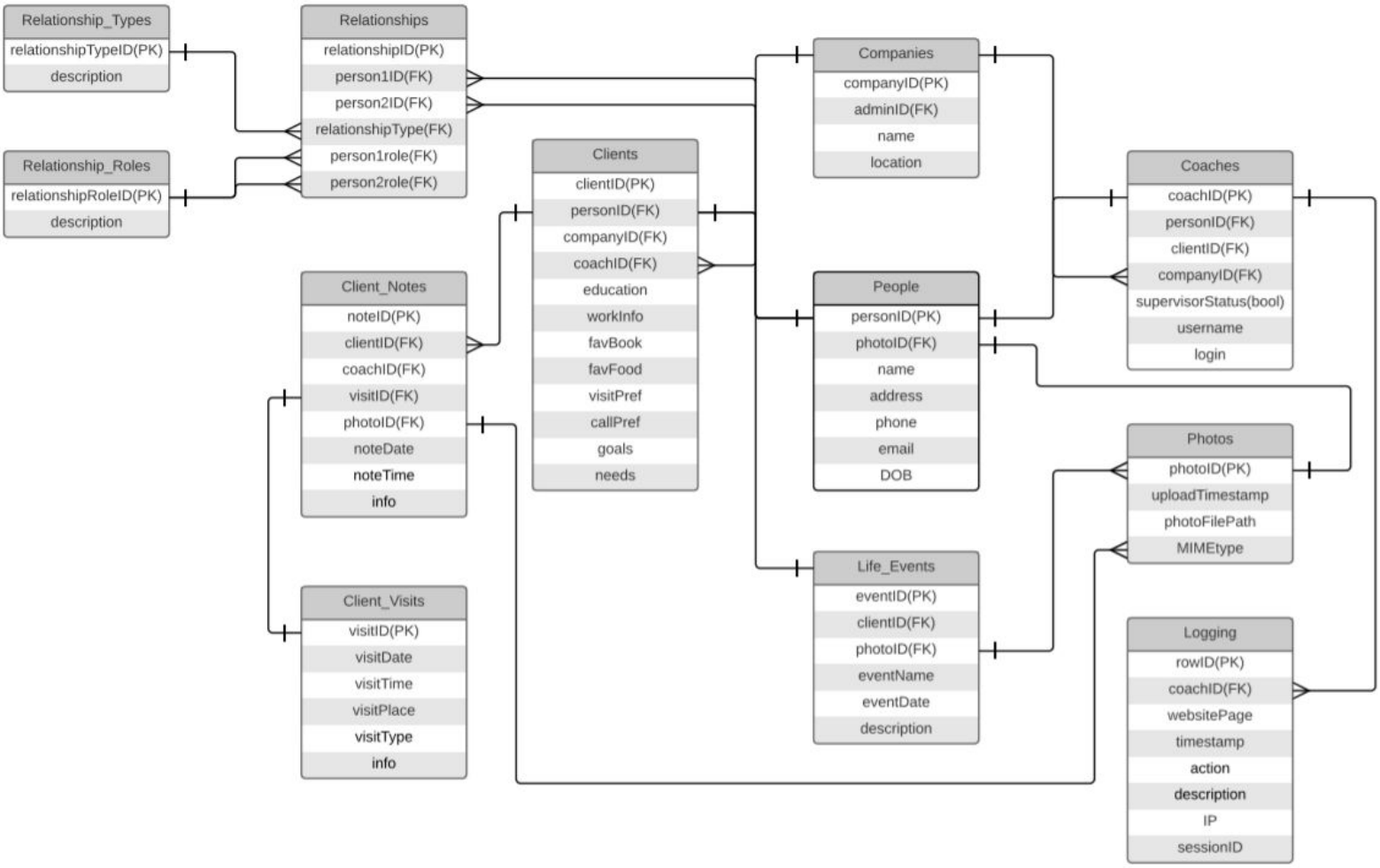
ER Diagram


Relationship_Types
relationshipTypeID(PK)
description
Relationship_Roles
relationshipRoleID(PK)
description
Relationships
relationshipID(PK)
person1ID(FK)
person2ID(FK)
relationshipType(FK)
person1role(FK)
person2role(FK)
Companies
companyID(PK)
adminID(FK)
name
location
Clients
clientID(PK)
personID(FK)
companyID(FK)
coachID(FK)
education
workInfo
favBook
favFood
visitPref
callPref
goals
needs
Coaches
coachID(PK)
personID(FK)
clientID(FK)
companyID(FK)
supervisorStatus(bool)
username
login
Client_Notes
noteID(PK)
clientID(FK)
coachID(FK)
visitID(FK)
photoID(FK)
noteDate
noteTime
info
People
personID(PK)
photoID(FK)
name
address
phone
email
DOB
Photos
photoID(PK)
uploadTimestamp
photoFilePath
MIMEtype
Life_Events
eventID(PK)
clientID(FK)
photoID(FK)
eventName
eventDate
description
Client_Visits
visitID(PK)
visitDate
visitTime
visitPlace
visitType
info
Logging
rowID(PK)
coachID(FK)
websitePage
timestamp
action
description
IP
sessionID

ER Documentation

Database tables will include: Companies, People, Coaches, Clients, Photos, Life_Events, Client_Visits, Client_Notes, Relationships, Relationship_Types, Relationship_Roles and Logging. Further explanation and documentation are listed below.

Companies

- Used for purposes when licensing product to other companies
- companyID - Each company will have a unique ID
- adminID - the personID of the admin of the company will be listed here

Coaches

- supervisorStatus - boolean value to determine if a coach is a supervisor
- username - unique coach username to access online system
- password -unique coach password to access online system

Clients

- education - current and past education history, including location and level
- workInfo - current and past work history, including position and income range
- favBook - client favorite books
- favFood - client favorite foods
- visitPref - best time for an at home visit
- callPref - best time for a phone call meeting
- goals - list of client goals upon entering profile information
- needs - list of client needs upon entering profile information

Photos

- photoID - Integer, Auto Incrementing, ID to reference row
- uploadTimestamp - DateTime, when it was uploaded
- photoFile - longblob, holds raw data from the file
- MIMEtype - varchar(255), holds the file type for correctly displaying the information

Client Visit

- visitType - references the type of visit, ie. phone call or in person

Relationships

- relationshipID - unique ID number for each relationship recorded
- person1ID - personID for person one of relationship
- person2ID - personID for person two of relationship
- relationshipType - relationshipTypeID for specific relationship
- person1role - relationshipRoleID for person one role in relationship
- person2role - relationshipRoleID for person two in relationship

Relationship_Types

- relationshipTypeID - unique ID number for each type of relationship
- description - relationship type (ie: marriage/partner, cousins, siblings, parent/child)

Relationship_Roles

- relationshipRoleID - unique ID number for each type of relationship role
- description - relationship roles (ie: parent, child, spouse, cousin)

Logging

- rowID - Integer, Auto Incrementing, ID to reference row
- coachID - ID to reference which coach is being logged, Integer
- websitePage - varchar(500), which page they were on when the log was entered
- timestamp - datetime, time at which the log was made
- action - varchar(150), small summary of what what attempted
- description - text, What happened with small update info
- IP - varchar(45), long enough to store what IP even if it is IPv6
- sessionID - bigint(20), the coaches sessionID for session tracking

IT Requirements

1. **Server Platform** (for each "server" required) - Ubuntu Linux
   - 1.1. Physical system requirements
     - 1.1.1. Storage capacity - Be able to handle 10 million users. - 1000TB
     - 1.1.2. Speed requirements / response time parameters - none specified/ask client?
     - 1.1.3. Scalability plans - Again, be able to grow to handle 10 million users in 2 years. - we will expand our storage at 50% of our capacity, given the growth rate.
     - 1.1.4. Be able to handle 1,000 concurrent users. - our design will have the power to handle 1000 coaches logged in and documenting clients at the same time. We will provide allocated backup space for this scenario.
   - 1.2. Virtual system requirements
     - 1.2.1. OS to be supported - ubuntu
       - 1.2.1.1. System will be designed for users on both mobile and desktop
       - 1.2.1.2. The system will be contained in a web browser so users can access it on any platform
     - 1.2.2. Number of images expected - One main server, and we will provide 2 backups for redundancy.
     - 1.2.3. Compatible with LAPP server
   - 1.3. Connectivity
     - 1.3.1. Network considerations - security, uptime, accessibility, private cloud over public cloud
     - 1.3.2. Interconnection to what other systems - database & server connections
2. **Reliability**
   - 2.1. Service Level Agreements
     - 2.1.1. Uptime requirements - 99.99%, no specific requirement but we are aiming for system to be up at all times
     - 2.1.2. Response time requirements - Minimal response time for efficient use - The system will be fast so that it can handle very quick processes such as recording notes during a phone call which require attention to detail and the ability to move quickly throughout the interface.
3. **Recoverability**
   - 3.1. Where are things backed up? How often?
     - 3.1.1. Data is backed up to a secondary server.
     - 3.1.2. Data is backed up once a day, later in the evening to avoid backup complications while users are using the system

3.1.3. Super Admins have access to this data

3.2. Access to backups? - Only the super admins will have access to backups and the ability to restore from them.

3.3. What data is transient and doesn't need to be stored longer term?

3.3.1. All data should be stored long term, unless a Super Admin removes it.

4. Security and Privacy

4.1. Database

4.1.1. Access controls by userid / roles

4.1.1.1. Each Super Admin will have access to their company's database and the information pertaining to their company specifically.

4.1.1.2. Only Super Admins will be able to access Database information, for security purposes.

4.1.2. Update vs. Access

4.1.2.1. Each time a coach or supervisor uses the system they will be updating Database information.

4.1.2.2. Super Admins can access the Database information using their unique login ID.

4.2. Account information

4.2.1. User data

4.2.1.1. Personal / registration - Client profile information will be gathered after an in person, or phone interview with a coach.

4.2.1.2. All users will have a profile with personal information and notes. These profiles will include images.

4.2.1.3. User data within the system will be secured and only accessible to coaches once they authenticate themselves.

4.2.1.4. User data within the database will be secured and only accessible to Super Admins once they authenticate themselves.

5. Maintenance

5.1. Planned down time requirements

5.1.1. Database maintenance

5.1.1.1. Weekly-Bi Weekly database maintenance/upkeep

5.1.1.2. Major maintenance / updates on an as needed basis

5.1.2. Times of year when IT does maintenance

5.1.2.1. Weekly - Bi Weekly Minor Updates and bug fixes

5.1.2.2. Monthly - Bi Monthly Major updates and bug fixes

5.1.2.3. Maintenance/Updates will be scheduled during companies off periods, avoiding peak times and service outages.

5.1.3. Times of year when the systems are not available?

5.1.3.1. System should be available all year round, as biweekly and bimønthly updates are designed to ensure proper operation.