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Database Fundamentals

COM 2529

Assignment 3

Mini - Project

Stage 1,2 & 3

MentalHome

2020/07/24

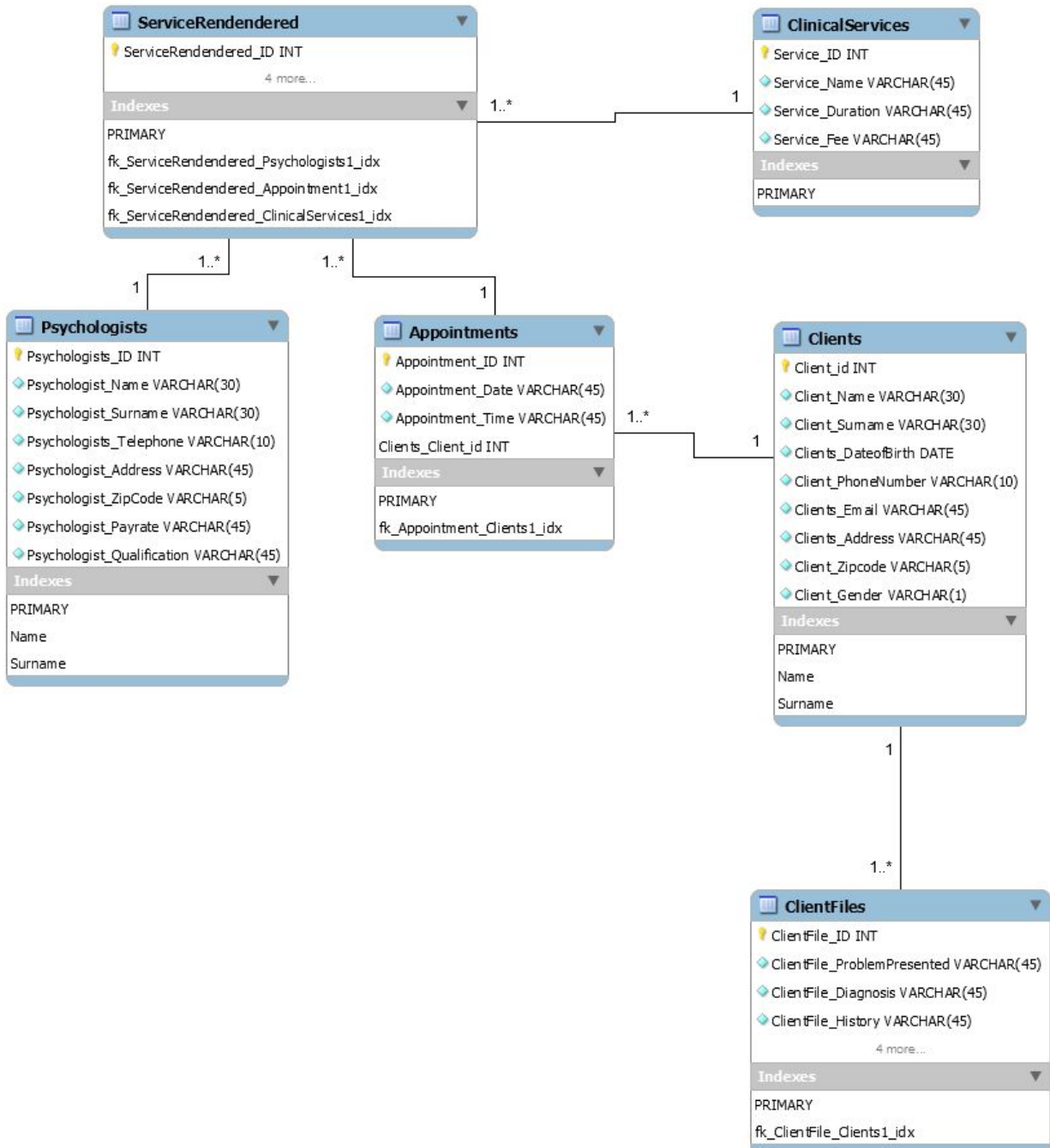
Stage 1: Project Description

MentalHome is a clinical psychology home that offers professional psychology services to its clients. MentalHome is a team of professionals striving to be the best at what they do. Mental home was found by Dr Jordan Peaterson.

MentalHome keeps a lot of data and since record - keeping practices have changed along with advances in technology. I have been assigned to create a database that will ensure the safety of the data. A clear, well organized record-keeping system is essential for psychologists who provide treatment and consultation services.

The database I am going to build will store general information about the clients and psychologists. This includes first and last names, contact information, addresses, presenting problems and diagnoses and client history. It will also capture the clinical services offered and appointments. My goal is to make sure the database stores data safe and is easy to update when required to.

Stage 2: Entity-Relationship Diagram(UML Notation)



Relationship Sentences:

One Client may be making one or more Appointments.

One Appointment must be a reservation for one and only one Client.

One ClinicalService may be a service rendered as one or more ServiceRendered.

One ServiceRendered must be a rendering of one and only one ClinicalService.

One Psychologist may be rendering one or more ServiceRendered.

One ServiceRendered must be rendered by one and only one Psychologist.

One Appointment may be a reservation to provide one or more ServiceRendered.

One ServiceRendered must be a specific service rendered during one and only one Appointment.

One Client may have one and only one ClientFile.

One ClientFile belongs to one and only one Client.

Stage 3: Relational Database Schema

Relational Model before Normalization

Clients (Client_ID (PK), Client_Name, Client_Surname, Client_DateofBirth, Client_PhoneNumber, Client_Email, Client_Address, Client_Zipcode, Client_Gender)

ClientFiles (ClientFile_id (PK), ClientFile_ProblemPresented, ClientFile_Diagnosis, ClientFile_History, ClientFile_Progress, ClientFile_Datestamp, ClientFile_BillingInfo, Clients_Client_ID(FK))

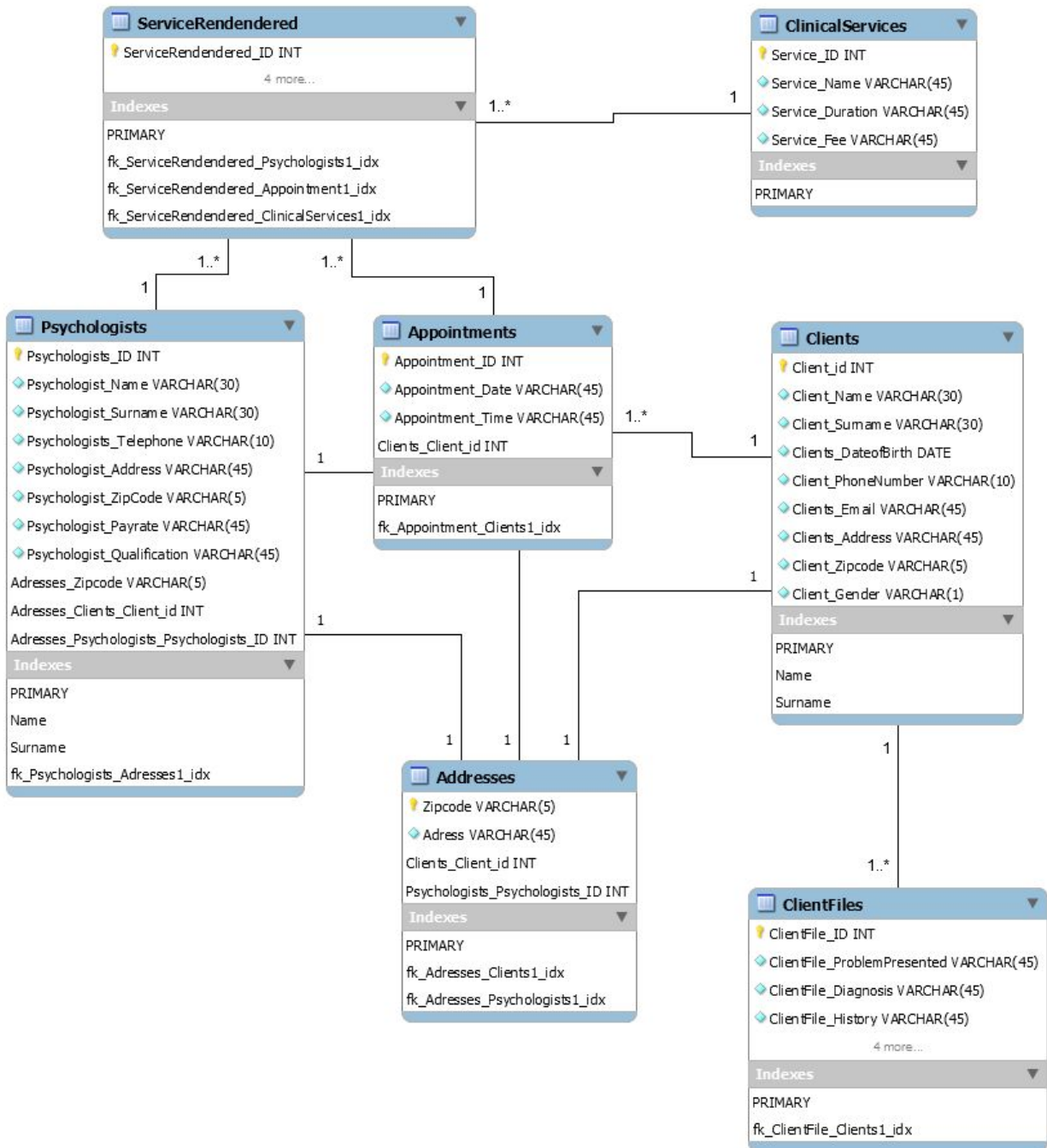
Appointments (Appointment_ID (PK), Appointment_Date, Appointment_Time, Clients_Client_ID (FK))

ClinicalServices (ClinicalService_ID (PK), ClinicalService_Name, ClinicalService_Duration, ClinicalService_Fee)

Psychologists (Psychologist_ID (PK), Psychologist_Name, Psychologist_Surname, Psychologist_Telephone, Psychologist_Adress, Psychologist_Zipcode, Psychologist_Payrate, Psychologist_Qualification)

ServicesRendered (ServiceRendered_ID (PK), Psychologist_Psychologist_ID (FK), Appointments_Appointment_ID (FK), Client_Client_ID (FK), ClinicalServices_ClinicalService_ID (FK))

Relational Schema After Normalization (3NF)



Clients (Client_ID (PK), Client_Name, Client_Surname, Client_DateofBirth, Client_PhoneNumber, Client_Email, Client_Address, Client_Zipcode, Client_Gender)

ClientFiles (ClientFile_id (PK), ClientFile_ProblemPresented, ClientFile_Diagnosis, ClientFile_History, ClientFile_Progress, ClientFile_Datestamp, ClientFile_BillingInfo, Clients_Client_ID(FK))

Appointments (Appointment_ID (PK), Appointment_Date, Appointment_Time, Clients_Client_ID (FK))

ClinicalServices (ClinicalService_ID (PK), ClinicalService_Name, ClinicalService_Duration, ClinicalService_Fee)

Psychologists (Psychologist_ID (PK), Psychologist_Name, Psychologist_Surname, Psychologist_Telephone, Psychologist_Address, Psychologist_Zipcode, Psychologist_Payrate, Psychologist_Qualification)

ServicesRendered (ServiceRendered_ID (PK), Psychologist_Psychologist_ID (FK), Appointments_Appointment_ID (FK), Client_Client_ID (FK), ClinicalServices_ClinicalService_ID (FK))

Addresses (Addresses_ID (PK), Address, ZipCode(PK), Clients_Client_ID (FK), Psychologists_Psychologist_ID (FK))