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| # DATABASE DESIGN AND DEVELOPMENT PROJECT |
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| |  | | --- | | ## INTRODUCTION | | Project to design and construct a database that can be deployed in a commercial database management system. The entity-relationship diagram represents a small dental practice database and its associated fields. The relational schema contains 6 tables and its attributes, primary and foreign keys and the relationship between them. The main entities of the Dental Practice are patient, dentist, appointment, Appointment Detail, treatment and payment.  Dental practice and its attributes:   * Patient Entity: Attributes of Patient are PatNumber, PatFirstName, PatLastName, PhoneNumber, Address, City, County, EirCode and DateOfBirth. * Dentist Entity: Attributes of Dentist are DentistNumber, DentistFirstName, YearsOfService and Salary * Appointment Entity: Attributes of Appointment are AppNumber, Date, DateOfStartOfTreatment, DateOfEndOfTreatment, Cancellation and PatNumber * Appointment Detail Entity: Attributes of Appointment Detail are AppNumber, ProcedureNumber and date * Treatment Entity: Attributes of Treatment are ProcedureNumber, ProcedureDate, description, PatNumber and cost * Payment Entity: Attributes of Payment are PaymentNumber, PaymentAmount, PaymentDesc and PatNumber   Description of Dental Practice Database:   * Each entity (Patient, Dentist, Treatment, Appointment, Appointment Detail and payment) contains primary key and foreign keys. * The entity AppointmentDetail is attached with both ProcedureNumber and AppNumber foreign keys. * All the entities in the database: Patient, Dentist etc. are normalised in order to reduce duplicity of records. | |
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What was carried out to create the Dental Practice’s database?

A Relational Schema was created using the CREATE Query to produce Tables, Attributes, Primary Keys, Foreign Keys and Constraints (Primary Key, Range and Values.). This was demonstrated within the project by providing a PDF schematic of the database using an Entity Relationship Diagram (ERD). Sample Test Data was created at random and inserted into the developed database. As seen in the attached SQL script with the INSERT data along with comments describing these.

To test the database was functioning correctly CRUD Queries were run using SQL scripts These  
queries included:

1. Select  
2. Insert  
3. Update  
4. Delete  
5. Create.  
Finally, the database was then tested to see if it obeyed Codds Rules. This was carried out by stating  
each of the 12 Codd Rules followed by a SQL code showing its compliance.

##REFERENCES

<http://www.cs.virginia.edu/~up3f/cs4750/supplement/DB-setup-xampp.html>

<https://www.javatpoint.com/creating-mysql-database-with-xampp>