

DATABASE MANAGEMENT FOR A DENTAL CLINIC

Database Design and Development – H.Dip in Software Development 2022

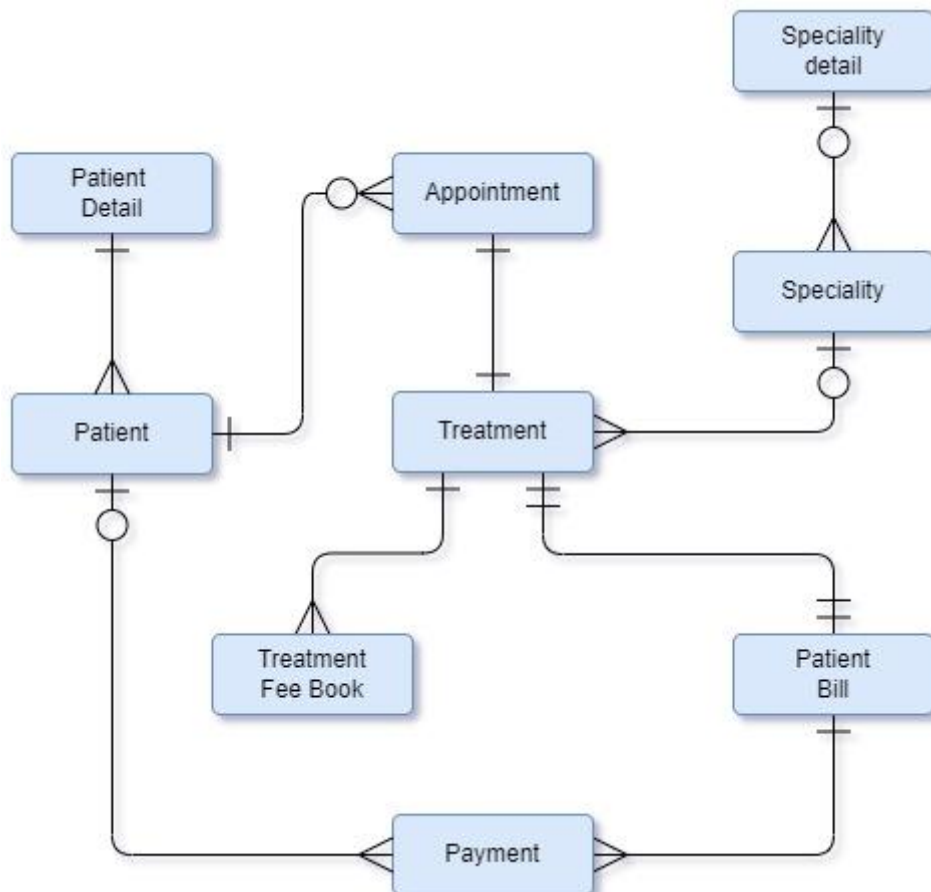
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Relational Schema

Entity–relationship model

In the conceptual development of the database, we must identify objects and processes, entities with attributes and relationships, and the business rules that can be enforced in the database. We can also identify processes that require the use of the database. With the narrative of a dental clinic, we can summarize the following table.

Dentist	-perform treatment to patient -update treatment fees guidelines -Recommend a specialist -record treatments	Secretary	-Arrange appointments -make a list of weeks appointment -prepare bills for unpaid treatments -register new patients
Patients	-make payments -request appointments	Specialist	-perform treatments -prepare reports
Documents	-payment record -Visit card -bill -treatments fees book -specialist list -treatments provided		



In this database proposal, we use Crow's Foot notation for the relationship between entities. We implemented these entities that in the following tables:

Table Name	Description
patient	patient record table
patientdetail	patient address record table. This table is separate because all patients have an address, however in the same address there can be more than one patient.
appointment	record of all appointments requested by patients with date, time, patient key and appointment status (NULL, Cancel, or finished). Each appointments has one patient, but each patient can have zero to many appointments.
diary	Table linked to a procedure where it presents the day's appointments, patient data and NULL for available times.
weekdiary	Table linked to a procedure where it presents the appointment in a 7-day interval. Displays only the appointment ID and NULL for available times.
treatment	Record of treatments performed for each appointment. Each treatment has only one appointment, but it may have many procedures (treatment Fee book) and may also involve some specialty. Each treatment generates a single Bill.
patient_bill	Record of bills after treatment with treatment fee information. Each treatment generates an invoice for each appointment.
payment	record of all payments made by patients. For the same bill there can be many payments. Every payment has a patient, but a patient can have zero to many payments.
specialistdetail	Address and contact of specialists
speciality	List of Specialists with their treatment areas.
treatfeesbook	Registration of fees for each type of treatment.

Procedure Name	Type	Description
CHECK_DIARY	PROCEDURE	Check appointments for the day
DELETE_APPOINTMENTS	PROCEDURE	Deleting an appointment incurs a same-day cancellation fee.
MAKE_PAYMENT	PROCEDURE	Records patient payment and updates bill amount if payment is not in full.
NEW_PATIENT	PROCEDURE	Register new patients
NEW_PATIENT_ALL	PROCEDURE	register a new patient with complete data entry.
NEW_PATIENT_DETAIL	PROCEDURE	Register the address of the new patient.
SET_NEW_APPOINTMENT	PROCEDURE	Makes the appointment of a patient with the time availability check.
TREATMENT_RECORD	PROCEDURE	treatment record for an appointment.
WEEKS_APPOINTMENTS	PROCEDURE	check appointments for the week

