3.3 Data Design

3.3.1 Data Description

The data description of the Integrated Dental System (IDS) focuses on three core entities that represent the main components of the hospital workflow: **Patient**, **Ticket**, and **Doctor**.

- The **Patient** entity represents individuals who receive dental care within the hospital. Each patient can be associated with multiple treatment tickets over time, allowing the system to track their medical history and visits.

- The **Ticket** entity acts as a central record of a patient's visit. It contains key information such as appointment details, diagnosis, referred clinics, and treatment status. Each ticket is linked to a specific patient and is later assigned to a doctor for diagnosis or treatment.

- The **Doctor** entity represents the medical staff responsible for diagnosing and treating patients. A doctor can handle many tickets, and each ticket may be assigned to a specific doctor based on specialty and availability.

These entities are interrelated to form a complete digital representation of the patient's treatment journey from reception through diagnosis to final care.
These entities are linked by foreign key relationships ensuring data integrity and supporting the hospital's digital workflow.

3.3.2 Data Dictionary

A data dictionary is a collection of descriptions of the data objects or items in a data model for the Homey system. It defines the structure, characteristics, and relationships of the data within the system.

 In IDS system, a data dictionary is used to document the data elements and their attributes, including data type, length, format, and any constraints. The data dictionary helps to ensure that the data is consistent and accurate throughout the system. Here are some of the data elements in the Homey system's data dictionary:

Patients

Field	Type	Nullable	Default
PatientId	nvarchar(14)	No	Null
Name	nvarchar(50)	No	Null
Address	nvarchar(255)	No	Null
profession	nvarchar(100)	No	Null

phoneNumber	nvarchar(11)	No	Null
Gender	nvarchar(max)	No	Null
Age	int	No	Null

Doctors

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
ClinicId	int	Yes	Null
ActivePatientsUnderResposibility	int	No	Null
Successfulcases	int	No	Null

Tickets

Field	Type	Nullable	Default
TicketId	nvarchar(450)	No	Null
PatientId	nvarchar(14)	No	Null
AppointmentDate	datetime2(7)	No	Null
ChiefComlant	nvarchar(1000)	No	Null
PrevisionalDiagnosis	nvarchar(1000)	No	Null
NextDate	datetime2(7)	Yes	Null
Status	nvarchar(max)	No	Null
IsValid	bit	No	Null
LevelOfCompletness	nvarchar(max)	Yes	Null
ClinicId	int	Yes	Null

Clinics

Field	Type	Nullable	Default
ClinicId	int	No	Null
Name	nvarchar(255)	No	Null

Diagnoses

Field	Type	Nullable	Default
DiagnosisId	int	No	Null
Name	nvarchar(max)	No	Null

TicketAccountancies

Field	Type	Nullable	Default
TicketId	nvarchar(450)	No	Null
DoctorId	nvarchar(450)	No	Null

TicketDiagnosisDoctors

Field	Type	Nullable	Default
Id	int	No	Null

Field	Type	Nullable	Default
TicketId	nvarchar(450)	No	Null
DiagnosisId	int	No	Null
DoctorId	nvarchar(450)	No	Null

Asnans

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
tooth11	bit	No	Null
tooth12	bit	No	Null
tooth13	bit	No	Null
tooth14	bit	No	Null
tooth15	bit	No	Null
tooth16	bit	No	Null
tooth17	bit	No	Null
tooth18	bit	No	Null
tooth21	bit	No	Null
tooth22	bit	No	Null
tooth23	bit	No	Null
tooth24	bit	No	Null
tooth25	bit	No	Null
tooth26	bit	No	Null
tooth27	bit	No	Null
tooth28	bit	No	Null
tooth31	bit	No	Null
tooth32	bit	No	Null
tooth33	bit	No	Null
tooth34	bit	No	Null
tooth35	bit	No	Null
tooth36	bit	No	Null
tooth37	bit	No	Null
tooth38	bit	No	Null
tooth41	bit	No	Null
tooth42	bit	No	Null
tooth43	bit	No	Null
tooth44	bit	No	Null
tooth45	bit	No	Null
tooth46	bit	No	Null
tooth47	bit	No	Null
tooth48	bit	No	Null

AspNetRoleClaims

Field	Type	Nullable	Default
Id	int	No	Identity(1,1)
RoleId	nvarchar(450)	No	Null
ClaimType	nvarchar(max)	Yes	Null
ClaimValue	nvarchar(max)	Yes	Null

AspNetRoles

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
Name	nvarchar(256)	Yes	Null
NormalizedName	nvarchar(256)	Yes	Null
ConcurrencyStamp	nvarchar(max)	Yes	Null

AspNetUserClaims

Field	Type	Nullable	Default
Id	int	No	Identity(1,1)
UserId	nvarchar(450)	No	Null
ClaimType	nvarchar(max)	Yes	Null
ClaimValue	nvarchar(max)	Yes	Null

AspNetUserLogins

Field	Type	Nullable	Default
LoginProvider	nvarchar(450)	No	Null
ProviderKey	nvarchar(450)	No	Null
ProviderDisplayName	nvarchar(max)	Yes	Null
UserId	nvarchar(450)	No	Null

AspNetUserRoles

Field	Type	Nullable	Default
UserId	nvarchar(450)	No	Null
RoleId	nvarchar(450)	No	Null

AspNetUsers

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
NationalId	nvarchar(max)	No	Null
FullName	nvarchar(max)	No	Null
Address	nvarchar(max)	Yes	Null
Role	nvarchar(max)	Yes	Null
UserName	nvarchar(256)	Yes	Null
NormalizedUserName	nvarchar(256)	Yes	Null
Email	nvarchar(256)	Yes	Null
NormalizedEmail	nvarchar(256)	Yes	Null
EmailConfirmed	bit	No	Null
PasswordHash	nvarchar(max)	Yes	Null
SecurityStamp	nvarchar(max)	Yes	Null
ConcurrencyStamp	nvarchar(max)	Yes	Null
PhoneNumber	nvarchar(max)	Yes	Null
PhoneNumberConfirmed	bit	No	Null
TwoFactorEnabled	bit	No	Null
LockoutEnd	datetimeoffset(7)	Yes	Null
LockoutEnabled	bit	No	Null
AccessFailedCount	int	No	Null

AspNetUserTokens

Field	Type	Nullable	Default
UserId	nvarchar(450)	No	Null
LoginProvider	nvarchar(450)	No	Null
Name	nvarchar(450)	No	Null
Value	nvarchar(max)	Yes	Null

Developers

Field	Type	Nullable	Default
Id	int	No	Identity(1,1)
Name	nvarchar(max)	No	Null
Phone	nvarchar(max)	No	Null
Role	nvarchar(max)	No	Null
Photo	varbinary(max)	No	Null
Links	nvarchar(max)	No	Null

MedicalHistories

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
HeartTrouble	bit	No	Null
Hyperttention	bit	No	Null
Pregnancy	bit	No	Null
Diabetes	bit	No	Null
Hepatitis	nvarchar(max)	No	Null
AIDs	bit	No	Null
Tuberculosis	bit	No	Null
Allergies	bit	No	Null
Anemia	bit	No	Null
Rheumatism	bit	No	Null
RadTherapy	bit	No	Null
Haemophilia	bit	No	Null
AspirinIntake	bit	No	Null
KidneyTroubles	bit	No	Null
Asthma	bit	No	Null
HayFever	bit	No	Null
MedicalHistoryText	nvarchar(max)	No	Null

ReferredTo

Field	Type	Nullable	Default
Id	nvarchar(450)	No	Null
Oral	bit	No	Null
RemovableProsth	bit	No	Null
Operative	bit	No	Null
Endodontic	bit	No	Null
Ortho	bit	No	Null
CrownAndBridge	bit	No	Null
Surgery	bit	No	Null
Pedo	bit	No	Null

XRay	bit	No	Null