# 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 |
| 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 |