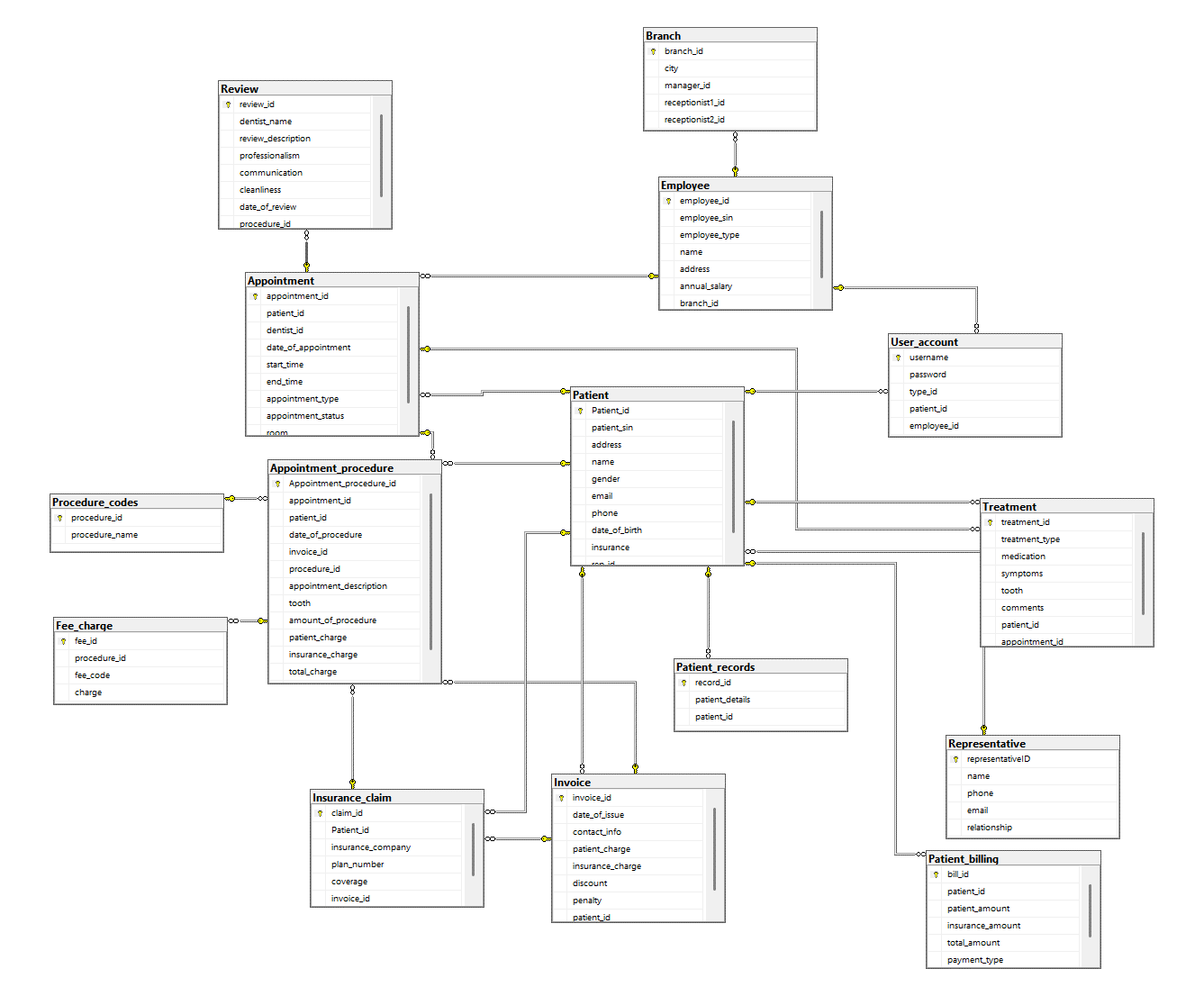
1. Operational Database Design



1. Table descriptions
   1. Table ‘User\_account’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Username | varchar |  | x | x | PK |  |
| 2 | Password | varchar |  |  | x |  |  |
| 3 | Type\_id | smallint |  |  |  |  | 1 = employee  0 = patient |
| 4 | Patient\_id | int |  |  |  | FK |  |
| 5 | Employee\_id | int |  |  |  | FK |  |

* 1. Table ’Branch’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Branch\_id | int |  | x | x | PK |  |
| 2 | city | varchar |  |  | x |  |  |
| 3 | manager\_id | int |  |  |  | FK |  |
| 4 | Receptionist1\_id | int |  |  |  | FK |  |
| 5 | Receptionist2\_id | int |  |  |  | FK |  |

* 1. Table ‘Employee’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | AI | Not null | PK/FK | Note |
| 1 | Employee\_id | int |  | x | x | PK |  |
| 2 | Employee\_sin | int |  |  |  |  |  |
| 3 | Employee\_type | varchar |  |  | x |  | “r” = receptionist  "d” = dentist  “h” = hygienist  “b” = branch manager |
| 4 | name | varchar |  |  | x |  |  |
| 5 | address | varchar |  |  | x |  |  |
| 6 | Annual\_salary | numeric |  |  | x |  |  |
| 7 | Branch\_id | int |  |  | x |  |  |

* 1. Table ‘Patient’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Patient\_id | int |  |  | x | PK |  |
| 2 | Patient\_sin | int |  |  |  |  |  |
| 3 | address | varchar |  |  |  |  |  |
| 4 | name | varchar |  |  |  |  |  |
| 5 | Gender | varchar |  |  |  |  | “x” = Other  “F” = Female  “M” = Male |
| 6 | email | varchar |  |  | x |  |  |
| 7 | phone | varchar |  |  |  |  |  |
| 8 | Date\_of\_birth | date |  |  |  |  | <15 years old req\_id is notnull |
| 9 | insurance | varchar |  |  |  |  |  |
| 10 | Rep\_id | int |  |  |  | FK |  |

* 1. Table ‘Treatments’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Treatment\_id | int |  | x | x | PK |  |
| 2 | Treatment\_type | varchar |  |  | x |  |  |
| 3 | medication | varchar |  |  | x |  |  |
| 4 | symptoms | varchar |  |  | x |  |  |
| 5 | tooth | int |  |  | x |  |  |
| 6 | comments | varchar |  |  | x |  |  |
| 7 | Patient\_id | int |  |  | x | FK |  |
| 8 | Appointment\_id | int |  |  | x | FK |  |

* 1. Table ‘patient\_record’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Record\_id | int |  |  | x | PK |  |
| 2 | Patient\_details | text |  |  | x |  |  |
| 3 | Patient\_id | int |  |  | x | FK |  |

* 1. Table ‘Patient\_billing’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | AI | Not null | PK/FK | Note |
| 1 | Bill\_id | int |  | x | x | PK |  |
| 2 | Patient\_id | int |  |  | x | FK |  |
| 3 | Patient\_amount | numeric |  |  | x |  |  |
| 4 | Insurance\_amount | numeric |  |  | x |  |  |
| 5 | Total\_amount | numeric |  |  | x |  |  |
| 6 | Payment\_type | varchar |  |  | x |  | Accept only: Mastercard, Visa, Amex, Cash/Debit |

* 1. Table ‘Appointment’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | AI | Not null | PK/FK | Note |
| 1 | Appointment\_id | int |  | x |  | PK |  |
| 2 | Patient\_id | int |  |  |  | FK |  |
| 3 | Dentist\_id | int |  |  |  | FK |  |
| 4 | Date\_of\_appointment | date |  |  |  |  |  |
| 5 | Start\_time | time |  |  |  |  |  |
| 6 | End\_time | time |  |  |  |  |  |
| 7 | Appointment\_type | varchar |  |  |  |  |  |
| 8 | Appointment\_status | varchar |  |  |  |  | Accept only: Booked, Completed, Cancelled, No Show |
| 9 | room | int |  |  |  |  |  |

* 1. Table ‘Appointment\_procedure’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Appointment\_procedure\_id | int |  | x | x | PK |  |
| 2 | Appointment\_id | int |  |  | x | FK |  |
| 3 | Patient\_id | int |  |  | x | FK |  |
| 4 | Date\_of\_procedure | date |  |  | x |  |  |
| 5 | Invoice\_id | int |  |  |  | FK |  |
| 6 | Procedure\_id | int |  |  |  | FK |  |
| 7 | Appointment\_description | varchar |  |  | x |  |  |
| 8 | tooth | int |  |  | x |  |  |
| 9 | Amount\_of\_procedure | int |  |  | x |  |  |
| 10 | Patient\_charge | numeric |  |  |  |  |  |
| 11 | Insurance\_charge | numeric |  |  |  |  |  |
| 12 | Total\_charge | numeric |  |  | x |  |  |
| 13 | Insurance\_claim\_id | int |  |  |  | FK |  |

* 1. Table ‘Fee\_charge’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Fee\_id |  |  | x | x | PK |  |
| 2 | Procedure\_id |  |  |  | x | FK |  |
| 3 | Fee\_code |  |  |  | x |  |  |
| 4 | charge |  |  |  | x |  |  |

* 1. Table ‘Insurance\_claim’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Claim\_id | int |  | x | x | PK |  |
| 2 | Patient\_id | int |  |  | x | FK |  |
| 3 | Insurance\_company | varchar |  |  | x |  |  |
| 4 | Plan\_number | int |  |  | x |  |  |
| 5 | coverage | numeric |  |  | x |  |  |
| 6 | Invoice\_id | int |  |  | x | FK |  |

* 1. Table ‘Invoice’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Invoice\_id | int |  | x | x | PK |  |
| 2 | Date\_of\_issue | date |  |  | x |  |  |
| 3 | Contact\_info | varchar |  |  | x |  |  |
| 4 | Patient\_charge | numeric |  |  | x |  |  |
| 5 | discount | numeric |  |  | x |  |  |
| 6 | penalty | numeric |  |  | x |  |  |
| 7 | Patient\_id | int |  |  | x | FK |  |

* 1. Table ‘Procedure\_codes’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Procedure\_id | int |  | x | x |  |  |
| 2 | Procedure\_name | varchar |  |  |  |  |  |

* 1. Table ‘Representative’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | RepresentativeID | int |  | x | x | PK |  |
| 2 | name | varchar |  |  |  |  |  |
| 3 | phone | varchar |  |  |  |  |  |
| 4 | email | varchar |  |  |  |  |  |
| 5 | Relationship | varchar |  |  |  |  |  |

* 1. Table ‘Review’

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Field name | Type | Unique | Auto Incremental | Not null | PK/FK | Note |
| 1 | Review\_id | int |  | x | x | PK |  |
| 2 | Dentist\_name | varchar |  |  |  |  |  |
| 3 | Review\_description | varchar |  |  |  |  |  |
| 4 | Professionalims | int |  |  |  |  | Accept only: 0 -> 5 |
| 5 | Communication | Int |  |  |  |  | Accept only: 0 -> 5 |
| 6 | Cleanliness | Int |  |  |  |  | Accept only: 0 -> 5 |
| 7 | Date\_of\_review | Date |  |  |  |  |  |
| 8 | Procedure\_id | int |  |  | x | FK |  |