

**FOOTBALL FIELD BOOKING SYSTEM**

**Software Design Document**

– HCM, August 2022 –

**Table of Contents**

[I. Overview](#_heading=h.gjdgxs) **3**

[1. Code Packages/Namespaces](#_heading=h.30j0zll) 3

[2. Database Schema](#_heading=h.1fob9te) 3

[II. Code Designs](#_heading=h.3znysh7) **5**

[1. <Feature/Function Name1>](#_heading=h.2et92p0) 5

[a. Class Diagram](#_heading=h.tyjcwt) 7

[b. Class Specifications](#_heading=h.3dy6vkm) 8

[XYZ Class](#_heading=h.gtv3gs42fiiv) 8

[ABC Class](#_heading=h.cvlkrhhn86sy) 8

[c. Sequence Diagram(s)](#_heading=h.1t3h5sf) 8

[d. Database queries](#_heading=h.4d34og8) 8

[2. <Feature/Function Name2>](#_heading=h.2s8eyo1) 9

[III. Database Tables](#_heading=h.17dp8vu) **9**

[1. tblUsers](#_heading=h.3rdcrjn) 9

[2. TblRoles](#_heading=h.26in1rg) 9

[3. TblFeedback](#_heading=h.udbkz57q2rjf) 9

[4. TblCity](#_heading=h.fvrf23ngk5ku) 9

[5. TblLocation](#_heading=h.lop5b7kzr27x) 10

[6. TblFields](#_heading=h.k0uu4fw4xm2q) 10

[7. TblFieldCategory](#_heading=h.9sc0utw51n3u) 10

[8. TblSlot](#_heading=h.df64n600y2) 10

[9. TblSlotDetail](#_heading=h.rt18z3b19qhq) 11

[10. TblFoodCategory](#_heading=h.8tx7fgaxhnix) 11

[11. TblFoods](#_heading=h.ge1j7sk9svjw) 11

[12. TblFoodDetail](#_heading=h.etu86ins4uq5) 11

[13. TblBooking](#_heading=h.ihu8tcf2v1kd) 11

[14. TblBookingDetail](#_heading=h.bfbt27171yug) 12

# I. Overview

## 1. Code Packages/Namespaces

*[Provide the package diagram for each sub-system. The content of this section including the overall package diagram, the explanation, package and class naming conventions in each package. Please see the sample and description table format below – following Java project naming convention]*

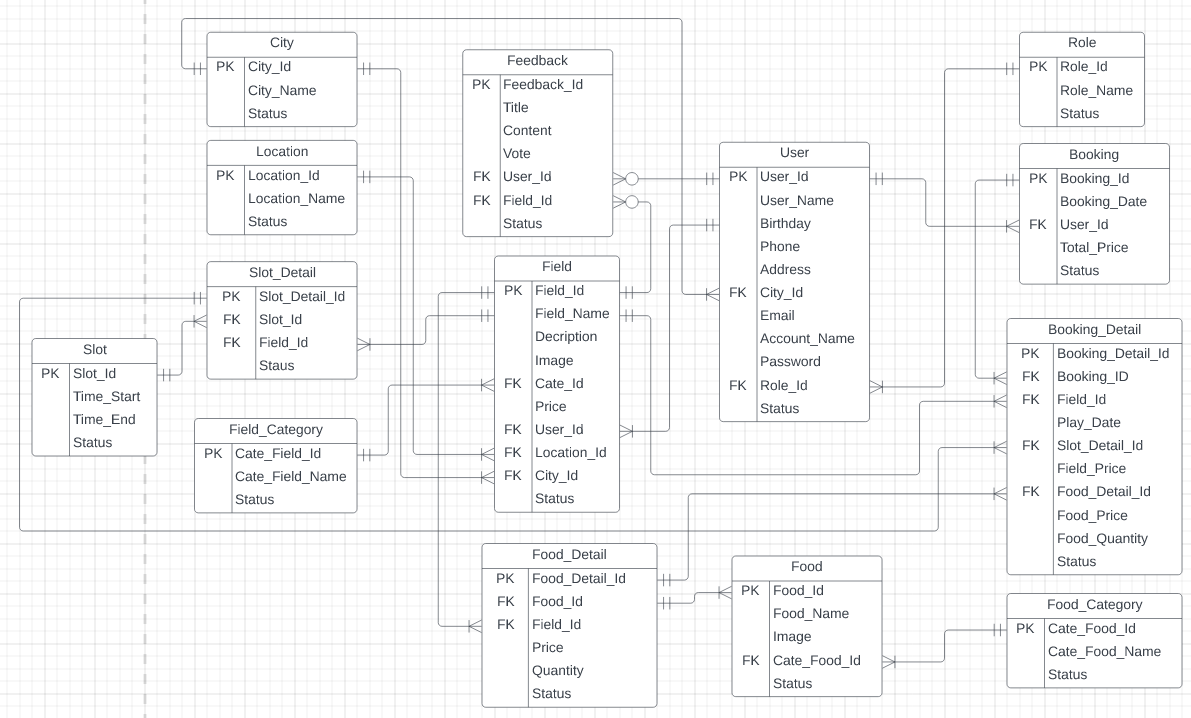


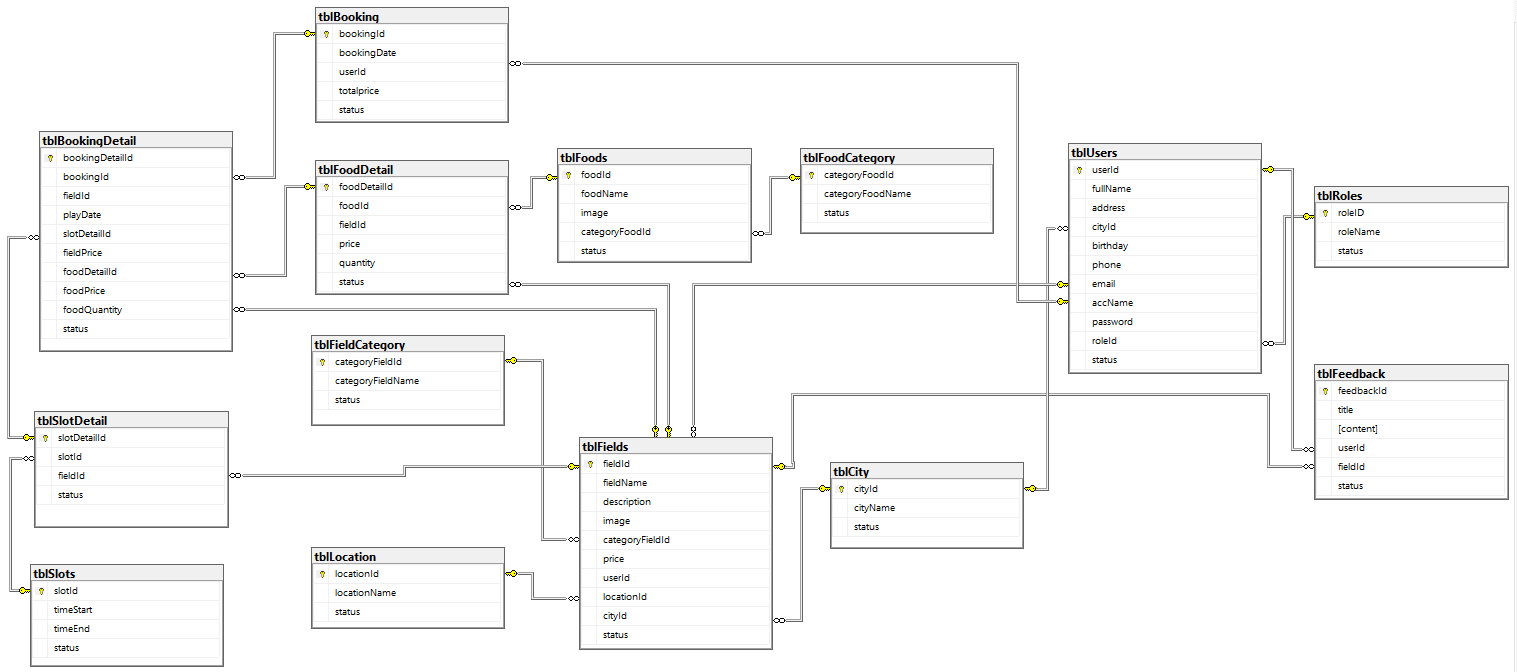
***Package descriptions & package class naming conventions***

| **No** | **Package** | **Description** |
| --- | --- | --- |
| *01* | *controllers* | *<Description of the package>*  *-Contains servlets to receive user requests from jsp pages to process requests and return results.*  *<Class naming convention>*  *-Name in such a way that all the first letter of each word is capitalized* |
| *02* | *daos* | *-Contains functions that perform database interactions for controllers when they are called*  *–Named in such a way that the first letter of each word is capitalized with a DAO* |
| *03* | *utis* | *-Make java project link with database*  *-Naming with initials 2 (DB) and capitalize first word of utils* |
| *04* | *dto* | *-Contains project objects*  *-Name in such a way that all the first letter of each word is capitalized* |
| *05* | *stackjava.com.accessgoogle.common* | *-Make a connection with google*  *-Contains the object that google returns*  *-Contains methods to be able to log in with google accounts*  *-Name in such a way that all the first letter of each word is capitalized* |
| *06* | *stackjava.com.accessgoogle.servlet* | *-Servlet handle connection with google*  *-Name in such a way that all the first letter of each word is capitalized* |

## 2. Database Schema

ERD + Database Diagram





***Table descriptions & package class naming conventions are as below***

| **No** | **Table** | **Description** |
| --- | --- | --- |
| 01 | tblUsers | The table contains the user's information.  - Primary keys: userId  - Foreign keys: roleId, cityId |
| 02 | tblFields | The table contains the field's information  - Primary keys: fieldId  - Foreign keys: categoryId, userId, locationId, cityId |
| 03 | tblRole | The table contains the role's information  - Primary keys: roleId |
| 04 | tblBooking | The table contains the user's booking information  - Primary keys: bookingId  - Foreign keys: userId |
| 05 | tblBookingDetail | The table contains the user's booking detail information  - Primary keys: bookingDetailId  - Foreign keys: bookingId, fieldId, slotDetailId, foodDetailId |
| 06 | tblLocation | The table contains the location's information  - Primary keys: locationId |
| 07 | tblCity | The table contains the city's information  - Primary keys: cityId |
| 08 | tblFieldCategory | The table contains the field category's information  - Primary keys: categoryFieldId |
| 09 | tblFeedback | The table contains the feedback's information  - Primary keys: feedbackId  - Foreign keys: userId, fieldId |
| 10 | tblSlot | The table contains the slot's information  - Primary keys: slotId |
| 11 | tblSlotDetail | The table contains the slot detail's information  - Primary keys: slotDetailId  - Foreign keys: slotId, fieldId |
| 12 | tblFood | The table contains the food's information  - Primary keys: foodId  - Foreign keys: categoryFoodId |
| 13 | tblFoodDetail | The table contains the food detail's information  - Primary keys: foodDetailId  - Foreign keys:foodId, fieldId |
| 14 | tblFoodCategory | The table contains the food category's information  - Primary keys: categoryFoodId |

# II. Code Designs

## 1. <Feature/Function Name1>

*[Provide the detailed design for the function <Feature/Function Name1>. It include Class Diagram, Class Specifications, and Sequence Diagram(s)]*

1.<View contact information/View contact information> :It include

2.<View home page/View landing page>

3.<Profile of user/View account’s profile>

4.<Update profile of user/View account’s profile>

5.<Login (google)/Authentication>

6.<Create account for Customer/Sign up account>

7.<Forgot Password/Reset password>

8.<View admin page/View admin page>

9.<Delete account/Manage list of accounts>

10.<Search account/Manage list of accounts>

11.<Update account/Manage list of accounts>

12.<Update status Field/Manage list of fields>

13.<Search Field/Manage list of fields>

14.<Delete Field/Manage list of fields>

15.<Search info history Booking field/Manage Booking field>

16.<Detail info history booking/Manage Booking field>

17.<View Screen Customer/View Screen Customer>

18.<Search Active Field/View list of field>

19.<View detail of Field/View field detail>

20.<Feedback/View field detail>

21.<View Similar Field/View field detail>

22.<Update Order Field/Booking field>

23.<Delete Order Field/Booking field>

24.<Create information Order Field/Booking field>

25.<Booking confirm/Booking field>

26.<View QR code/Pay money>

27.<Check out/Pay money>

28.<View all Order of customer/View history of booking>

29.<Search order of customer/View history of booking>

30.<View detail booked fields/View detail history of booking>

31.<View list field of Manager/Manage list owner’s field>

32.<Search field of manager/Manage list owner’s field>

33.<Sort Field of manager/Manage list owner’s field>

34.<Delete Field of manager/Manage list owner’s field>

35.<Create information of new Field/Create new field>

36.<View information detail of Field/Manage owner’s field detail>

37.<View all booking field of customer/ View booking history of owner’s field>

38.<Search booked Field/View booking history of owner’s field>

39.<Delete Customer Booking/View booking history of owner’s field>

40.<View detail booking/View booking history of owner’s field>

41.<Search order /Manage order >

42.<Delete Order /Manage order >

43.<Income of all order/Manage order >

44.<Search Food/Manage food>

45.<Delete Food/Manage food>

46.<View Food/Manage food>

47.<Update Food/Manage food>

48.<Create Food/Manage food>

49.<Create slot of field/Manage slot of Field>

50.<Update slot of field/Manage slot of Field>

51.<Delete slot of field/Manage slot of Field>

52.<Search slot of field/Manage slot of Field>

53.<Change password/Manage account>: It include controllers (MainController, ResetPasswordController) , daos(UserDAO), dto(user)

### a. Class Diagram

*[This part presents the class diagram for the relevant feature]*



### b. Class Specifications

*[Provide the description for each class and the methods in each class, following the table format as below]*

#### XYZ Class

*[Provide the detailed description for the class methods]*

| **No** | **Method** | **Description** |
| --- | --- | --- |
| *01* | *<method name>* | *<Description of the method, including the inputs, outputs & internal method processing>* |
|  |  |  |

#### ABC Class

***Class Methods***

*[Provide the detailed description for the class methods]*

| **No** | **Method** | **Description** |
| --- | --- | --- |
| *01* | *<method name>* | *<Description of the method, including the inputs, outputs & internal method processing>* |
|  |  |  |

### c. Sequence Diagram(s)

*[Provide the sequence diagram(s) for the feature, see the sample below]*



### d. Database queries

*[Provide the detailed SQL (select, insert, update...) which are used in implementing the function/screen]*

## 2. <Feature/Function Name2>

…

# III. Database Tables

## 1. tblUsers

The table contains the user's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | userId | varchar | 10 | Yes | Yes | PK |  |
| 2 | fullName | nvarchar | 50 | No | Yes | No |  |
| 3 | address | nvarchar | 100 | No | No | No |  |
| 4 | cityId | varchar | 10 | No | No | FK |  |
| 5 | birthday | date | No | No | No | No |  |
| 6 | phone | varchar | 11 | No | No | No |  |
| 7 | email | varchar | 30 | No | Yes | No |  |
| 8 | accName | nvarchar | 50 | No | Yes | No |  |
| 9 | password | nvarchar | 50 | No | Yes | No |  |
| 10 | roleId | varchar | 2 | No | No | FK |  |
| 11 | status | bit | No | No | No | No |  |

## 2. TblRoles

The table contains the role's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | roleId | varchar | 10 | Yes | Yes | PK |  |
| 2 | roleName | nvarchar | 50 | No | Yes | No |  |
| 3 | status | bit | No | No | No | No |  |

## 3. TblFeedback

The table contains the feedback's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | feedbackId | varchar | 10 | Yes | Yes | PK |  |
| 2 | title | nvarchar | 50 | No | Yes | No |  |
| 3 | content | nvarchar | 500 | No | Yes | No |  |
| 4 | userId | varchar | 10 | No | Yes | FK |  |
| 5 | fieldId | varchar | 10 | No | No | FK |  |
| 6 | status | bit | No | No | No | No |  |

## 4. TblCity

The table contains the city's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | cityId | varchar | 10 | Yes | Yes | PK |  |
| 2 | cityName | nvarchar | 50 | No | Yes | No |  |
| 3 | status | bit | No | No | No | No |  |

## 5. TblLocation

The table contains the location's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | locationId | varchar | 10 | Yes | Yes | PK |  |
| 2 | locationName | nvarchar | 50 | No | Yes | No |  |
| 3 | status | bit | No | No | No | No |  |

## 6. TblFields

The table contains the field's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | fieldId | varchar | 10 | Yes | Yes | PK |  |
| 2 | fieldName | nvarchar | 50 | No | Yes | No |  |
| 3 | description | nvarchar | 500 | No | No | No |  |
| 4 | image | nvarchar | max | No | Yes | No |  |
| 5 | categoryFieldId | varchar | 10 | No | No | FK |  |
| 6 | price | money | No | No | Yes | No |  |
| 7 | userId | varchar | 10 | No | No | FK |  |
| 8 | locationId | varchar | 10 | No | No | FK |  |
| 9 | cityId | varchar | 10 | No | No | FK |  |
| 10 | status | bit | No | No | No | No |  |

## 7. TblFieldCategory

The table contains the field category's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | categoryFieldId | varchar | 10 | Yes | Yes | PK |  |
| 2 | categoryFieldName | nvarchar | 50 | No | Yes | No |  |
| 3 | status | bit | No | No | No | No |  |

## 8. TblSlots

The table contains the slot's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | slotId | varchar | 10 | Yes | Yes | PK |  |
| 2 | timeStart | time | No | No | Yes | No |  |
| 3 | timeEnd | time | No | No | Yes | No |  |
| 4 | status | bit | No | No | No | No |  |

## 9. TblSlotDetail

The table contains the slot detail's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | slotDetailId | varchar | 10 | Yes | Yes | PK |  |
| 2 | slotId | varchar | 10 | No | No | FK |  |
| 3 | fieldId | varchar | 10 | No | No | FK |  |
| 4 | status | bit | No | No | No | No |  |

## 10. TblFoodCategory

The table contains the food category's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | categoryFoodId | varchar | 10 | Yes | Yes | PK |  |
| 2 | categoryFoodName | nvarchar | 50 | No | Yes | No |  |
| 3 | status | bit | No | No | No | No |  |

## 11. TblFoods

The table contains the food's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | foodId | varchar | 10 | Yes | Yes | PK |  |
| 2 | foodName | nvarchar | 50 | No | Yes | No |  |
| 4 | image | nvarchar | max | No | Yes | No |  |
| 5 | categoryFoodId | varchar | No | No | No | FK |  |
| 6 | status | bit | No | No | No | No |  |

## 12. TblFoodDetail

The table contains the food detail's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | foodDetailId | varchar | 10 | Yes | Yes | PK |  |
| 2 | foodId | varchar | 50 | No | No | FK |  |
| 3 | fieldId | varchar | 10 | No | No | FK |  |
| 4 | price | money | No | No | Yes | No |  |
| 5 | quantity | int | No | No | Yes | No |  |
| 6 | status | bit | No | No | No | No |  |

## 13. TblBooking

The table contains the booking's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | bookingId | varchar | 10 | Yes | Yes | PK |  |
| 2 | bookingDate | date | No | No | Yes | No |  |
| 3 | userId | varchar | 10 | No | No | FK |  |
| 4 | totalPrice | money | No | No | No | No |  |
| 5 | status | bit | No | No | No | No |  |

## 14. TblBookingDetail

The table contains the booking detail's information.

| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | bookingDetailId | varchar | 10 | Yes | Yes | PK |  |
| 2 | bookingId | varchar | 50 | No | Yes | FK |  |
| 3 | fieldId | varchar | 10 | No | No | FK |  |
| 4 | playDate | date | No | No | Yes | No |  |
| 5 | slotDetailId | varchar | 10 | No | No | FK |  |
| 6 | fieldPrice | money | No | No | Yes | No |  |
| 7 | foodDetailId | varchar | 10 | No | No | FK |  |
| 8 | foodPrice | money | No | No | Yes | No |  |
| 9 | foodQuantity | int | No | No | No | No |  |
| 10 | status | bit | No | No | No | No |  |

# 