

**ONLINE SHOP**

**Software Design Document**

– Hanoi, May 2022 –

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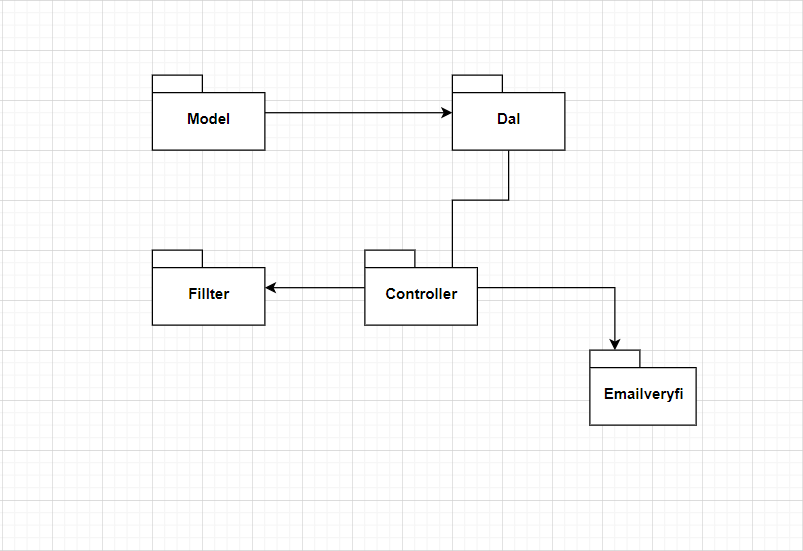
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# I. Overview

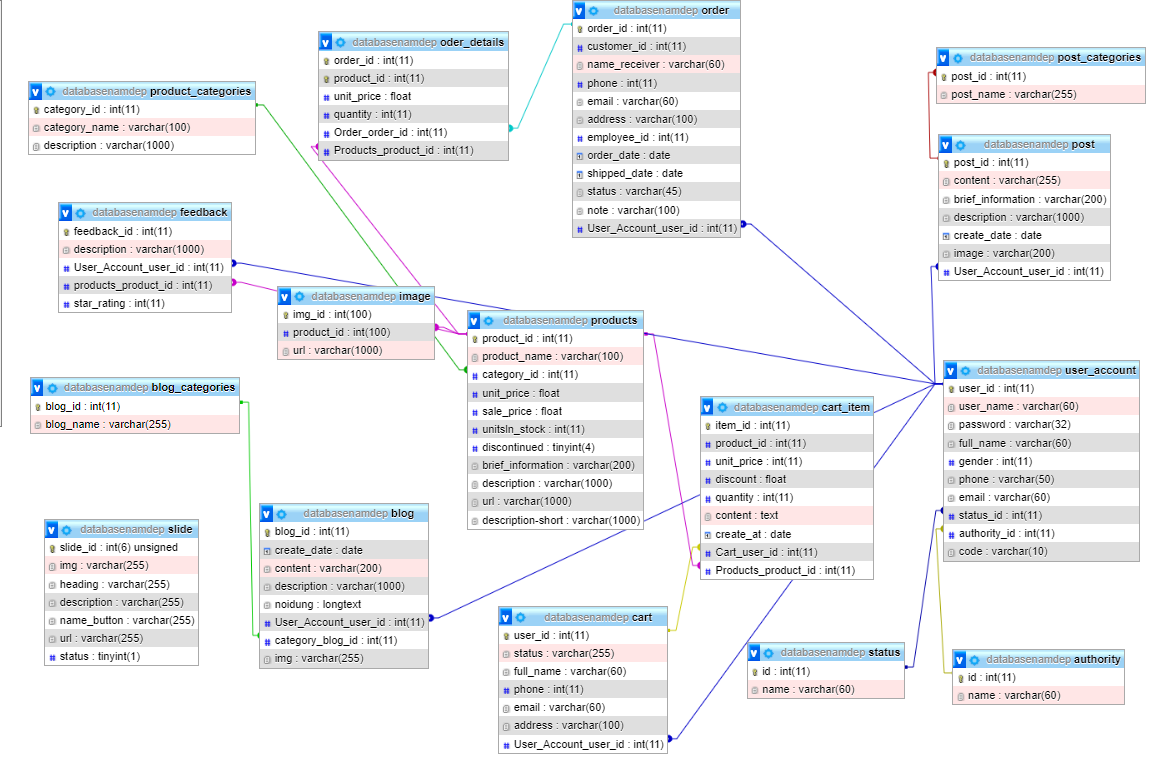
## 1. Code Packages/Namespaces



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

|  |  |  |
| --- | --- | --- |
| **No** | **Package** | **Description** |
| 01 | Model | Contains objects |
| 02 | Controller | Connect to the server and execute the logic, for example: Sliders List , Products List , User Profile , Users List , Change Password , Customers List , Product Details , Customer Details , Orders List |
| 03 | Dal | Execute logic, execute sql statement to get data from database , for example : Add , edit , delete …. |
| 04 | Filter | Used for login |
| 05 | Emailveryfile | Verify email address while entering account |

## 2. Database Schema



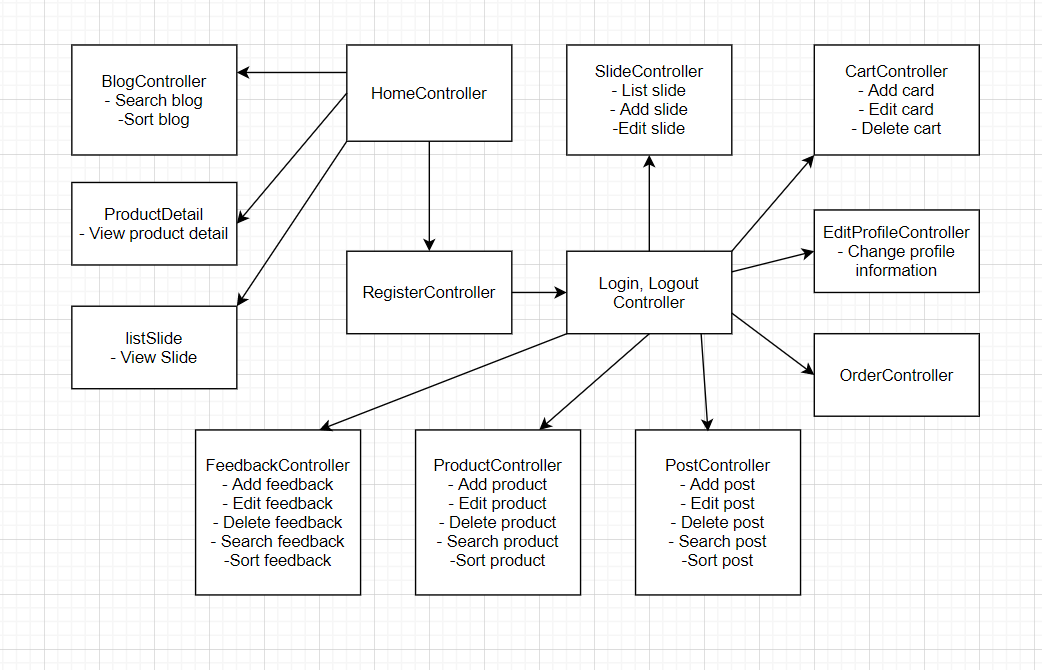
***Table descriptions & package class naming conventions are as below***

|  |  |  |
| --- | --- | --- |
| **No** | **Table** | **Description** |
| 01 | authority | - Primary keys: id |
| 02 | blog | - Primary keys: blog\_id  - Foreign keys: category\_blog\_id  - Foreign keys: User\_Account\_user\_id |
| 03 | blog\_categories | - Primary keys: order\_id |
| 04 | cart | - Primary keys: user\_id  - Foreign keys: User\_Account\_user\_id |
| 05 | cart\_item | - Primary keys: user\_id  - Foreign keys: Cart\_user\_id  - Foreign keys: Products\_product\_id |
| 06 | feedback | - Primary keys: feedback\_id  - Foreign keys: User\_Account\_user\_id  - Foreign keys: products\_product\_id |
| 07 | image | - Primary keys: img\_id  - Foreign keys: product\_id |
| 08 | order\_detail | - Primary keys: order\_id  - Foreign keys: Order\_order\_id, Products\_product\_id |
| 09 | order | - Primary keys: order\_id  - Foreign keys: User\_Account\_user\_id |
| 10 | post | - Primary keys: post\_id  - Foreign keys: User\_Account\_user\_id |
| 11 | post\_categories | - Primary keys: post\_id  - Foreign keys: post\_id |
| 12 | product | - Primary keys: product\_id  - Foreign keys: category\_id |
| 13 | product\_categories | - Primary keys: category\_id |
| 14 | slide | - Primary keys: slide\_id |
| 15 | status | - Primary keys: id |
| 16 | user\_account | - Primary keys: user\_id  - Foreign keys: status\_id , authority\_id |

# II. Code Designs

## 1. <Feature/Function Name>

### a. Class Diagram

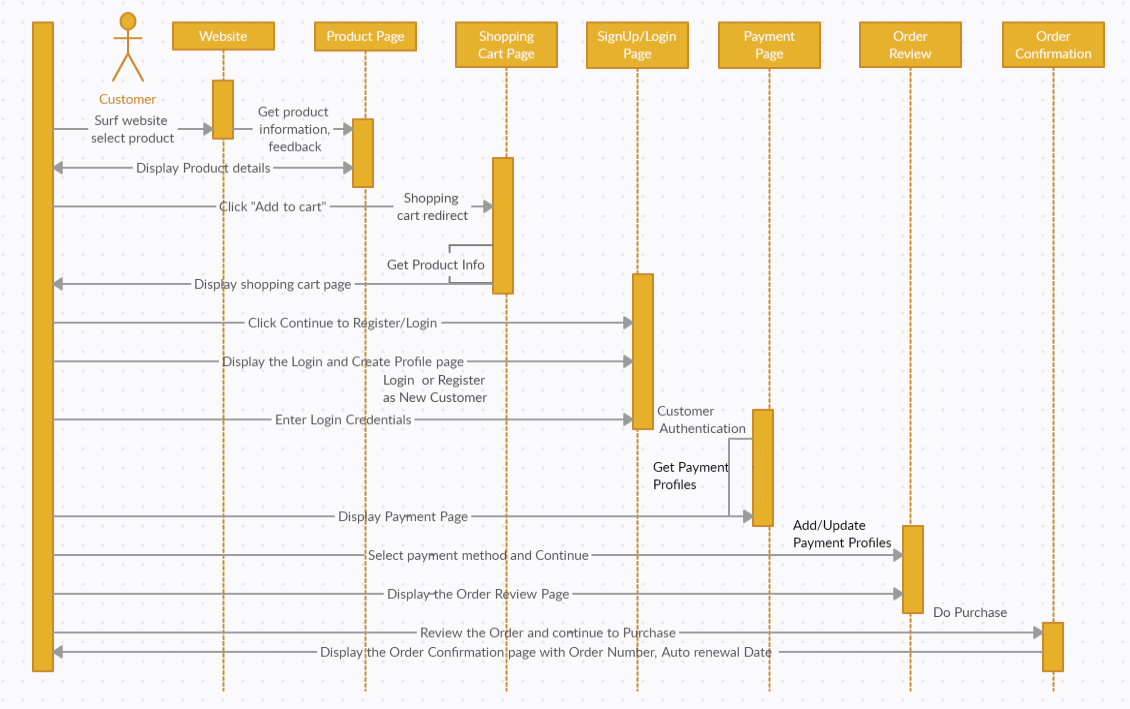


### b. Class Specifications

***Class Methods***

|  |  |
| --- | --- |
| Home controller | Shows slider , hot posts , products  - Shown slider information includes its image and title the user is redirected to the slider's backlink on his/her clicking  - Shown post information includes its thumbnail, title, brief-info. The user is redirected to the post's details on his/her clicking  - Shown product information includes its thumbnail, title, brief information. The user is redirected to the product's details on his/her clicking |
| Register controller | This is a pop-up screen which allows the user to register himself/herself to the system by input following information: full name, gender, email, mobile, and address; User then need to verify by clicking the link sent via email to him/her before being able to access the system |
| Login, log out controller | This is a pop-up screen which allows the user to enter email & password to login; on this page, there are also options for user to register new information or reset the password for the case he/she forget it |
| Blog controller | Show the posts pagination (sorted by updated date, paginated) + the slide with the post search box, post categories, the latest posts, and static contacts/links; Shown post information includes its thumbnail, title, brief-info; the user is redirected to the post's details on his/her clicking |
| Product detail | Show product details (including title, category, images, original price, sale price, and product details) + the sider with the product search box, product categories, the latest products, and static contacts/links |
| List slide | Show detailed slider information (image, title, backlink, status, notes) |
| Slide controller | Show the paginated list of sliders (including sliders' id, title, image, backlink, status)  - The user can filter the sliders by the status + search by title or backlink  - For each slider, the user can choose to hide, show, edit it |
| Cart controller | Show the cart details with list of the user's chosen products (including Id, title, price, quantity, total cost) and the total order price + the sider with the product search box, product categories, the latest products, and static contacts/links; The user can  - Change the quantity of each product: the total cost is automatically adjusted  - Choose to delete/remove product by clicking on the deleting icon  - Click the Choose More Product button to go to Products List page  - Click the Check Out button to go to the Cart Contact page  Please note: the user's chosen products from the last browsing session remain in his/her cart until he/she submits the cart. However, the product prices are updated with the latest prices in the system |
| Edit profile controller | This is a pop-up screen which allows the user to edit his/her profile information, including the registered ones & the avatar image. Please note that s/he is not allowed to change the email |
| Order controller | Show the order details, including the following information:  - Basic order information: order id, customer full name, email, mobile, order date, total cost, sale name, status  - The receiver information: full name, gender, email, mobile, address  - This list of ordered products, each product include following information: thumbnail, name, category, unit price, quantity, total cost |
| Post controller | Show detailed post information (thumbnail, category, title, brief information, description, flag to turn the featurning on/off, status), from that allow the user to input, view or edit them |
| Product controller | Show the paginated list of products (include products' id, thumbnail, title, category, list price, sale price, featured, and status information):  - The user can filter the product by category, status or search by title, brief info  - Sortable by title, category, list price, sale price, featured, or status  - From each product, the user can choose to hide, show, view, edit it  - The page also have the button/link that allows the user to add new product |
| Feedback controller | On receiving the bought products successfully, the receiver would receive a confirmation email with the guides to feedback on each of the received product; Beside, the user/receive could also give the feedback (on a specific product or general feedback) via the website; The user also call this screen from the system menu on the header;  The feedback information includes contact information (full name, gender, email, mobile), rated star, the attached images and the contact's free-format feedback  The page sider is also shown with the product search box, product categories, static contacts/links |

### c. Sequence Diagram(s)



# III. Database Tables

## 1. Order

*This table contain order information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Order\_id | Int | 11 | x | x | PK | Order ID |
| 2 | Customer\_id | Int | 11 | x | x | FK | Customer ID |
| 3 | Name\_receiver | Varchar | 60 | x | x |  | Receive name |
| 4 | Phone | Int | 11 | x | x | FK | Phone number |
| 5 | Email | Varchar | 60 | x |  |  | Email address |
| 6 | Address | Varchar | 100 | x | x |  | Delivery address |
| 7 | Employee\_id | Int | 11 | x | x | FK | Employee ID |
| 8 | Order\_date | Date |  |  | x |  | Order date |
| 9 | Ship\_date | Date |  |  | x |  | Delivery date |
| 10 | Status | Varchar | 45 |  | x |  | Order status |
| 11 | Note | Varchar | 100 |  |  |  | Order note |
| 12 | User\_account | Int | 11 | x | x | FK | User account |

## 2. Order detail

*This table contain order detail information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Order\_id | Int | 11 | x | x | PK | Order ID |
| 2 | Product\_id | Int | 11 | x | x | PK | Product ID |
| 3 | Unit\_price | Float |  |  | x | FK | Unit price |
| 4 | Quantity | Int | 11 |  | x | FK | Order quantity |
| 5 | Order\_order\_id | Int | 11 |  |  | FK |  |
| 6 | Product\_product\_id | Int | 11 |  |  | FK |  |

## 3. Blog

*This table contain blog information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Blog\_id | Int | 11 | x | x | PK | Blog id |
| 2 | Create\_date | Date |  |  | x |  | Blog create date |
| 3 | Content | Varchar | 200 |  | x |  | Blog content |
| 4 | Description | Varchar | 1000 | x | x |  | Blog description |
| 5 | noidung | Longtext |  | x | x | FK | User account |
| 6 | User\_Account\_User\_id | Int | 11 |  | x | FK |  |
| 7 | category\_blog\_id | Int | 11 |  | x | FK |  |
| 8 | img | Varchar | 255 |  | x |  |  |

## 

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## 4. Blog\_categories

*This table contain blog information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Blog\_id | Int | 11 | x | x | PK | Blog id |
| 2 | Blog\_name | Varchar | 255 |  |  |  | Blog create date |

## 

## 5. User account

*This table contain user account information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | User\_id | Int | 11 | x | x | PK | User ID |
| 2 | User\_name | Varchar | 60 | x | x |  | User name |
| 3 | Password | Varchar | 32 |  | x |  | Password |
| 4 | Full\_name | Varchar | 60 |  | x |  | User full name |
| 5 | Gender | Int | 11 |  |  |  | Gender |
| 6 | Phone | Int | 11 |  | x |  | Phone number |
| 7 | Email | Varchar | 60 |  |  |  | Email address |
| 8 | Status\_id | Int | 11 |  | x | FK | User authority |
| 9 | authority\_id | Int | 11 |  | x | FK | Decentralization |
| 10 | code | Varchar | 10 |  |  |  |  |

## 6. Authority

*This table contain user authority information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Id | Int | 11 | x | x | PK | Authority id |
| 2 | Name | Varchar | 60 |  | x |  | Authority name |

## 7. Feedback

*This table contain feedback information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Feedback\_id | Int | 11 | x | x | PK | Feedback id |
| 2 | Description | Varchar | 1000 |  | x |  | Description |
| 3 | Product\_id | Int |  | x | x | FK | Feedback product id |
| 4 | User\_account | Int |  | x | x | FK | User account |
| 5 | Note | Varchar | 1000 |  |  |  |  |
| 6 | Status | Bit |  |  |  |  |  |

## 8. Cart

*This table contain cart information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | User\_id | Int |  | x | x | PK | User ID |
| 2 | Status | Varchar | 255 |  | x |  | Cart status |
| 3 | Full\_name | Varchar | 60 |  | x |  | Full name |
| 4 | Phone | Int | 11 |  | x |  | Phone number |
| 5 | Email | Varchar | 60 |  |  |  | Email address |
| 6 | Address | Varchar | 100 |  | x |  | Address |
| 7 | User\_Account\_user\_id | Int | 11 |  | x | FK |  |

## 9. Cart\_item

*This table contain post information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Item\_id | Int | 11 | x | x | PK |  |
| 2 | Product\_id | Int | 11 |  | x | FK |  |
| 3 | Product\_name | Varchar | 100 |  | x |  |  |
| 4 | Url | Varchar | 1000 | x | x |  |  |
| 5 | Unit\_price | Int | 11 | x | x | FK |  |
| 6 | Quantity | Int | 11 |  | x | FK |  |
| 7 | Cart\_user\_id | Int | 11 |  | x | FK |  |
| 8 | Products\_product\_id | Int | 11 |  | x | FK |  |

## 

## 10. Post

*This table contain post information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Post\_id | Int | 11 | x | x | PK | Post ID |
| 2 | Content | Varchar | 255 |  | x |  | Post content |
| 3 | Brief\_information | Varchar | 200 |  | x |  | Create date |
| 4 | Description | Varchar | 200 | x | x |  | User ID |
| 5 | create\_date | Date |  | x | x |  | Product id |
| 6 | image | Varchar | 200 |  |  |  |  |
| 7 | User\_Account\_user\_id | Int | 11 |  | x | FK |  |

## 11. Post\_categories

*This table contain category information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Post\_id | Int | 11 | x | x | PK |  |
| 2 | Post\_name | Varchar | 255 |  | x |  |  |

## 12. Product

*This table contain product information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Product\_id | Int | 11 | x | x | PK | Product ID |
| 2 | Product\_name | Varchar | 100 |  | x |  | Product name |
| 3 | Category\_id | Int | 11 | x | x | FK | Category ID |
| 4 | Unit\_price | Float |  |  | x | FK | Product price |
| 5 | Sale\_price | Float |  |  | x | FK | Unit stock |
| 6 | Unitsln\_stock | Int | 11 |  |  | FK |  |
| 7 | Discontinued | Tinyint | 4 |  | x | FK |  |
| 8 | Brief\_information | Varchar | 200 | x | x |  |  |
| 9 | Description | Varchar | 1000 | x | x |  | Product description |
| 10 | Url | Varchar | 1000 |  |  |  | Product url |
| 11 | Description-short | Varchar | 1000 |  |  |  |  |

## 13. Product category

*This table contain category information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Category\_id | Int |  | x | x | PK | Category ID |
| 2 | Category\_name | Varchar | 100 |  | x |  | Category Name |
| 3 | Description | Varchar | 1000 |  |  |  | Description |

## 14. Slide

*This table contain category item information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Slide\_id | Int | 6 | x | x | PK |  |
| 2 | Img | Varchar | 255 | x | x |  |  |
| 3 | Heading | Varchar | 255 |  | x |  |  |
| 4 | Description | Varchar | 255 |  |  |  |  |
| 5 | Name\_button | Varchar | 255 |  | x |  |  |
| 6 | Url | Varchar | 255 |  |  |  |  |
| 7 | Status | Tinyint | 1 |  | x | FK |  |

## 15. Status

*This table contain category information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Id | Int | 11 | x | x | PK |  |
| 2 | Name | Varchar | 60 |  | x |  |  |

## 16. Product category

*This table contain category information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Feedback\_id | Int | 11 | x | x | PK |  |
| 2 | Description | Varchar | 1000 |  | x |  |  |
| 3 | User\_Account\_user\_id | Int | 11 |  | x | FK |  |
| 4 | Product\_product\_id | Int | 11 |  | x | FK |  |
| 5 | Star\_rating | Int | 11 |  | x | FK |  |

## 13. Image

*This table contain category information*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Img\_id | Int | 100 | x | x | PK | Category ID |
| 2 | Product\_id | Varchar | 100 |  | x | FK | Category Name |
| 3 | Url | Varchar | 1000 |  |  |  | Description |