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**<<YOGA CENTER>>**

**Software Design Document**

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# I. Overview

## 1. Code Packages/Namespaces

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

|  |  |  |
| --- | --- | --- |
| **No** | **Package** | **Description** |
| *01* | DTO | * Contains data fields and simple getter and setter methods to access and manipulate the data for all object. * Name of an object, using camel case and append it with DTO ex: trainerDTO, lopHocDTO, … |
| *02* | *DAO* | * Classes that define the CRUD (Create, Read, Update, Delete) operations that can be performed on the data source. These interfaces or classes provide methods to insert, retrieve, update, and delete data objects. Used to abstract and encapsulate the access to a data source, such as a database or a web service. * Name of an object, using camel case and append it with DAO ex: trainerDAO, lopHocDAO, … |
| *03* | *Controller* | * Handles incoming requests and manages the flow of the application. It is responsible for receiving requests from clients, processing them, and generating appropriate responses. * Name of an object, using camel case and append it with Controller ex: trainerController, lopHocController, … |
|  | *Util* | * Contain configuration of the web, constant , public class contains public function like convert date and class to connect database. * Name of the purpose append Util ex: MailUtil, DataUtil,… |
|  | *Filter* | * Intercepts inappropriate requests and responses between the client and the servlets. * Name of filter purpose ex: authentication,… |
|  | *Paypal* | * Contain Paypal method for purchase * PaypalServices |
|  | *EvenListener* | * Contain initialize method when web application boost * Scope of the method appen Listener ex: AppContextListener |

## 2. Database Schema

[*https://lucid.app/lucidchart/b66c9c83-f516-44ec-be0e-81558ad27aee/edit?invitationId=inv\_1bb7515a-445a-4192-b168-f04db34ffcdf&page=0\_0#*](https://lucid.app/lucidchart/b66c9c83-f516-44ec-be0e-81558ad27aee/edit?invitationId=inv_1bb7515a-445a-4192-b168-f04db34ffcdf&page=0_0)

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

|  |  |  |
| --- | --- | --- |
| **No** | **Table** | **Description** |
| *01* | lopHoc | *- Contain all lopHoc field*  *- Primary keys:* [maLopHoc] NVARCHAR(10) primary key  *- Foreign keys:*  + CONSTRAINT fk\_loaiLopHoc\_lopHoc FOREIGN KEY([maLoaiLopHoc]) REFERENCES loaiLopHoc([maLoaiLopHoc]),  + CONSTRAINT fk\_maRoom\_lopHoc FOREIGN KEY([maRoom]) REFERENCES room(maRoom) |
| *02* | hocVien | *- Contain all hocVien field*  *- Primary keys:* [maHV] NVARCHAR(10) primary key |
| *03* | Trainer | *- Contain all Trainer field*  *- Primary keys:* [maTrainer] NVARCHAR(10) primary key |
| *04* | ScheduleHV | *- Contain all* ScheduleHV *field*  *- Primary keys:* (maLopHoc,maHV,ngayHoc)  *- Foreign keys:*  + CONSTRAINT fk\_maSlot\_ScheduleHV FOREIGN KEY([maSlot]) REFERENCES slot(maSlot)  + Constraint fk\_maLopHoc\_ScheduleHV foreign key([maLopHoc]) references [lopHoc]([maLopHoc])  + constraint fk\_maHocVien\_ScheduleHV foreign key([maHV]) references [hocVien]([maHV]) |

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# <https://app.diagrams.net/#G1JB9Iz-0xSi3LkAPmoDroECC7-I4bV9cl>

# II. Code Designs

## 1. Create Class

### a. Class Diagram

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### b. Sequence Diagram

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## 2. View and change profile

### a. Class Diagram

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### b. Sequence Diagram

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## 3. View/Create Blogs for trainee/trainers

### a. Class DiagramA screenshot of a computer Description automatically generated

### b. Sequence Diagram

## A diagram of a diagram Description automatically generated4. Admin’s blog management

### a. Class DiagramA screenshot of a computer Description automatically generated

### b. Sequence DiagramA diagram of a diagram Description automatically generated

## 5. Payment Services

### a. Class Diagram A diagram of a software company Description automatically generated

### b. Sequence Diagram A diagram of a company Description automatically generated

# III. Database Tables

## 1. hocVien

* This table contains information about the trainees of the Yoga Center.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | maHV | nvarchar | 10 | X | X | PK |  |
| 2 | Ho | nvarchar | 10 |  | X |  |  |
| 3 | Ten | nvarchar | 25 |  | X |  |  |
| 4 | dob | date | N/A |  | X |  |  |
| 5 | username | nvarchar | 50 | X | X |  | Username must be unique |
| 6 | phone | nvarchar | 11 |  | X |  |  |
| 7 | psw | nvarchar | 75 |  | X |  |  |
| 8 | gender | nvarchar | 10 |  | X |  |  |
| 9 | maLoaiTK | nvarchar | 10 |  | X |  |  |
| 10 | email | nvarchar | 50 | X | X |  | Email must be unique |

## 2. loaiLopHoc

* This table contains information about types of class, which helps calculate the fee for attending classes.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | maLoaiLopHoc | nvarchar | 10 | X | X | PK |  |
| 2 | tenLoaiLopHoc | nvarchar | 25 |  | X |  |  |
| 3 | maDescription | nvarchar | 10 | X | X | FK | Primary key of the ‘description’ table |
| 4 | hocPhi | decimal | N/A |  | X |  |  |

## 3. lopHoc

* This table gives more details about class.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | maLopHoc | nvarchar | 10 | X | X | PK |  |
| 2 | soLuongHV | int | N/A |  | X |  |  |
| 3 | soBuoi | int | N/A |  | X |  |  |
| 4 | maLoaiLopHoc | nvarchar | 10 |  | X | FK | Primary key of the ‘loaiLopHoc table’ |
| 5 | soLuongHvHienTai | int | N/A |  | X |  | soLuongHvHienTai <= soluongHV |
| 6 | ngay | date | N/A |  | X |  |  |
| 7 | status | bit | N/A |  | X |  |  |

## 4. description

* This table contains a description for the type of class.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | maDescription | nvarchar | 10 | X | X | PK |  |
| 2 | title | varchar | 225 |  | X |  |  |
| 3 | [content] | text | N/A |  | X |  | Contains the information about the types of class and will be used among classes shared the same type |

## 