

**OJT MANAGEMENT SYSTEM**

**Software Design Document**

– Ho Chi Minh, January 2022 –

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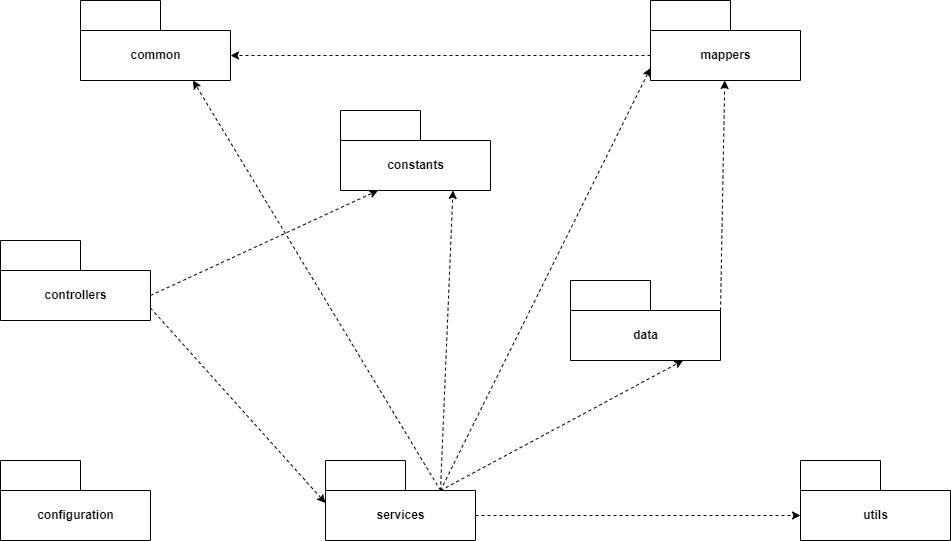
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# I. Overview

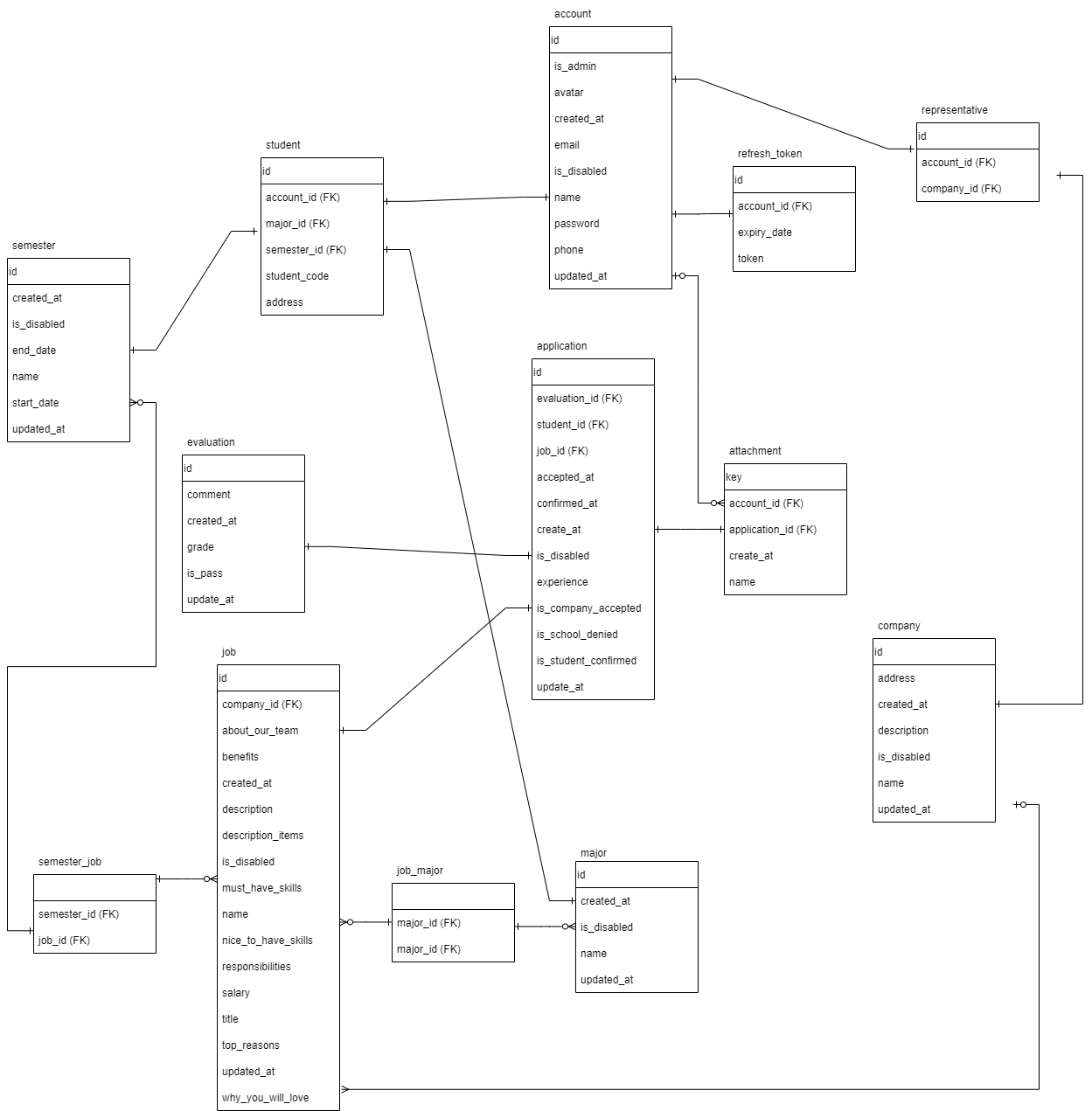
## 1. Code Packages/Namespaces



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

|  |  |  |
| --- | --- | --- |
| **No** | **Package** | **Description** |
| 01 | common | Description: Contains commons methods and objects classes. Ie: exceptions handler, enums, payloads, response dtos, ... Naming convention: Upper camel case naming convention |
| 02 | data | Description: Contains database entities and repositories Naming convention: Upper camel case naming convention |
| 03 | services | Description: Contains the services classes to process business logic of data.  Naming convention: Upper camel case naming convention |
| 04 | utils | Description: Contains project Utilities. Ie: SortUtil, JwtUtils, …  Naming convention: Upper camel case naming convention |
| 05 | controller | Description: Contains routing controllers of project.  Naming convention: Upper camel case naming convention |
| 06 | constants | Description: contains constants of the project. Ie: Security constants Naming convention: Upper camel case naming convention |
| 07 | configuration | Description: contains configuration of projects. Ie: cors, security, jwt Naming convention: Upper camel case naming convention |
| 08 | mapper | Description: contains data mappers.  Naming convention: Upper camel case naming convention |

## 2. Database Schema



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

|  |  |  |
| --- | --- | --- |
| **No** | **Table** | **Description** |
| 1 | account | - This table includes common fields of all users as avatar, create\_at, email, is\_disabled, name, password, phone, update\_at. The is\_admin field to identify the type account sign in to system is admin or not.  - Primary key: id - Foreign keys: None |
| 2 | attachment | - This table is used to store attachment in an application of a student. An attachment has an application and an account  - Primary key: key  - Foreign keys: account\_id, application\_id |
| 3 | refresh\_token | - This table is used to store the token to authorization and keep log in in their web browser. Every user has log in to system all have a token  - Priamary key: id  - Foreign key: account\_id |
| 4 | student | -This table is used to store information of student with some own field of student. And a student has an account, a major and a semester  - Primary key: id  - Foreign keys: student\_id, semester\_id, account\_id |
| 5 | representative | -This table is used to store information of company representative with their own fields that the account does not have. Representative has an account and a company  - Primary key: id  - Foreign key: account\_id, company\_id |
| 6 | company | - This table is used to store information of company that link with school. A company has many jobs and a company representative  - Primary key: id  - Foreign keys: None |
| 7 | job | - This table is used to store information of job. A company have many jobs. A have many applications.  - Primary key: id  - Foreign key: company\_id |
| 8 | major | - This table is used to store information of major. A student has a major and a major has many jobs  - Primary key: id  - Foreign key: None |
| 9 | semester | - This table is used to store information of student semester. A student has a semester and a semester has many jobs  - Primary key: id  - Foreign key: None |
| 10 | semester\_job | - This table is used to separate relation many-to-many between semester and job. A semester has many jobs and a job in many semesters  - Primary key: None  - Foreign keys: semester\_id, job\_id |
| 11 | application | - This table is used to store information of application of student for a position. A student can apply many applications and an application has an evaluation, job and attachment.  - Primary key: id  - Foreign keys: evaluation\_id, job\_id and student\_id |
| 12 | job\_major | - This table is used to separate relation many-to-many between job and major. A major has many jobs and a job can in many major  - Primary key: None  - Foreign keys: job\_id, major\_id |
| 13 | evaluation | - This table is used to store information of evaluation of a student application for a job. An application have an evaluation.  - Primary key: id  - Foreign key: None |

# II. Code Designs

## 1. Signin/Signout

### a. Class Diagram



### b. Class Specifications

#### 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>

### 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]*

# III. Database Tables

## **Account**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8bytes | x | x | PK |  |
| 2 | Is\_admin | boolean | 1bytes |  | x |  |  |
| 3 | avatar | Varchar(2048) | 6144bytes |  | x |  |  |
| 4 | created\_at | timestamp | 8bytes |  | x |  |  |
| 5 | email | Varchar(320) | 960bytes |  | x |  |  |
| 6 | is.disabled | Boolean | 1bytes |  | x |  |  |
| 7 | name | Varchar(255) | 765bytes |  | x |  |  |
| 8 | password | Varchar(1024) | 3072bytes |  | x |  |  |
| 9 | phone | Varchar(13) | 39bytes |  | x |  |  |
| 10 | updated\_at | timestamp | 8bytes |  | x |  |  |

## 2. Attachment

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | key | Varchar(255) | 765bytes | x | x | PK |  |
| 2 | Account\_id | bigint | 8bytes |  | x |  |  |
| 3 | Created\_at | timestamp | 8bytes |  | x |  |  |
| 4 | name | Varchar(255) | 765bytes |  | x |  |  |
| 5 | Application\_id | bigint | 8bytes | x | x | FK |  |

## **3.Refresh token**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | brigint | 8bytes | x | x | PK |  |
| 2 | Expiry\_date | timestamp | 8bytes |  |  |  |  |
| 3 | token | Varchar(255) | 765bytes |  | x |  |  |
| 4 | Account\_id | bigint | 8bytes |  | x | FK |  |

## 4. Student

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8 bytes | x | x | PK |  |
| 2 | address | varchar(500) | 1500 bytes |  |  |  |  |
| 3 | student\_code | varchar(10) | 30 bytes |  | x |  |  |
| 4 | account\_id | bigint | 8 bytes |  | x | FK |  |
| 5 | major\_id | bigint | 8 bytes |  | x | FK |  |
| 6 | semester\_id | bigint | 8 bytes |  | x | FK |  |

## 5. Representative

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8 bytes | x | x | PK |  |
| 2 | account\_id | bigint | 8 bytes |  | x | FK |  |
| 3 | company\_id | bigint | 8 bytes |  | x | FK |  |

## 6. Company

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8 bytes | x | x | PK |  |
| 2 | address | varchar(500) | 1500 bytes |  |  |  |  |
| 3 | create\_ad | bigint | 8 bytes |  | x |  |  |
| 4 | description | varchar(2000) | 6000 bytes |  |  |  |  |
| 5 | is\_disabled | boolean | 1 byte |  | x |  |  |
| 6 | name | varchar(255) | 765 bytes |  | x |  |  |
| 7 | updated\_at | timestamp | 8 bytes |  | x |  |  |

## 7. Job

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8 bytes | x | x | PK |  |
| 2 | about\_our\_team | varchar(2000) | 6000 bytes |  | x |  |  |
| 4 | benefit | jsonb |  |  | x |  |  |
| 5 | created\_at | timestamp | 8 bytes |  | x |  |  |
| 6 | description | varchar(2000) | 6000 bytes |  |  |  |  |
| 7 | description\_items | jsonb |  |  | x |  |  |
| 8 | is\_disabled | boolean | 1 bytes |  | x |  |  |
| 9 | must\_have\_skils | jsonb |  |  | x |  |  |
| 10 | name | varchar(255) | 765 bytes |  | x |  |  |
| 11 | nice\_to\_have\_skill | jsonb |  |  | x |  |  |
| 12 | responsibilities | jsonb |  |  | x |  |  |
| 13 | salary | varchar(255) | 765 bytes |  | x |  |  |
| 14 | title | varchar(255) | 765 bytes |  | x |  |  |
| 15 | top\_reasons | jsonb |  |  | x |  |  |
| 16 | updated\_at | timestamp | 8 bytes |  | x |  |  |
| 17 | why\_you\_will\_love | varchar(2000) | 6000 bytes |  | x |  |  |
| 18 | company\_id | bigint | 8 bytes | x | x | FK |  |

## 8. Major

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigInt | 8 bytes | x | x | PK |  |
| 2 | created\_at | timestamp | 8 bytes |  | x |  |  |
| 3 | is\_disabled | boolean | 1 bytes |  | x |  |  |
| 4 | name | varchar(255) | 765 bytes |  | x |  |  |
| 5 | updated\_at | timestamp | 8 bytes |  | x |  |  |

## 9. Semester

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigInt | 8 bytes | x | x | PK |  |
| 2 | created\_at | timestamp | 8 bytes |  | x |  |  |
| 3 | is\_disabled | boolean | 1 bytes |  | x |  |  |
| 4 | end\_date | timestamp | 8 bytes |  | x |  |  |
| 5 | name | varchar(255) | 765 bytes |  | x |  |  |
| 6 | start\_date | timestamp | 8 bytes |  | x |  |  |
| 7 | updated\_at | timestamp | 8 bytes |  | x |  |  |

## 10. Semester\_job

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | semester\_id | bigint | 8 bytes |  | X | FK |  |
| 2 | job\_id | bigint | 8 bytes |  | X | FK |  |

## 11. Application

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8bytes | X | X | PK |  |
| 2 | accpeted\_at | timestamp |  |  |  |  |  |
| 3 | confirmed\_at | timestamp |  |  |  |  |  |
| 4 | Create\_at | timestamp |  |  |  |  |  |
| 5 | is\_disabled | boolean | 1 byte |  |  |  |  |
| 6 | experience | Varchar(1000) |  |  |  |  |  |
| 7 | is\_company\_accepted | boolean | 1byte |  |  |  |  |
| 8 | is\_school\_denied | boolean | 1 byte |  |  |  |  |
| 9 | is\_student\_confirmed | boolean | 1 byte |  |  |  |  |
| 10 | updated\_at | timestamp |  |  |  |  |  |
| 11 | evaluation\_id | bigint | 8 bytes |  |  | FK |  |
| 12 | job\_id | bigint | 8 bytes |  |  | FK |  |
| 13 | student\_id | bigint | 8bytes |  |  | FK |  |

## 12. Job\_Major

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | Major\_id | bigint | 8 bytes |  | x | FK |  |
| 2 | Job\_id | bigint | 8 bytes |  | x | FK |  |

## 13. Evaluation

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Field name** | **Type** | **Size** | **Unique** | **Not Null** | **PK/FK** | **Notes** |
| 1 | id | bigint | 8bytes | x | x | PK |  |
| 2 | comment | Varchar(500) | 1500bytes |  |  |  |  |
| 3 | Create\_at | timestamp | 8bytes |  |  |  |  |
| 4 | grade | bigint | 8bytes |  |  |  |  |
| 5 | Is\_pass | boolean | 1 byte |  |  |  |  |
| 6 | Updated\_at | timestamp | 8 bytes |  |  |  |  |