



# **FREELANCE JOB SYSTEM**

## **Software Design Document**

– Ho Chi Minh, July 2022 –

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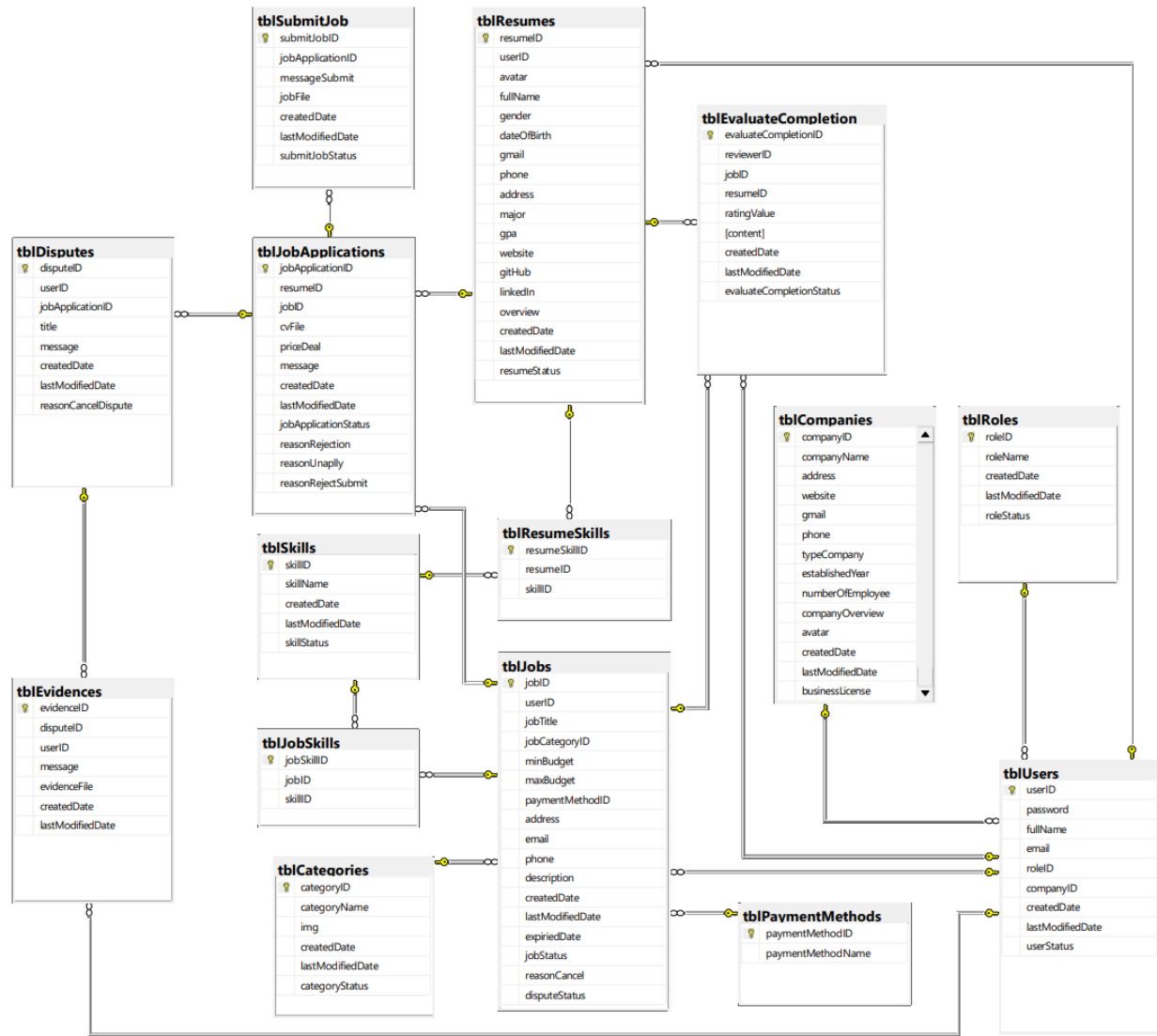
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# I. Overview

## 1. Code Packages/Namespaces

No	Package	Description
1	Web Pages	Contains all jsp pages, images, css, js...
2	Constant	Contains the token secret key
3	Controller	Perform the functions of adding, editing and deleting, viewing
4	DAO	Communicating with the database
5	DTO	Initialize properties
6	Entity	Represents a table stored in a database
7	Filter	Preprocessing and postprocessing of a request
8	Listener	Used for listening to events in a web container, such as when you create a session, context..
9	Service	Supplies coordination or calls methods to get a specific result
10	Utils	Connect to the database

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



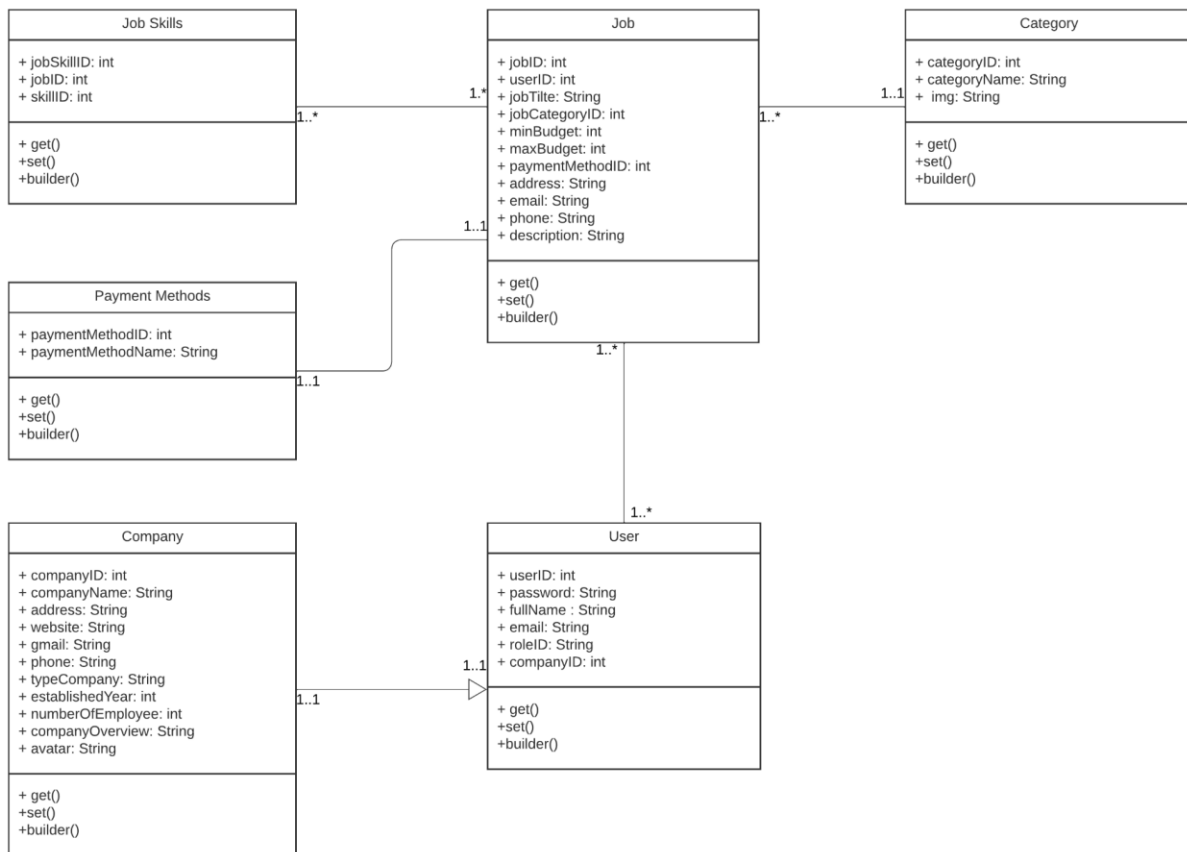
No	Table	Description
1	tblUsers	Contains the user's information - Primary keys: userID - Foreign keys: roleID, companyID
2	tblRoles	Contains information about the user login - Primary keys: roleID
3	tblCompanies	Contains the company's information - Primary keys: companyID
4	tblResume	Contains the resume's information - Primary keys: resumeID - Foreign keys: userID
5	tblJobs	Contains the job's information - Primary keys: jobID - Foreign keys: categoryID, paymentMethodID, userID

6	tblJobApplications	Contains the job application's information - Primary keys: jobApplicationID - Foreign keys: resumeID, jobID
7	tblCategories	Contains the category's information - Primary keys: categoryID
8	tblSkills	Contains the skill's information - Primary keys: skillID
9	tblResumeSkills	Contains information about the skill in resume - Primary keys: resumeSkillID - Foreign keys: resumeID, skillID
10	tblJobSkills	Contains information about the skill required in job - Primary keys: jobSkillID - Foreign keys: jobID, skillID
11	tblSubmitJob	Contains information about the student send product to company - Primary keys: submitJobID - Foreign keys: jobApplicationID
12	tblEvaluateCompletion	Contains information about the company evaluate completion in product of student - Primary keys: evaluateCompletionID - Foreign keys: reviewerID, jobID, resumeID
13	tblPaymentMethods	Contains the payment methods's information - Primary keys: paymentMethodID
14	tblDisputes	Contains information about the dispute in project - Primary keys: disputeID - Foreign keys: userID, jobApplicationID
15	tblEvidences	Contains information about evidence for project dispute resolution - Primary keys: evidenceID - Foreign keys: userID, disputeID

## II. Code Designs

### 1. Company post a project

#### a. Class Diagram



#### b. Class Specifications

##### Job class

No	Method	Description
1	jobID	The job ID is automatically generated when the company creates a new project
2	userID	Get user ID who created the project
3	jobTitle	Project title
4	jobCategoryID	Get conform category for the project
5	minBudget	The lowest deal budget the company can pay
6	maxBudget	The highest deal budget the company can pay
7	paymentMethodID	Select payment method by ID
8	address	Company's address
9	email	Company's email
10	phone	Company's phone
11	description	Company's description

#### User Class

No	Method	Description
1	paymentMethodID	Payment method ID
2	paymentMethodName	Payment method name

#### Company Class

No	Method	Description
1	companyID	User's company ID
2	companyName	User's company name
3	address	User's company address
4	website	User's company website
5	gmail	User's company gmail
6	phone	User's company phone
7	typeCompany	User's company type
8	establishedYear	Year of establishment of the company
9	numberOfEmployee	Number of employees in the company
10	companyOverview	Company's description
11	avatar	Company's avatar

#### Category Class

No	Method	Description
1	categoryID	Category's ID
2	categoryName	Category's name
3	img	Category's image

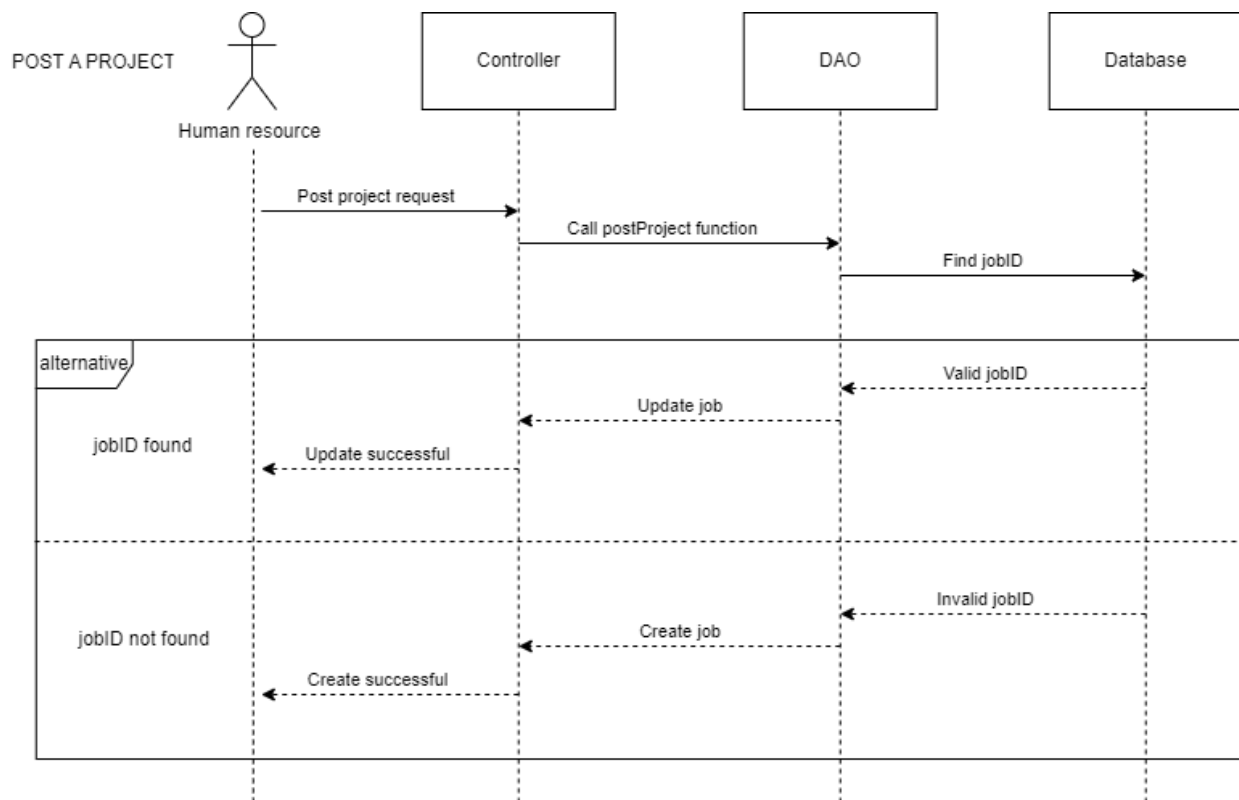
#### JobSkills Class

No	Method	Description
1	jobSkillID	Project's require skill ID
2	jobID	Project's ID
3	skillID	Skill's ID

#### PaymentMethod Class

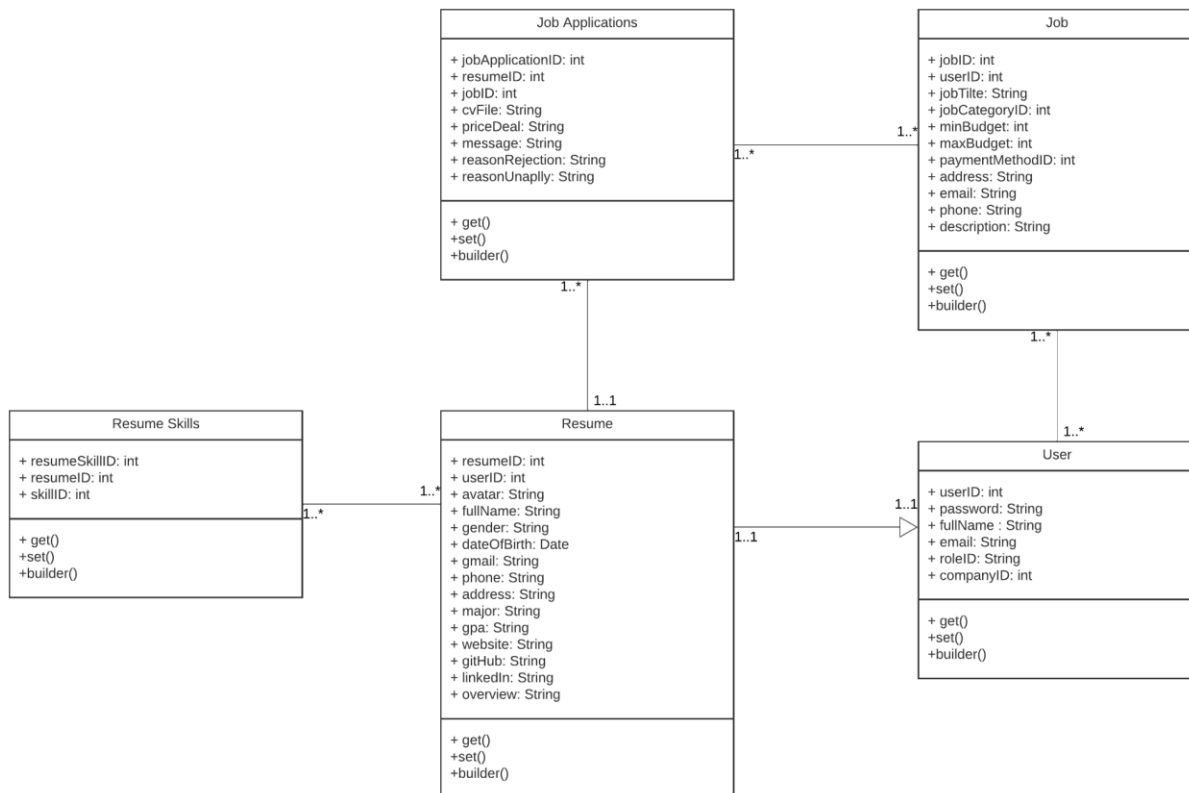
No	Method	Description
1	paymentMethodID	Payment method ID
2	paymentMethodName	Payment method name

#### c. Sequence Diagram(s)



## 2. Student apply a project

### a. Class Diagram





## b. Class Specifications

### Job class

No	Method	Description
1	jobID	The job ID is automatically generated when the company creates a new project
2	userID	Get user ID who created the project
3	jobTitle	Project title
4	jobCategoryID	Get conform category for the project
5	minBudget	The lowest deal budget the company can pay
6	maxBudget	The highest deal budget the company can pay
7	paymentMethodID	Select payment method by ID
8	address	Company's address
9	email	Company's email
10	phone	Company's phone
11	description	Company's description

### User Class

No	Method	Description
1	paymentMethodID	Payment method ID
2	paymentMethodName	Payment method name

### JobApplication class

No	Method	Description
1	jobApplicationID	Project's applied ID
2	resumeID	Resume's ID
3	jobID	Project's ID
4	cvFile	Student's cv
5	priceDeal	Student's budget deal
6	message	Student's message apply project

### Resume class

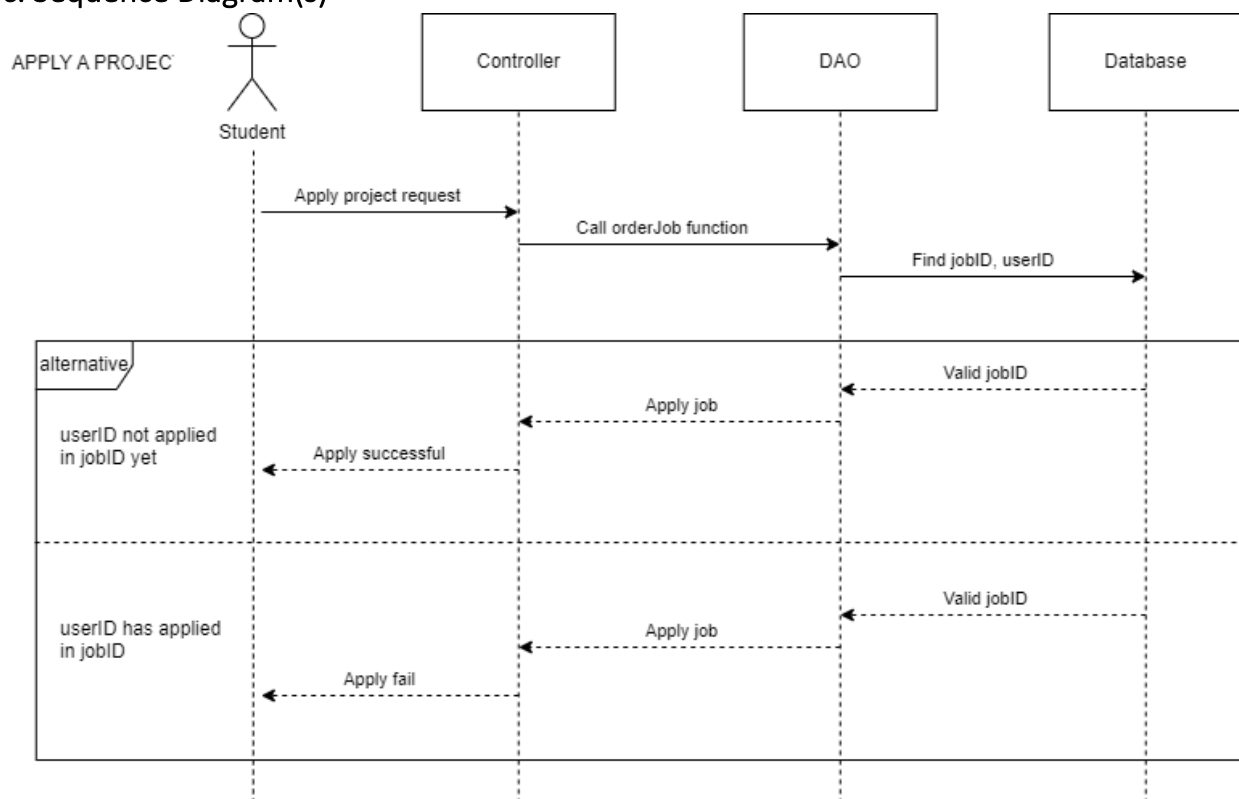
No	Method	Description
1	resumeID	Resume's ID
2	userID	Student's ID
3	avatar	Student's avatar
4	fullName	Student's name
5	gender	Student's gender
6	dateOfBirth	Student's day of birth
7	gmail	Student's gmail
8	phone	Student's phone
9	address	Student's address

10	major	Student's major
11	gpa	Student's gpa
12	website	Student's website
13	gitHub	Student's gitHub
14	linkedIn	Student's linkedIn
15	overview	Student's description

#### ResumeSkill class

No	Method	Description
1	resumeSkillID	Student's skill ID
2	resumeID	Resume's ID
3	skillID	Skill's ID

#### c. Sequence Diagram(s)



## III. Database Tables

### 1. tblUsers

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	userID	int		x	x	PK	ID of user
2	password	varchar	500		x		Password of user
3	fullName	nvarchar	50				Name of user

4	email	varchar	50				Email of user
5	roleID	varchar	50			FK	Role of user
6	companyID	int				FK	Company of user
7	createdDate	datetime					Account creation date
8	lastModifiedDate	datetime					Last account modification date
9	userStatus	tinyint					Status of user

## 2. tblRoles

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	roleID	varchar	50	x	x	PK	Role ID of user
2	roleName	varchar	50		x		Role name of user
3	createdDate	datetime					Role creation date
4	lastModifiedDate	datetime					Last modified date
5	roleStatus	bit					Role's status

## 3. tblCompanies

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	companyID	int		x	x	PK	User's company ID
2	companyName	nvarchar	50		x		User's company name
3	address	nvarchar	50		x		User's company address
4	website	varchar	100		x		User's company website
5	gmail	varchar	50		x		User's company gmail
6	phone	varchar	20		x		User's company phone
7	typeCompany	varchar	30		x		User's company type
8	establishedYear	int			x		Year of establishment of the company
9	numberOfEmployee	int			x		Number of employees in the company
10	companyOverview	nvarchar	3000		x		Company's description
11	avatar	varchar	2000				Company's avatar
12	createdDate	datetime					Company creation date

13	lastModifiedDate	datetime					Last modified date
14	businessLicense	varchar	2000				Company's business license
15	companyStatus	tinyint					Company's status

#### 4. tblResume

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	resumeID	int		x	x	PK	Resume's ID
2	userID	int			x	FK	Student's ID
3	avatar	varchar	2000				Student's avatar
4	fullName	nvarchar	50		x		Student's name
5	gender	varchar	10		x		Student's gender
6	dateOfBirth	date			x		Student's day of birth
7	gmail	varchar	50		x		Student's gmail
8	phone	varchar	20		x		Student's phone
9	address	nvarchar	50		x		Student's address
10	major	varchar	50		x		Student's major
11	gpa	varchar	15		x		Student's gpa
12	website	varchar	100				Student's website
13	gitHub	varchar	3000				Student's gitHub
14	linkedIn	varchar	3000				Student's linkedIn
15	overview	nvarchar	3000		x		Student's description
16	createdDate	datetime					Resume creation date
17	lastModifiedDate	datetime					Last modified date
18	resumeStatus	tinyint					Resume's status

#### 5. tblJobs

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	jobID	int		x	x	PK	Project's ID
2	userID	int			x	FK	User's ID
3	jobTitle	varchar	255		x		Project's title
4	jobCategoryID	int			x	FK	Project's categories
5	minBudget	float			x		Project's min budget
6	maxBudget	float			x		Project's max budget
7	paymentMethodID	int			x	FK	Project's payment method
8	address	nvarchar	200		x		Company's address
9	email	varchar	255		x		Company's email
10	phone	varchar	15		x		Company's phone

11	description	varchar	2000		x		Company's description
12	createdDate	datetime					Project creation date
13	lastModifiedDate	datetime					Last modified date
14	expiredDate	datetime			x		Project's expiry date
15	jobStatus	tinyint					Project's status
16	reasonCancel	nvarchar	2000				The reason for canceling the project

## 6. tblJobApplications

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	jobApplicationID	int		x	x	PK	Project's applied ID
2	resumeID	int			x	FK	Resume's ID
3	jobID	int			x	FK	Project's ID
4	cvFile	varchar	MAX		x		Student's cv
5	priceDeal	varchar	50		x		Student's budget deal
6	message	nvarchar	2000		x		Student's message apply project
7	createdDate	datetime					Project apply creation date
8	lastModifiedDate	datetime					Last modified date
9	jobApplicationStatus	tinyint					
10	reasonRejection	nvarchar	2000				Company's reason reject
11	reasonUnapply	nvarchar	2000				Student's reason unapply a project

## 7. tblCategories

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	categoryID	int		x	x	PK	Category's ID
2	categoryName	varchar	50		x		Category's name
3	img	varchar	2000		x		Category's image
4	createdDate	datetime					Category creation date
5	lastModifiedDate	datetime					Last modified date
6	categoryStatus	bit					Category's status

## 8. tblSkills

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	skillID	int		x	x	PK	Skill's ID
2	skillName	varchar	50		x		Skill's name
3	createdDate	datetime					Skill creation date
4	lastModifiedDate	datetime					Last modified date
5	skillStatus	bit					Skill's status

## 9. tblResumeSkills

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	resumeSkillID	int		x	x	PK	Student's skill ID
2	resumeID	int			x	FK	Resume's ID
3	skillID	int			x	FK	Skill's ID

## 10. tblJobSkills

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	jobSkillID	int		x	x	PK	Project's require skill ID
2	jobID	int			x	FK	Project's ID
3	skillID	int			x	FK	Skill's ID

## 11. tblSubmitJob

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	submitJobID	int		x	x	PK	Student's complete project ID
2	jobApplicationID	int			x	FK	Project's apply ID
4	messageSubmit	nvarchar	3000		x		Student's message submit
5	jobFile	varchar	2000		x		Product's file
6	createdDate	datetime					Product delivery date
7	lastModifiedDate	datetime					Last modified date
8	submitJobStatus	tinyint					Project's complete status

## 12. tblEvaluateCompletion

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	evaluateCompletionID	int		x	x	PK	Company's evaluate
2	reviewerID	int			x	FK	Company's review

3	jobID	int			x	FK	Project's ID
4	resumeID	int			x	FK	Resume's ID
5	ratingValue	int			x		Student's rating value
6	[content]	nvarchar	3000		x		Rating value message
7	createdDate	datetime					Review creation date
8	lastModifiedDate	datetime					Last modified date
9	evaluateCompletionStatus	bit					Evaluate completion status

### 13. tblPaymentMethods

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	paymentMethodID	int		x	x	PK	Payment method ID
2	paymentMethodName	nvarchar	50		x		Payment method name

### 14. tblDisputes

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	disputeID	int		x	x	PK	User's dispute ID
2	userID	int			x	FX	User' ID
3	jobApplicationID	int			x	FX	Project's apply ID
4	title	nvarchar	3000		x		Dispute's title
5	message	nvarchar	3000		x		Dispute's message
6	createdDate	date					Dispute creation date
7	lastModifiedDate	date					Last modified date
8	reasonCancelDispute	nvarchar	3000		x		The reason for the cancellation of the dispute
9	disputeStatus	tinyint					Disput's status

### 15. tblEvidences

#	Field name	Type	Size	Unique	Not Null	PK/FK	Notes
1	evidenceID	int		x	x	PK	Evidence's ID
2	disputeID	int			x	FK	Dispute's ID
3	userID	int			x	FK	User's ID
4	message	nvarchar	3000		x		User's message around evidence
5	evidenceFile	nvarchar	3000		x		Evidence file

6	createdDate	date					Evidence creation date
7	lastModifiedDate	date					Last modified date