



Capstone Project Final Report

Project title: **FPT Education Recruitment**

Hanoi, September 3rd, 2020

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Chapter 1: Introduction

1.1. Purpose

This chapter provides an overview of the project including background information, a literature review of the existing system and raising a proposal for ideas of improvement.

1.2. Project information

- Project name: FPT Education Recruitment System
- Project code: FERS
- Project group name: PID Team (*People - Idea - Dialogue*)
- Product type: Web Application
- Timeline: From 18th May 2020 to 3rd September 2020

1.3. The people

1.3.1. Supervisor

	Full name	Phone	E-mail	Title
Supervisor	Phan Trường Lâm	0913507828	lampt2@fe.edu.vn	Lecturer

Table 1.1 – Supervisor's information

1.3.2. Team members

	Full name	Student ID	Phone	E-mail	Role
1	Đỗ Văn Tuấn	SE05339	0868455987	tuandvse05339@fpt.edu.vn	Leader
2	Nguyễn Thái Bảo	SE05601	0353754567	baontse05601@fpt.edu.vn	Member
3	Trần Quốc Đạt	SE05715	0888833324	dattqse05715@fpt.edu.vn	Member
4	Bùi Thành Tùng	SE05661	0354442626	tungbtse05661@fpt.edu.vn	Member
5	Đỗ Duy Luyện	SE04999	0383551655	luyenddse04999@fpt.edu.vn	Member

Table 1.2 – Team member's information

1.4. Background

FPT Corp is one of the largest companies in Viet Nam and FPT Education is a very important part of FPT Corp. FPT Education was founded in 1999. Since then, FPT Education has been growing with more than 50 thousands students at 28 training facilities in Ha Noi, Ho Chi Minh, Da Nang, Can Tho, Quy Nhon, Tay Nguyen.

In recent years, the number of pupils and students has increased every year, leading to the demand for teachers and staff to recruit also increased.

To recruit, the HR department uses the following recruitment channels:

- Website: fpt.edu.vn/tuyen-dung
- Word of mouth
- Use Vietnamworks services

Nowadays, FPT Education still doesn't have a good enough recruitment system. They use a sub function in a news page fpt.edu.vn/tuyen-dung to public recruitment information. The function is very simple and there is not any process to recruit an employee.

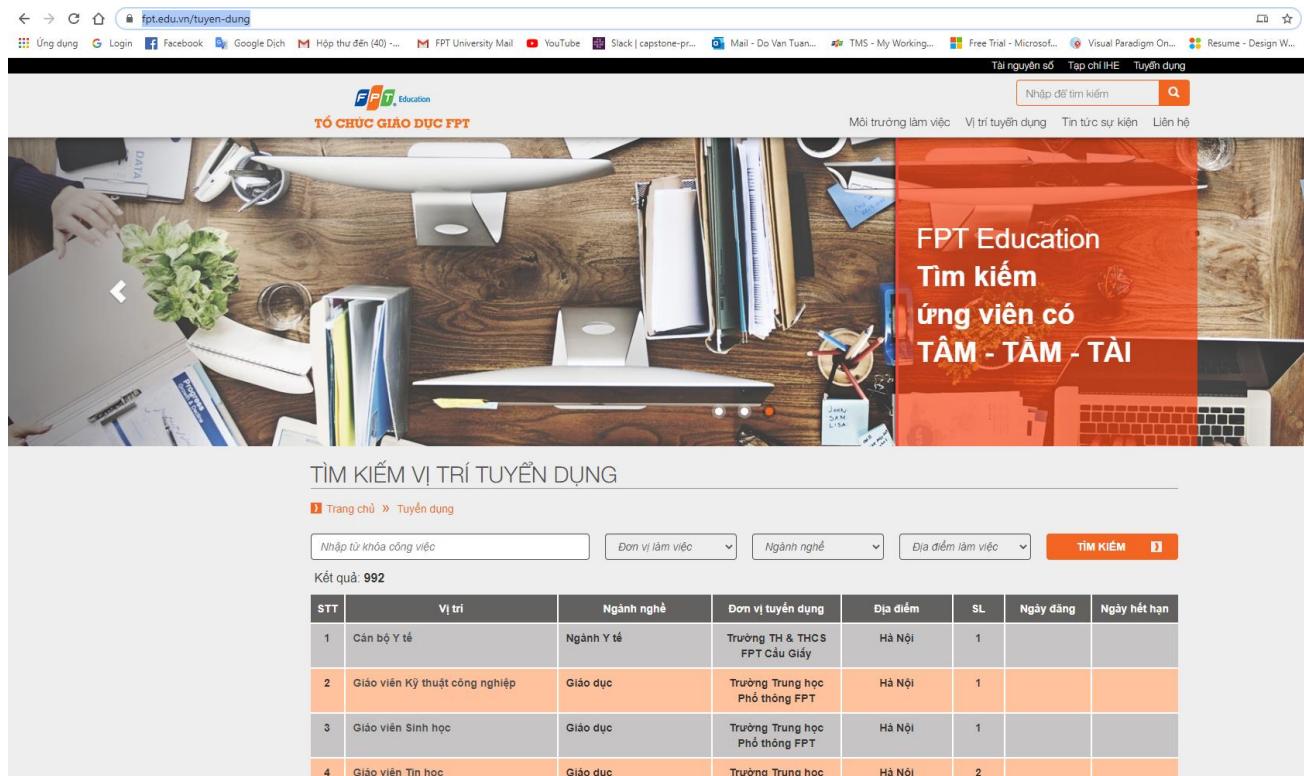


Figure 1.1 FPT Education recruitment page

1.5. Literature review of existing systems

This section contains the overview of some existing applications that attempt to tackle limitations of traditional issuing, as well as their advantages..

1.5.1. The Samsung careers (SC)

SC is a website for hiring people for Samsung's organizations.

Trang chủ | Tuyển dụng kinh nghiệm | Thông tin Công ty | Đăng nhập

Vietnamese

At SAMSUNG,

it is teamwork that takes our products across the globe and success of our Company.
Are you ready to join a team whose dream is to make Samsung a great and exciting place to work?

Úng tuyển cho công việc

Tuyển dụng nhân viên kinh nghiệm

Úng viên đã tốt nghiệp và có ít nhất 4 năm kinh nghiệm, vui lòng chọn mục "Tuyển dụng nhân viên kinh nghiệm"

Tuyển dụng sinh viên mới tốt nghiệp

Úng viên đã hoặc sẽ tốt nghiệp Đại học/Cao đẳng, Vui lòng chọn mục "Tuyển dụng sinh viên mới tốt nghiệp"

Thông tin tuyển dụng nhân viên sản xuất

Úng viên Tốt Nghiệp cấp 3 (THPT), vui lòng chọn mục "Thông tin tuyển dụng nhân viên sản xuất"

Hãy theo dõi Facebook của chúng tôi để liên tục cập nhật thông tin tuyển dụng!

f

SC homepage

The advantages of SC as follow:

Advantages
<ul style="list-style-type: none"> Allow candidates to search and find jobs and view in detail. Candidates can research more information about the company.

Table 1.3 – Advantages of SC

1.5.2. VinAI Careers

VinAI Research is a newly established research lab located in Hanoi, Vietnam. Funded by VinGroup, the largest enterprise in Vietnam by capitalization, their mission is to conduct high-impact research that pushes the knowledge frontier in AI and to accelerate applications of AI in Vietnam, the Asia Pacific region, and beyond.



Research Scientist positions at VinAI Research

VinAI Research is a research-focused lab located in Hanoi, Vietnam. Funded by VinGroup, the largest enterprise in Vietnam by capitalization, our mission is to conduct high-impact researches that push the knowledge frontier in AI and to accelerate applications of AI in Vietnam, the Asia Pacific region, and beyond.

Employment at VinAI Research offers an opportunity to be at the forefront of AI research and technology development. You will work alongside a group of exceptionally talented world-class colleagues to conduct high-impact research projects and improve AI techniques and solutions. Our current research focus ranges from machine learning, deep learning, computer vision, natural language/speech understanding and reinforcement learning. For more information see our website at www.vinai.io.

Research Scientist's Responsibilities

VinAI Research is looking for researchers who can do world-class research in one or more of the following research areas: deep learning and machine learning, computer vision, natural language/speech understanding and reinforcement learning. Research scientists are expected to be machine learning experts and able to carry out independent research projects from conceptualization to implementation that can result in top-tier publications. Senior staff members are expected to be able to function in a leadership role to lead internal projects and/or exert external influence and thought leadership in the area of expertise.

Qualifications

Successful candidates should have a Ph.D. in computer science or related fields, and a proven research track record with authorship of papers at top-tier conferences. Senior-level applicants should demonstrate leadership as evidenced by high quality publications, and a track record for innovations. Candidates should collaborate effectively with other staff members and product development teams. We are particularly interested in candidates who can work flexibly across disciplinary boundaries.

Benefits

Compensation is highly competitive and will take into account the applicant's current global employment and experience level.

Interested applicants are invited to send your application to Job@vinai.io

Figure 1.3 – VinAI Careers homepage

The pros of VinAI Careers are listed as below:

Advantages
<ul style="list-style-type: none"> • VinAI Careers shows jobs information in detail. • Jobs are sorted, candidates can focus easily.

Table 1.4 – Advantages of VinAI Careers

1.6. The proposal system

From those studies, our group came up with an idea: Build a professional recruiting website for the FPT Education system. The proposal is approved by FPT Edu HR Dept and Software Development Dept (App.FEHO)

1.6.1. System functions

There are 3 types of users in FPT Education Recruitment System:

Type of User	Description
Candidate	Users who find a job, they can view all information about organizations, recruitment of FPT Education System and apply to a job.
HR Staff	Recruitment employees, they can manage all CVs that were uploaded, manage jobs, change status of CVs, export list of all CVs to excel file.
Super Admin	HR Manager, who has the most powerful rights in the system such as managing locations, accounts, units, careers, config emails, logs, quizzes, questions and question groups.

Table 1.5 – Types of users in the FPT Education Recruitment System

FPT Education Recruitment System will provide the following requirements to the above users:

- System allows candidate to view all information about FPT Education and new career
- Candidate can search a career by keywords
- Candidate can apply for a job:
 - If candidate has a CV already, he/she can attach CV file (PDF) and submit to the system
 - If candidate doesn't have a CV, he/she can create a basic CV and submit to the system
- After successfully uploading CV, the system will send email notification to candidates that their CVs are uploaded successfully
- If the candidate has not found a suitable job, he/she can leave contact information, HR will contact him/her to advise later.
- Candidates can do an entry test when they apply for a CV.
- HR staff can manage all CVs that were uploaded by candidates. The CV status is in one of the following 5 values: new, seen, pending, rejected, approved.
- HR staff can manage questions and can choose a quiz that a candidate needs to make sure he/she shares FPT Education's philosophy.
- The status of CV is managed by HR staff.
- HR staff exports list CV to excel format file.
- The system supports multiple languages.
- Candidates can chat in real time with HR Staff.
- Website is good at Search Engine Optimization (SEO), evaluated by Lighthouse.¹
- Super Admin is a person who has the most functionality in the system such as CRUD:
 - Location
 - Account
 - Unit
 - Career
 - Config email
 - Log
 - Quiz
 - Question

¹ Lighthouse: <https://developers.google.com/web/tools/lighthouse>

- Question Group

1. *HR Staff's sitemap*

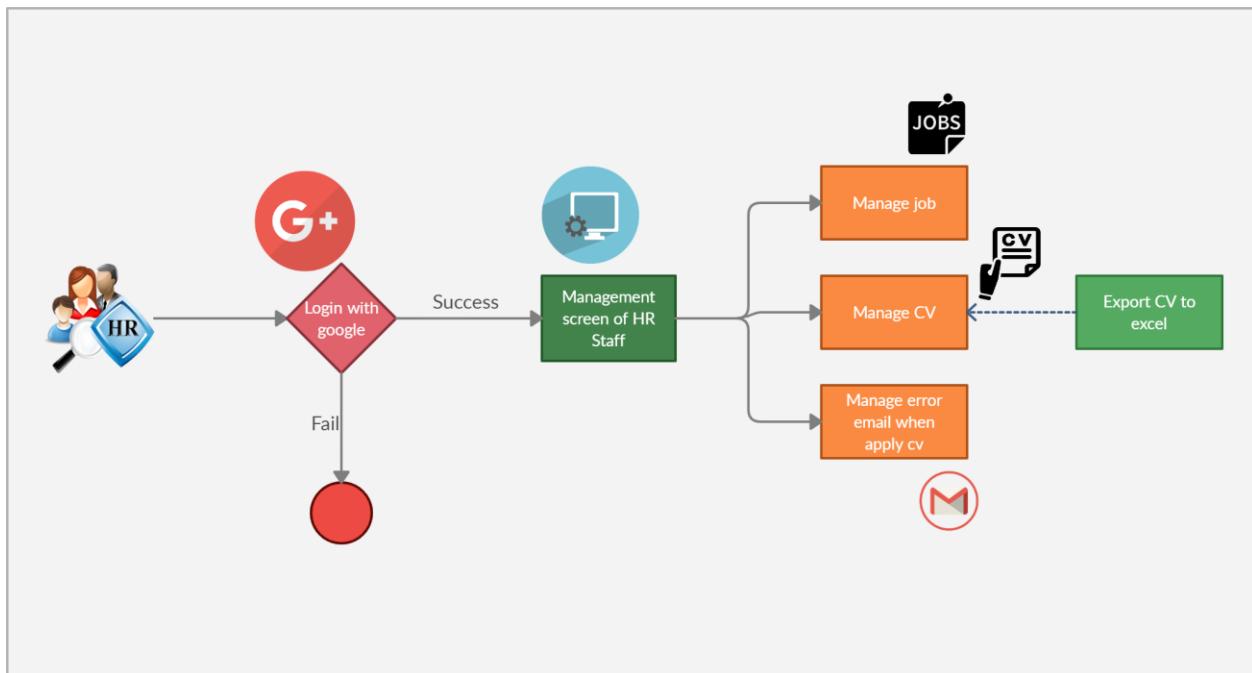


Figure 1.4. *HR Staff's sitemap*

2. Super Admin's sitemap

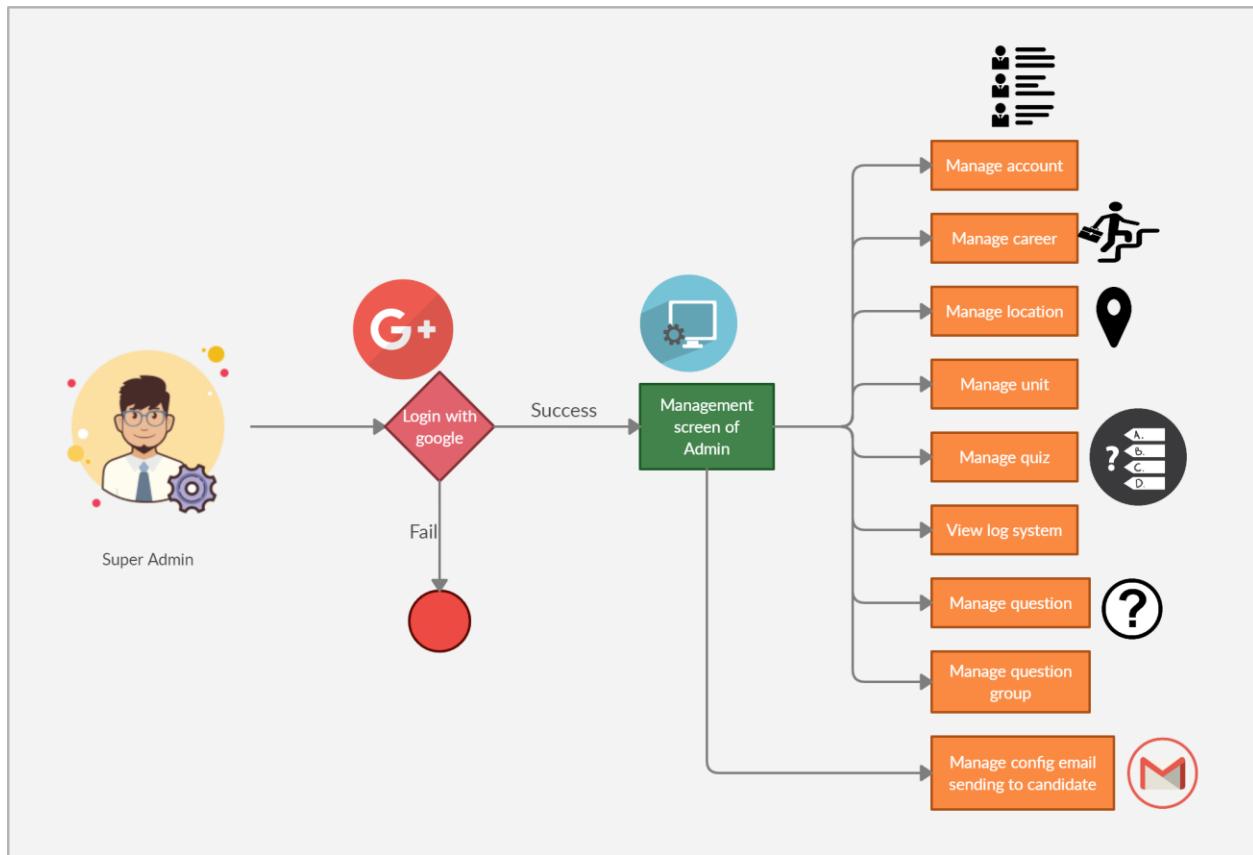


Figure 1.5. Super Admin's sitemap

1.6.2. Workflows

1. Apply job flow

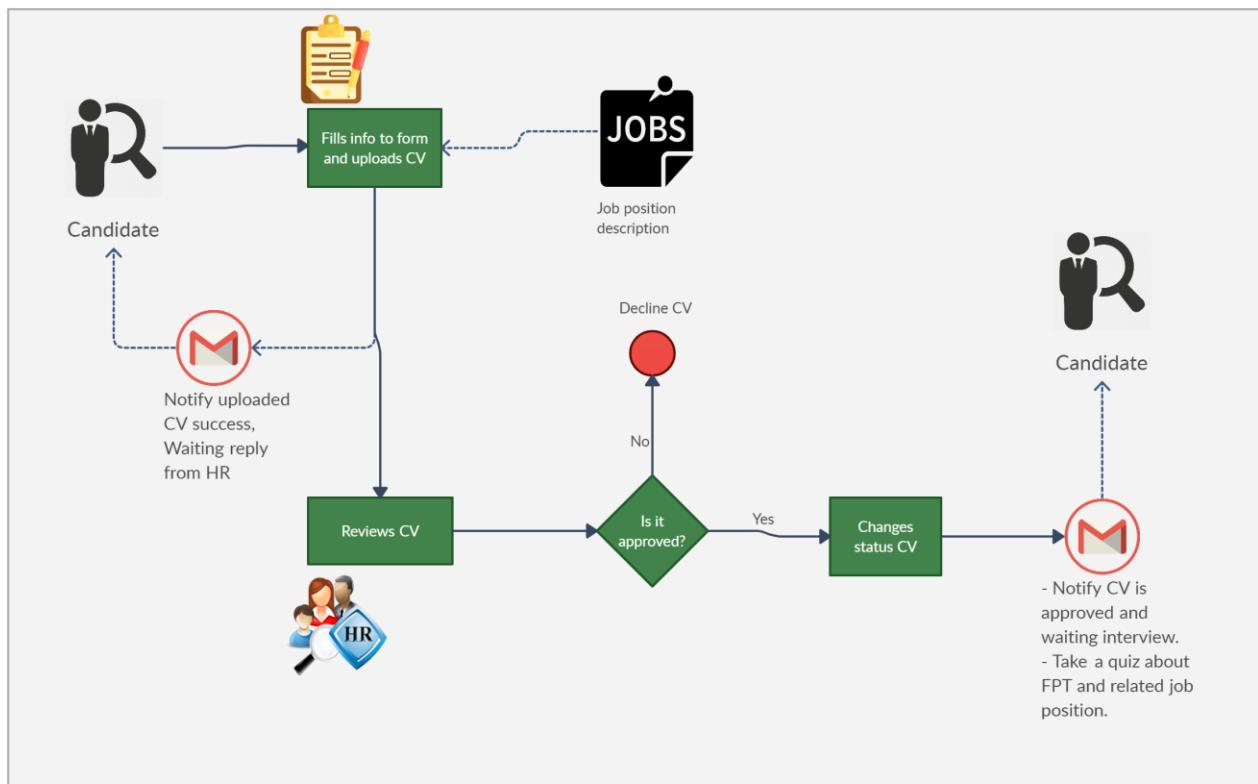


Figure 1.6. Apply job flow

1.6.3. Out-of-scope functions

Due to the limitation of time, we will not implement some of the intended functions, although we are aware that they are also important and useful for users of the system:

- Support multiple languages
- Real time chat

1.6.4. Tools and technique

Category	Tools & techniques
Programming languages & runtime	C#, Javascript
Frameworks	.Net MVC 4.7
Software architecture	MVC
Operating system	macOS 10.16 Catalina, Windows 10
Version control	GitHub, Git 2.27.0
IDE/Editors	Visual Studio 2017
UML tools	Draw.io, Ashta
DBMS	SQL Server Management System 2012
Project management tools	Pivotal Tracker, Microsoft Excel 2016
Document tools	Microsoft Office 2016
Process model	Agile Software Process Model
Development process	Continuous Integration & Continuous Delivery
Communication tools	Facebook, Gmail, Slack, Skype
Files management tools	Google Drive
Testing tools	Google Chrome

Table 1.6 – Tools & techniques used in project

To solve the stated problems, the following tools and techniques are used:

- Using .Net MVC Framework² and SQL Server to code and build dynamic websites.
- Using Github³ for managing source code.
- Using library SmtpClient and MailMessage⁴ to automatically send email to candidates after successfully uploading a CV.

² .Net MVC Framework: <https://dotnet.microsoft.com/apps/aspnet/mvc>

³ Github : <https://github.com/marketplace/category/continuous-integration>

⁴ SmtpClient and MailMessage : <https://docs.microsoft.com/en-us/dotnet/api/system.net.mail.mailmessage>

Chapter 2: Project Plan

2.1. Purpose

This chapter provides an overview of the project plan, including software process model, project overview, project organization. Moreover, the document also details tools will be used, coding conventions, communication management.

2.2. Project overview

2.2.1. Channels

Currently, FPT education system implements the following recruitment channels:

- Website: fpt.edu.vn/tuyen-dung
- Social network:

Linkedin: <https://www.linkedin.com/company/fpt-education>

- Advertisement :

Facebook: <https://www.facebook.com/educationfpt/>

Youtube: <https://www.youtube.com/user/FPTUniversityChannel>

2.2.2. The proposed system

- We create a system to allow people to search and apply CV to remaining FPT Education's jobs. Besides, candidates who are accepted on a job can do an entry test.
- Recruitment Staff can manage CVs, accounts, jobs and a few data at homepage on system.

2.2.3. Boundaries of the system

- Allow candidates to view and search information about FPT Education system, recruitment jobs, recruitment process.
- Allows candidates to create, upload, edit CV to apply job
- Allows candidates to do a small quiz to learn more information about FPT Education
- Allows HR Staff to manage uploaded CV of candidate, add, edit, delete Job
- Allows System administrators to manage users, system config, manage location, manage units of FPT Education.

2.2.4. Environment development

- ASP .NET MVC 5

2.3. Project organization

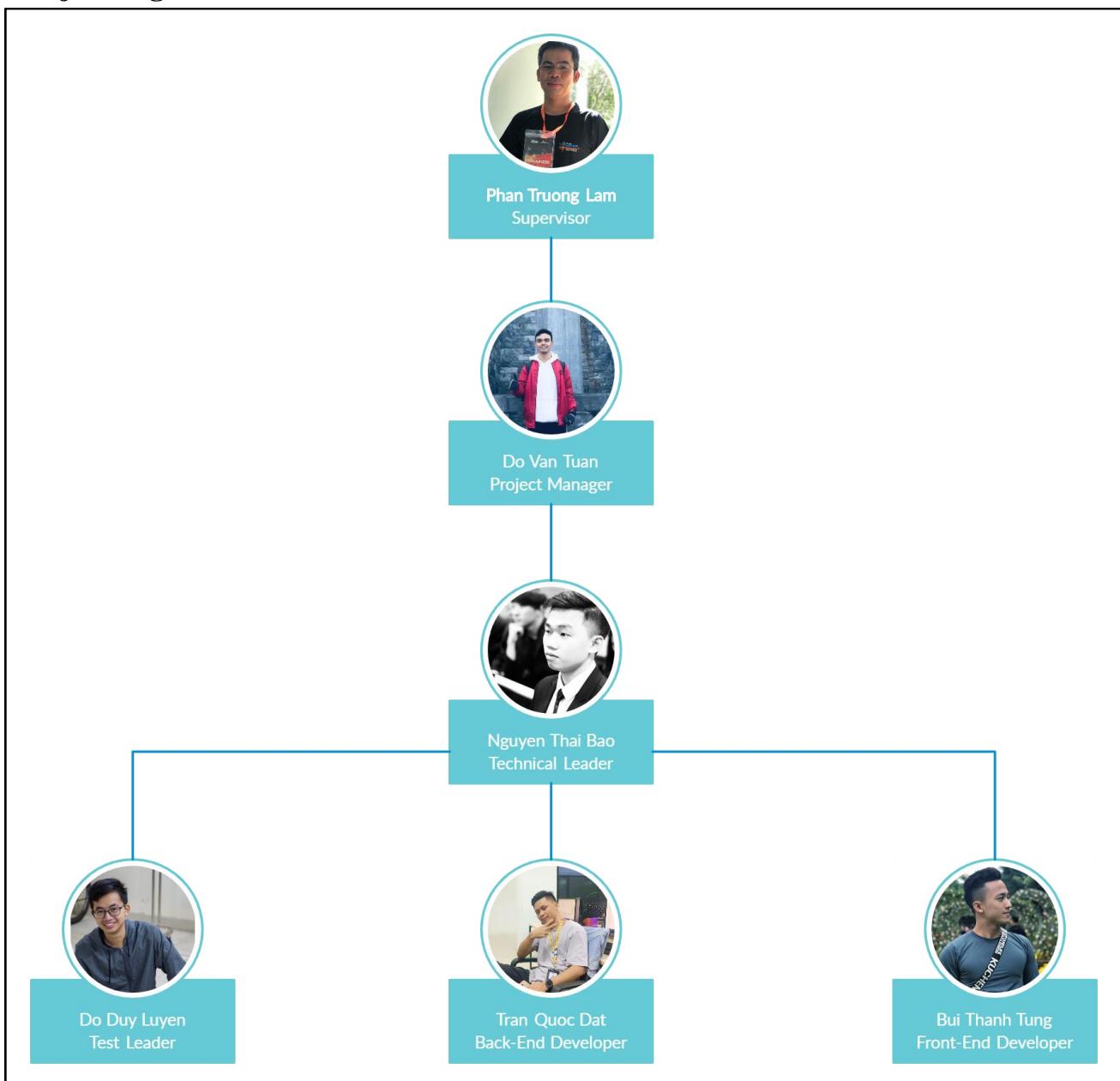


Figure 2.1. Project organization chart

2.4. Role and responsibilities

Organization structure

Role	Responsibilities
Project Manager	Planning, developing schedules, coordinating communication, generally responsible for keeping the team's focus on the main goal.

Technical Leader	Responsible for choosing and deciding what technologies should be used, as well as for overseeing the work being done by other developers.
Quality Assurance Manager	Ensuring the product meets the certain standards of quality from requirements.
Test Leader	Responsible for test execution, including test set-up and test run, evaluation of test run and error recovery, defect logging and test results recording.
Developer	Involve in coding the product and reviewing code of other developers.
Designer	Involve in designing the product's user interface.
Tester	Involve in testing the product.

Table 2.1 – Project organization structure

Team member roles

Team Member	Role
Pham Truong Lam	Supervisor
Do Van Tuan	Project Manager, Back-End Developer
Nguyen Thai Bao	Technical Leader, Developer, Quality Assurance Manager
Do Duy Luyen	Front-End Developer, Test Leader, Designer
Tran Quoc Dat	Back-End Developer
Bui Thanh Tung	Front-End Developer, Teser

Table 2.2 – Project role description

2.5. Software process model

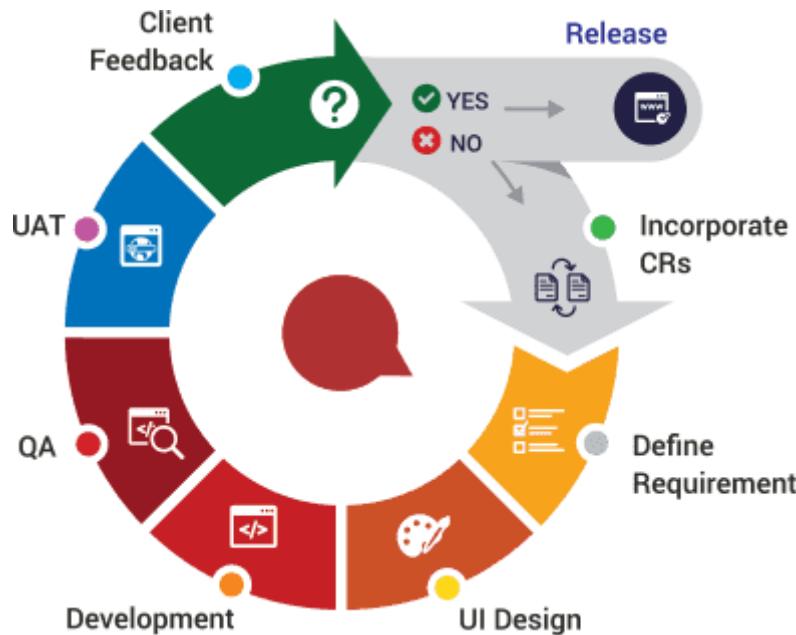


Figure 2.2 – Agile software process model

FPT Education Recruitment System project uses the Agile software process model.

Agile is a flexible software development methodology, which is a specific approach to software project management. It includes an integrated and interactive workflow to get products into the hands of users as quickly as possible. Agile model has the following advantages:

- Customer satisfaction by rapid, continuous delivery of useful software.
- People and interactions are emphasized rather than process and tools. Customers, developers and testers constantly interact with each other.
- Working software is delivered frequently (end of sprint).
- Face-to-face conversation is the best form of communication.
- Close, daily cooperation between customers and developers.
- Regular adaptation to changing circumstances.
- Even late changes in requirements are welcomed

2.6. Project management plan

2.6.1. Tasks

Refer to [Project management plan.xlsx](#) file for detail.

WBS	Task Name	Duration	Start	Finish	Resource Name	Note
I	FERS Project	79 days	18-May-2020	4-Sep-2020		
1	Project Initiating	5 days	25-May-2020	29-May-2020		▼
1.1	Determine Project Scope	2 days	25-May-2020	26-May-2020	BaoNT	▼
1.2	List up requirements	1 day	27-May-2020	27-May-2020	LuyenDD	▼
1.3	Create Project Introduction (Report 1)	1 day	28-May-2020	28-May-2020	All member	▼
1.4	Supervisor weekly meeting 1	0.5 day	29-May-2020	29-May-2020		▼
1.5	Team weekly meeting 1	0.5 day	29-May-2020	29-May-2020		▼
1.6	Finish Project Initiating	0 day	29-May-2020	29-May-2020		▼
2	Project Plan	5 days	1-Jun-2020	5-Jun-2020		▼
2.1	Create Project Plan (Report 2)	4 days	1-Jun-2020	4-Jun-2020	TuanDV	▼
2.2	Supervisor weekly meeting 2	0.5 day	5-Jun-2020	5-Jun-2020	All member	▼
2.3	Team weekly meeting 2	0.5 day	5-Jun-2020	5-Jun-2020		▼
2.4	Finish Project Plan	0 day	5-Jun-2020	5-Jun-2020		▼
3	Project Executing	52 days	8-Jun-2020	18-Aug-2020		▼
3.a	Sprint 1	34 days	8-Jun-2020	24-Jul-2020		▼ Config envir
a.1	Requirement and Design	17 days	8-Jun-2020	2-Jul-2020		▼
a.1.1	List up use cases	1 day	8-Jun-2020	8-Jun-2020	TungBT	▼
a.1.2	Create use cases description	3 days	9-Jun-2020	11-Jun-2020	TungBT	▼
a.1.3	Create Software Requirement Specification (Report 3)	4 days	15-Jun-2020	18-Jun-2020	All member	▼
a.1.4	Project architecture design	1 days	17-Jun-2020	18-Jun-2020	TuanDV	▼
a.1.5	Design database diagram	2 days	22-Jun-2020	23-Jun-2020	TuanDV	▼
a.1.6	GUI Layout design	2 days	22-Jun-2020	23-Jun-2020	LuyenDD	▼
a.1.7	Create Software Design (Report 4)	4 days	29-Jun-2020	2-Jul-2020	All member	▼
a.2	Code	24 days	22-Jun-2020	23-Jul-2020		▼
a.2.1	Back-end	24 days	22-Jun-2020	23-Jul-2020		▼
a.2.1.1	Configuration and setup environment	2 days	22-Jun-2020	23-Jun-2020	TuanDV	▼
a.2.1.2	Coding common, Middleware DbContext	2 days	24-Jun-2020	25-Jun-2020	TuanDV	▼
a.2.1.3	Coding Model and DAO connect SQL	2 days	26-Jun-2020	29-Jun-2020	DatTQ	▼
a.2.1.4	Coding search CV and search job	2 days	30-Jun-2020	1-Jul-2020	TuanDV	▼
a.2.1.5	List, Detail Job	2 days	2-Jul-2020	3-Jul-2020	TuanDV	▼
a.2.1.6	Create & Update Job	2 days	6-Jul-2020	7-Jul-2020	DatTQ	▼
a.2.1.7	Upload CV	2 days	8-Jul-2020	9-Jul-2020	DatTQ	▼
a.2.1.8	Export CV for HR staff	2 days	10-Jul-2020	13-Jul-2020	TuanDV	▼
a.2.1.9	Manage account for admin	3 days	13-Jul-2020	15-Jul-2020	TuanDV	▼

Figure 2.3 – Project management plan

a.3	Test	15 days	11-Jul-2020	14-Jul-2020		
a.3.1	Create all test cases for sprint 1	3 days	13-Jul-2020	15-Jul-2020	LuyenDD	▼
a.3.2	Implementation test sprint 1	5 days	16-Jul-2020	22-Jul-2020	LuyenDD	▼
a.3.3	Verify Test sprint 1	2 days	23-Jul-2020	24-Jul-2020	LuyenDD	▼
a.3.4	Fix bug test sprint 1	4 days	27-Jul-2020	30-Jul-2020	All member	▼
a.3.5	Summary and Evaluation sprint 1	1 day	31-Jul-2020	31-Jul-2020	TuanDV	▼
3.b	Sprint 2	18 days	24-Jul-2020	19-Aug-2020		▼ Report Test
b.1	Requirement and Design	9 days	24-Jul-2020	18-Aug-2020		▼
b.1.1	Create Software Test (Report 5)	4 days	24-Jul-2020	29-Jul-2020	LuyenDD	▼
b.1.2	Create user guide	2 days	30-Jul-2020	5-Aug-2020	DatTQ	▼
b.1.3	Create Software User Manual (Report 6)	3 days	6-Aug-2020	18-Aug-2020	DatTQ	▼
b.2	Code	17 days	24-Jul-2020	19-Aug-2020		▼
b.2.1	Back-end	17 days	24-Jul-2020	19-Aug-2020		▼
b.2.1.1	View log for admin	2 days	24-Jul-2020	27-Jul-2020	DatTQ	▼
b.2.1.2	Manage quiz for admin	3 days	28-Jul-2020	30-Jul-2020	BaoNT	▼
b.2.1.3	Manage question for admin	3 days	3-Aug-2020	5-Aug-2020	BaoNT	▼
b.2.1.4	Manage quiz for admin	2 days	6-Aug-2020	7-Aug-2020	BaoNT	▼
b.2.1.5	Manage question group for admin	2 days	10-Aug-2020	11-Aug-2020	BaoNT	▼
b.2.1.6	Send mail	5 days	12-Aug-2020	19-Aug-2020	BaoNT	▼
b.3	Test	15 days	3-Aug-2020	19-Aug-2020		▼
b.3.1	Create all test cases for sprint 2	2 days	3-Aug-2020	4-Aug-2020	TungBT	▼
b.3.2	Implementation test sprint 2	4 days	5-Aug-2020	10-Aug-2020	TungBT	▼
b.3.3	Verify Test sprint 2	1 day	11-Aug-2020	11-Aug-2020	TungBT	▼
b.3.4	Fix bug test sprint 2	3 days	12-Aug-2020	14-Aug-2020	All member	▼
b.3.5	Test final round (IT for admin, hr, candidate)	2 days	17-Aug-2020	18-Aug-2020	TungBT	▼
b.3.6	Fix bug final round	2 days	19-Aug-2020	20-Aug-2020	All member	▼
b.3.7	Sumary & Evaluation Iteration test final	1 day	21-Aug-2020	21-Aug-2020	All member	▼
b.3.8	Finish Project Executing	0 day	21-Aug-2020	21-Aug-2020	All member	▼
3.c	Deploy	2 days	20-Aug-2020	21-Aug-2020		▼
c.1	Deploy Host & Domain Config	2 days	20-Aug-2020	21-Aug-2020	TuanDV	▼
4	Project Finishing	10 days	24-Aug-2020	4-Sep-2020	All member	▼
4.1	Collect & prepare documents for project closure	4 days	24-Aug-2020	27-Aug-2020		▼
4.2	Supervisor weekly meeting	0.5 day	28-Aug-2020	28-Aug-2020		▼
4.3	Team weekly meeting	0.5 day	28-Aug-2020	28-Aug-2020		▼
4.4	Close project	4 days	31-Aug-2020	3-Sep-2020		▼

Figure 2.4 – Project management plan

2.6.2. Meeting minutes

All meeting minutes will be written following this template:

Meeting/Project Name:	FPT Education Recruitment System		
Date of Meeting:	05/28/2020	Time: (Type)	2 hours (Face-to-face)
Meeting Called by:	TuanDV	Location:	R107 – Alpha building
Note Taker:	LuyenDD	Time Keeper:	TungBT
1. Meeting Objective			
-			
2. Attendance			
Name	Roles	E-mail	Phone
Do Van Tuan	Project Manager	tuandvse05339@fpt.edu.vn	0868455987
Do Duy Luyen	Developer	luyenddse04999@fpt.edu.vn	0383551655
Nguyen Thai Bao	Developer	baontse05601@fpt.edu.vn	0353754567
Tran Quoc Dat	Developer	dattqse05715@fpt.edu.vn	0888833324
Bui Thanh Tung	Tester	tungbtse05661@fpt.edu.vn	0354442626
3. Tasks Done			
-			
4. To-Do Tasks			
-			
5. Difficulty			
-			

Table 2.3. Meeting minute template

2.7. Conventions

2.7.1. Coding convention

Coding and implementing the FERS uses StyleCop⁵ analyzes C# source code to enforce a set of style and consistency rules with .Net on Visual Studio 2017.

2.7.2. Document convention

- Font-family: Times New Roman
- Font size: 12pt
- Page header size: 20pt

⁵ StyleCop: <https://en.wikipedia.org/wiki/StyleCop>

2.8. Risk management plan

2.8.1. Risk register

No	Name	Description	Probability	Impact	Prevention	Correction
R1	Requirement changes	The scope may change; some requirements may be added	High	Medium	All member discuss carefully in the beginning of each iteration to define scope and requirements	Ensure resource allocation is modified correctly to adapt to new requirement
R2	Illness or absence of team members	The number of members decreases and not enough for work	Medium	Low	Members have to notify the team about the absence period and the plan of how to keep up with the work process.	Ensure that the absence of a member won't affect others and always have plans to deal with this problem
R3	Conflict among team members	Team member disagree with others and refuse to work or work below their ability	Medium	High	Define clear tasks and unify the opinion before starting tasks	All members discuss to resolve the conflict. Voting.
R4	New technology	Require to study new technology to fulfill the requirement	Medium	Medium	Choosing technology based on member's qualification. All team members must nurture by self-study.	When someone chooses a new technology, he/she has to explain to all team members about the decision.

R5	Team member distraction	Team members do not commit enough working time.	Medium	Medium	Choose member carefully	The PM reminds team members about the timeline.
R6	Internet connection is down	Internet connection is down and team members cannot submit work or merge code.	Low	Medium	All developers have to set up the isolated development environment and have an offline copy of the documentation.	Use alternative ways to connect to the internet, such as: using VPN or 4G.
R7	Lack of skill	Members lack the knowledge and skill to complete a particular task.	High	Medium	Form a team early, choose technology stack wisely and training before starting the project.	Member informs team about lack of skill, other team member support
R8	Library used in project is no longer supported	A library is no longer maintained.	Low	High	Choose a reputable library with active maintenance on GitHub.	Choose alternative libraries or code from scratch.

Table 2.4 - Risk register table

2.8.2. Probability – Impact matrix

Probability	High		R1, R7	
	Medium	R2	R4, R5	R3
	Low		R6	R8
		Low	Medium	High
	Impact			

Table 2.5 - Risk probability - impact matrix

Chapter 3: Software Requirement Specification

3.1. Purpose

This chapter outlines functional and non-functional requirements of our system. It also provides some format constraints in common requirements and project success criteria. The content of this chapter is used as the basis for the work in the subsequent chapters.

3.2. System requirement specification

3.2.1. External interface requirements

1. *User interfaces*

- Standard user interface:
 - a. Font-family: Montserrat
 - b. Font-size: 16px
 - c. Icon: Font Awesome 5
 - d. Colors: The main color of this system is: #F36523
- Screen resolution: This system supports responsiveness for candidate's screens: mobile, desktop, tablet, laptop.

2. *Software interfaces*

- Connecting to database: Microsoft SQL Server
- Transfer protocol: HTTPS, TCP/IP
- This system uses Simple Mail Transfer Protocol (SMTP) to automatically send email to the candidates.

3. *Communications protocol*

- HTTPS, HTTP

3.2.2. System features

1. *Use case diagram*

Actors:

Actor	Description
Super Admin	<p>Human Resources Manager - who takes the highest responsibility in the system. Super Admin has powers in the following functions:</p> <ul style="list-style-type: none"> ● Account management ● Unit management ● Location management ● Career management ● Email management ● Quiz, question group and questions management ● View system changes (View logs)
HR Staff	<p>HR Staff who take responsibility related to the following functions:</p> <ul style="list-style-type: none"> ● CV management ● Job management ● Failed sent email management
Candidate	<p>People who visit the system and expect to apply for a job:</p> <ul style="list-style-type: none"> ● View information about FPT Education, Jobs, Recruitment process of FPT Education ● Apply for a job by create a CV or upload CV file ● Take quiz about FPT Education after applying for a job

Table 3.1 Actors description

Use case diagram:

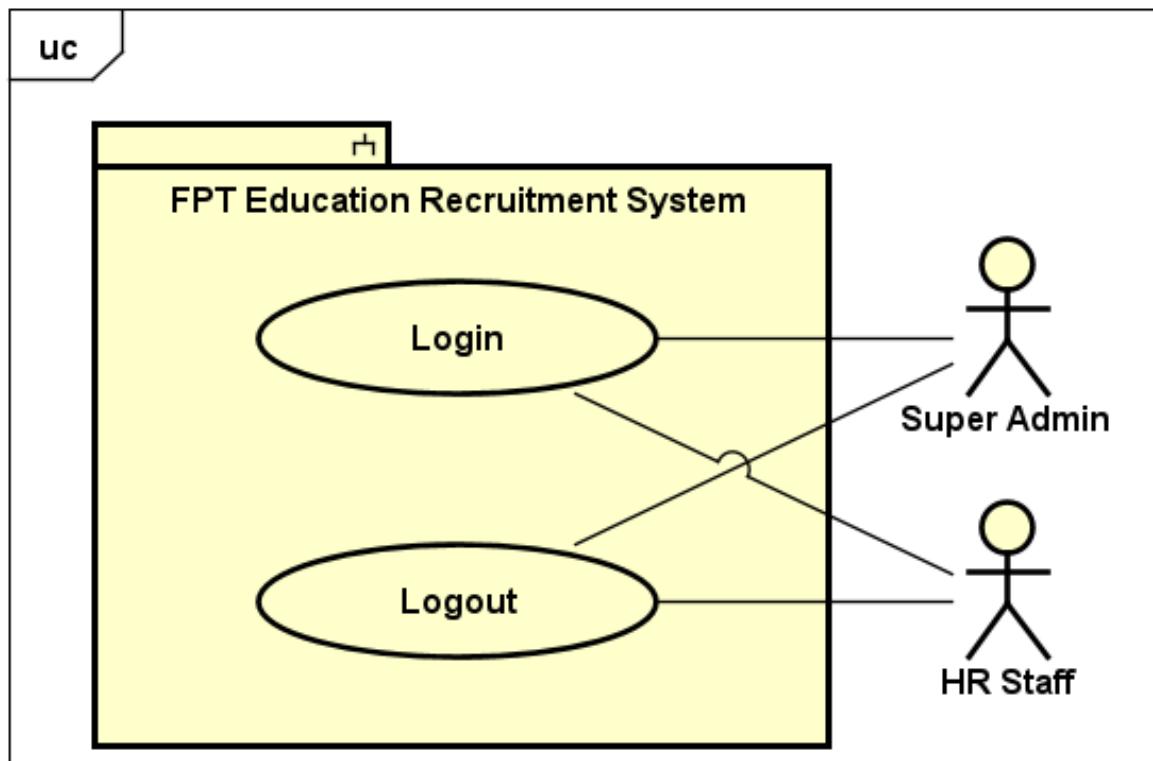


Figure 3.1. Common use cases

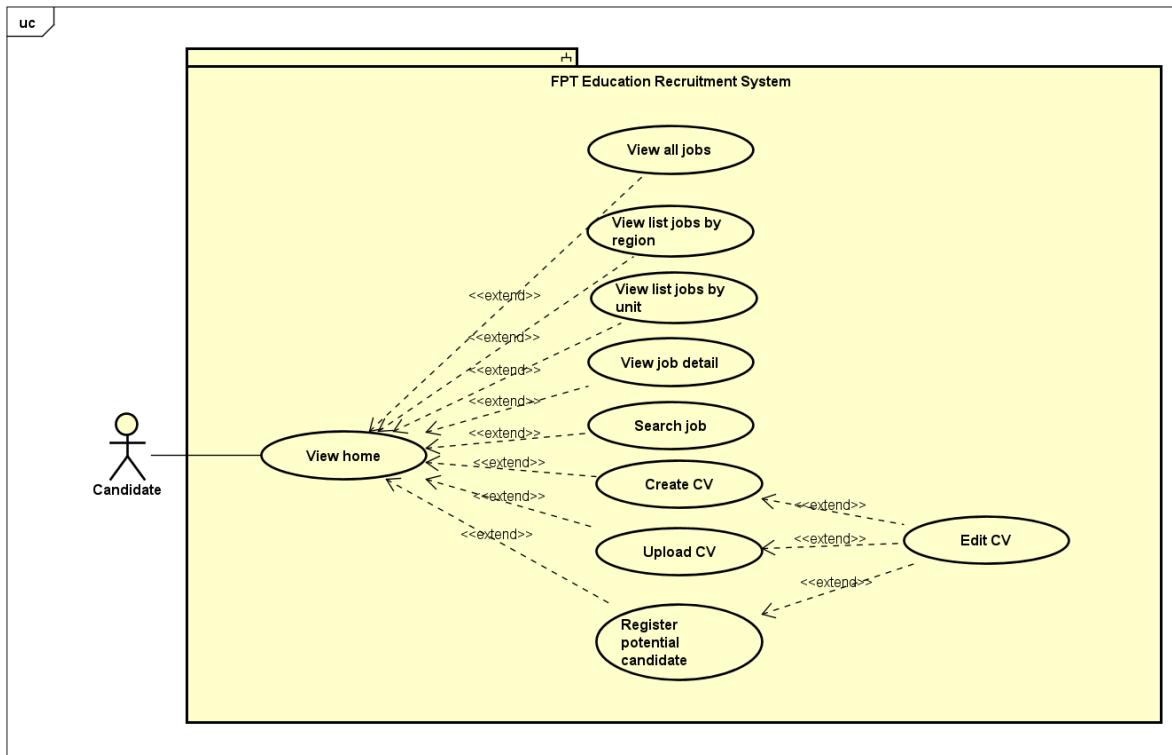


Figure 3.2. Candidate's use cases

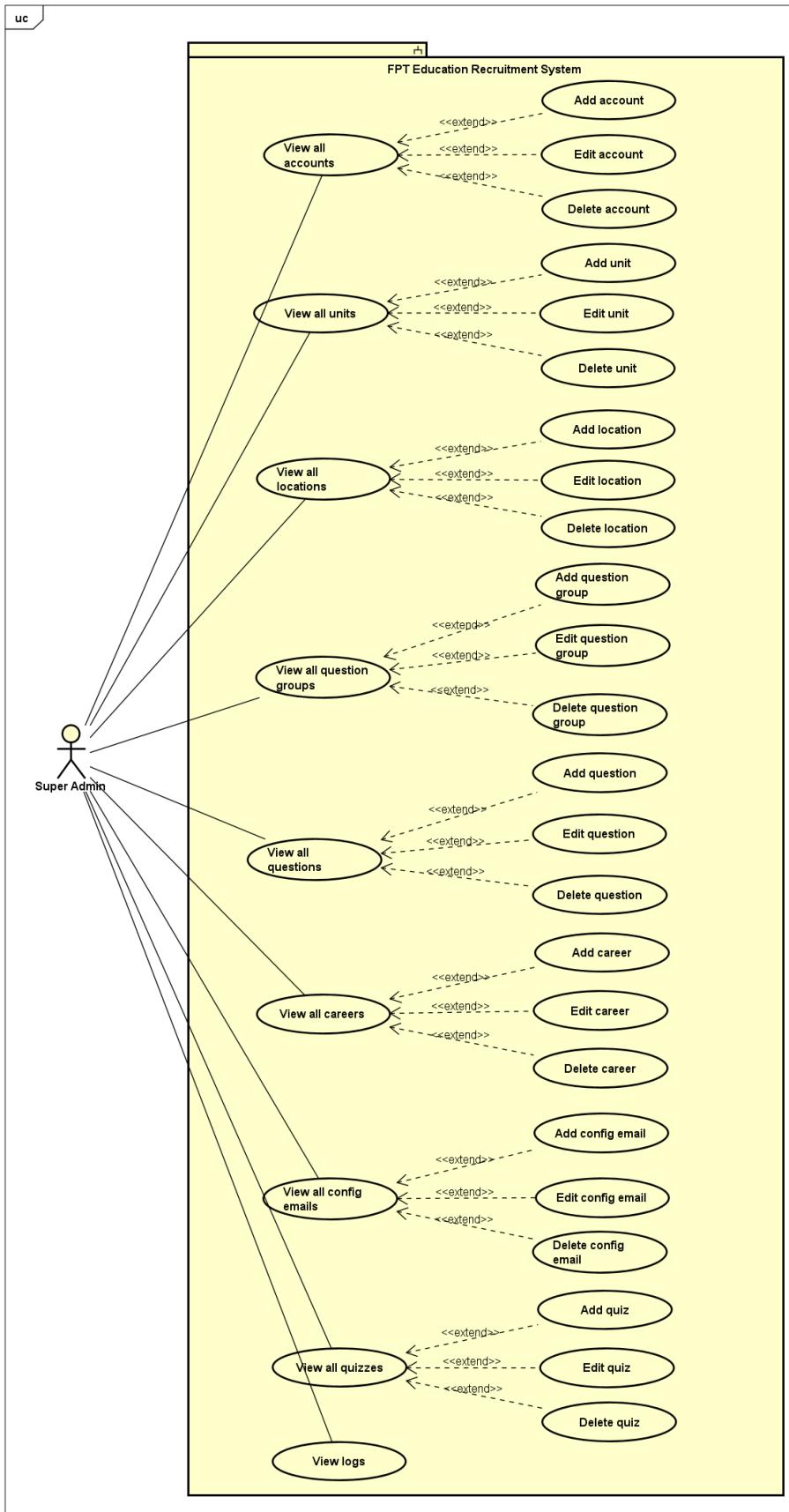


Figure 3.3. Super Admin's use cases

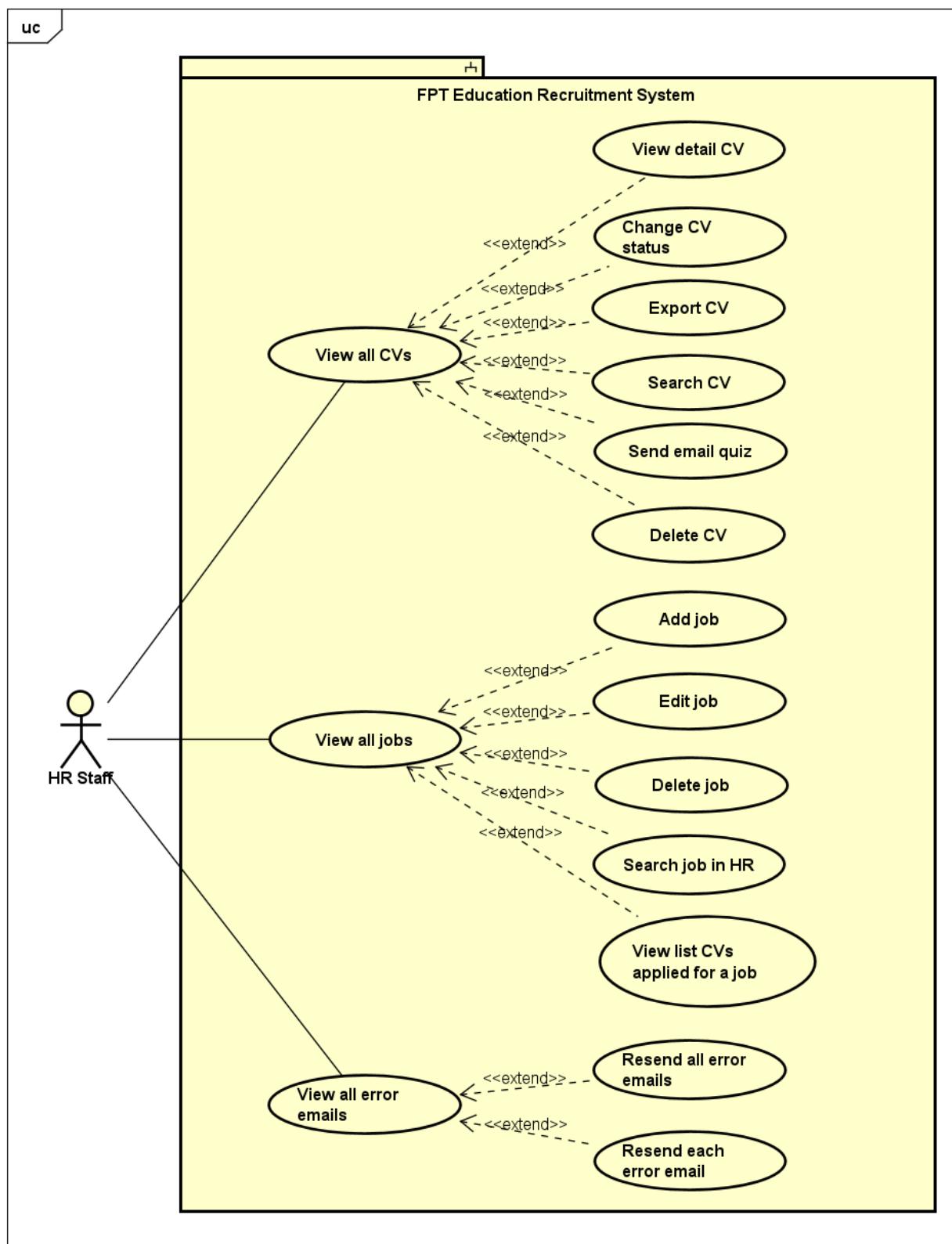


Figure 3.4. HR Staff's use cases

3.2.3. Use cases

ID	Actor	Name	Description
UC-01	Candidate	View recruitment process	To view information about recruitment process of FPT Education
UC-02	Candidate	View home	To view home page of FERS site
UC-03	Candidate	View all jobs	To view all jobs which are in recruitment need
UC-04	Candidate	View list jobs by region	To view list of jobs that are filtered by a region
UC-05	Candidate	View list jobs by unit	To view all the jobs that an unit wants to recruit
UC-06	Candidate	View job detail	To view detailed information about a job
UC-07	Candidate	Search job	To search a job that candidate wants
UC-08	Candidate	Create CV	To create a simple CV for job applications
UC-09	Candidate	Upload CV	To upload CV when candidate has a CV already
UC-10	Candidate	Register potential candidate	Leave information like a CV form when the candidate has not found the desired job on the system
UC-11	Candidate	Edit CV	To edit information of a CV created/CV uploaded/Potential candidate registered
UC-12	Candidate	Take quiz	To take an entry test about FPT Education
UC-13	Super Admin	View all accounts	To view all accounts in the system, including HR Staff and Super Admin
UC-14	Super Admin	Add account	To add a new account to the system
UC-15	Super Admin	Edit account	To edit information of an account
UC-16	Super Admin	Delete account	To remove an account
UC-17	Super Admin	View all units	To view all units in FPT Education
UC-18	Super Admin	Add unit	To add a new unit to FPT Education

UC-19	Super Admin	Edit unit	To edit information of a unit
UC-20	Super Admin	Delete unit	To delete a unit from FPT Education
UC-21	Super Admin	View all locations	To view all working locations of FPT Education
UC-22	Super Admin	Add location	To add a new working location into FPT Education
UC-23	Super Admin	Edit location	To edit information about a location
UC-24	Super Admin	Delete location	To delete a location
UC-25	Super Admin	View all question groups	To view list of all question groups
UC-26	Super Admin	Add question group	To add a new question group
UC-27	Super Admin	Edit question group	To edit question group name
UC-28	Super Admin	Delete question group	To delete a question group
UC-29	Super Admin	View all questions	To view list of all questions for entry test
UC-30	Super Admin	Add question	To add a new question to the system
UC-31	Super Admin	Edit question	To edit content or the answers of the question
UC-32	Super Admin	Delete question	To delete a question from the system
UC-33	Super Admin	Search question	To search a question that Super Admin wants
UC-34	Super Admin	View all quizzes	To view list of all quizzes that will be used for entry test
UC-35	Super Admin	Add quiz	To add a new quiz
UC-36	Super Admin	Edit quiz	To edit quiz name and the answers of the quiz
UC-37	Super Admin	Delete quiz	To delete a quiz
UC-38	Super Admin	View all careers	To view list of all careers at FPT Education
UC-39	Super Admin	Add career	To add a new career
UC-40	Super Admin	Edit career	To edit information about a career
UC-41	Super Admin	Delete career	To delete a career from FPT Education

UC-42	Super Admin	View all config emails	View all email address that will be used to send email to the candidate
UC-43	Super Admin	Add config email	To add a new email address that will be used to send email to the candidate
UC-44	Super Admin	Edit config email	To edit configuration information of the email
UC-45	Super Admin	Delete config email	To delete an email
UC-46	Super Admin	View logs	To view all system changes
UC-47	Super Admin, Hr Staff	Login	To login to the system
UC-48	Super Admin, Hr Staff	Logout	To logout to the system
UC-49	HR Staff	View all CVs	To view list of all CVs that were applied to the system
UC-50	HR Staff	View detail CV	To view detailed information about a CV
UC-51	HR Staff	Change CV status	To change the status of the CV. There are five status: New, seen, pending, approved, rejected
UC-52	HR Staff	Search CV	To search the CVs that HR Staff wants
UC-53	HR Staff	Delete CV	To delete a CV
UC-54	HR Staff	Send email quiz	To send an email to the candidate, including the access link to the quiz
UC-55	HR Staff	Export CV	To export list of all CVs to PDF file
UC-56	HR Staff	View all jobs	To view list of all recruitment jobs
UC-57	HR Staff	Add job	To add a new recruitment job
UC-58	HR Staff	Edit job	To edit information of a recruitment job
UC-59	HR Staff	Delete job	To delete a recruitment job
UC-60	HR Staff	Search job in HR	To search a job that HR Staff wants
UC-61	HR Staff	View list CVs applied for a job	To view list of all CVs that applied for a job
UC-62	HR Staff	View all error emails	To view list of all emails that are failed to send to the candidates

UC-63	HR Staff	Resend all error email	To resend all error emails to the candidates
UC-64	HR Staff	Resend each error email	To resend the error email to a certain candidate

Table 3.2. List of use cases

1. Use case 01: View recruitment process

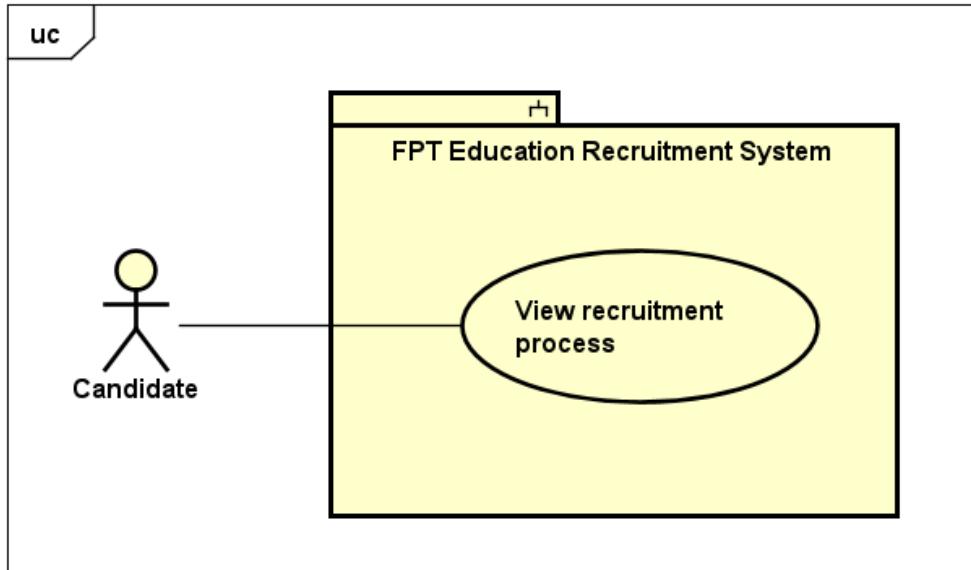


Figure 3.5. View recruitment process

USE CASE-01 SPECIFICATION			
Use-case No.	<UC-01>	Use-case Version	<1.0>
Use-case Name	View recruitment process		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Candidate		
Summary	Candidate views information about recruitment process of FPT Education		
Goal	Display information about recruitment process		
Triggers	Candidate clicks on the link “Quy trình tuyển dụng” in the footer		
Preconditions	N/A		

Post Conditions	Candidate view information about recruitment process of FPT Education	
Main Success Scenario		
Step	Actor Events	System Response
1	Click on “Quy trình tuyển dụng” in the footer	
2		Redirect to recruitment process page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

2. Use case 02: View home

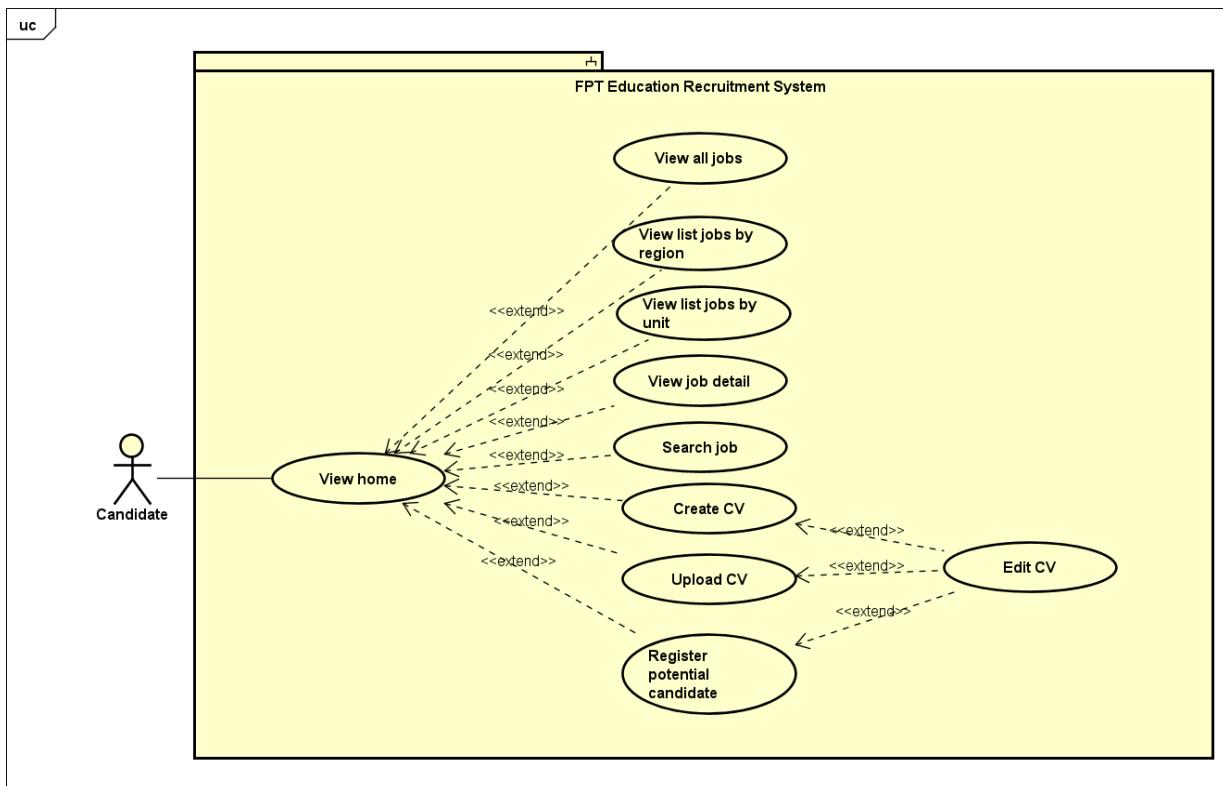


Figure 3.6. View home use cases

USE CASE-02 SPECIFICATION					
Use-case No.	<UC-02>	Use-case Version	<1.0>		
Use-case Name	View home				
Author	TungBT				
Date	18/07/2020	Priority	High		
Actor	Candidate				
Summary	Candidate view information of home page				
Goal	Display information in home page				
Triggers	Candidate visit the website in the browser				
Preconditions	N/A				
Post Conditions	Candidate view information of home page				
Main Success Scenario					
Step	Actor Events	System Response			
1	Visit the website in the browser by typing url “career.fpt.edu.vn”				
2		Connect successfully, system display home page			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

3. Use case 03: View all jobs

USE CASE-03 SPECIFICATION					
Use-case No.	<UC-03>	Use-case Version	<1.0>		
Use-case Name	View all jobs				
Author	TungBT				
Date	18/07/2020	Priority	Medium		
Actor	Candidate				
Summary	Candidate views list of all the jobs that are in need of recruitment				
Goal	Display list of all jobs that are in need of recruitment				
Triggers	Click on the link “Vị trí tuyển dụng” on the header				
Preconditions	N/A				
Post Conditions	View list of all jobs				
Main Success Scenario					
Step	Actor Events	System Response			
1	Visit FERS website				
2		Display home page default			
3	User clicks on the link “Vị trí tuyển dụng” on the header				
4		Redirect to list job page and display all jobs			
Alternative Scenario					
N/A					
Exceptions	N/A				

Business Rules	N/A
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4. Use case 04: View list jobs by region

USE CASE-04 SPECIFICATION			
Use-case No.	<UC-04>	Use-case Version	<1.0>
Use-case Name	View list jobs by region		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	Candidate views list of all jobs filtered by a region		
Goal	View list jobs filtered by a region		
Triggers	Click button “Xem thêm” on a section job of a region		
Preconditions	N/A		
Post Conditions	View list jobs filtered by a region		
Main Success Scenario			
Step	Actor Events	System Response	
1	Visit FERS website		
2		Display home page default	
3	Click button “Xem thêm” on a section job of a region		
4		Redirect to list job page and show list of jobs filtered by the region user clicked on	
Alternative Scenario			

N/A	
Exceptions	N/A
Business Rules	N/A

5. Use case 05: View list jobs by unit

USE CASE-05 SPECIFICATION			
Use-case No.	<UC-05>	Use-case Version	<1.0>
Use-case Name	View list jobs by unit		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	Candidate views list of all jobs filtered by an unit		
Goal	View list jobs filtered by an unit		
Triggers	Click on the unit link in the "Các vị trí tuyển dụng" section on the home page		
Preconditions	N/A		
Post Conditions	View list jobs filtered by an unit		
Main Success Scenario			
Step	Actor Events	System Response	
1	Visit FERS website		
2		Display home page default	
3	Click on the unit link in the "Các vị trí tuyển dụng" section on the home page		

4		Redirect to list job page and show list of jobs filtered by the unit user clicked on
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

6. Use case 06: View job detail

USE CASE-06 SPECIFICATION			
Use-case No.	<UC-06>	Use-case Version	<1.0>
Use-case Name	View job detail		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	Candidate view detailed information about a job		
Goal	Display detailed information about a job		
Triggers	Candidate click on a job		
Preconditions	N/A		
Post Conditions	Candidate view detailed information about a job		
Main Success Scenario			
Step	Actor Events	System Response	
1	Visit FERS website		

2		Display homepage
3	Scroll down to top recruitment jobs section of a region, then clicks to a certain job	
5		Redirect to job detail page and display detailed information about the job
Alternative Scenario		
Alternative Scenario 1:		
Step	Actor Events	System Response
1	Visit FERS website	
2		Display homepage
3	Click “Xem thêm” to see list job filtered by region	
4		Redirect to list job page and display list jobs filtered by region
5	Click on a job	
6		Redirect to job detail page and display detailed information about the job
Alternative Scenario 2:		
Step	Actor Events	System Response
1	Visit FERS website	
2		Display homepage
3	Click “Vị trí tuyển dụng” on header	

4		Redirect to list all jobs page and display all jobs that are in recruitment need
5	Click on a job	
6		Redirect to job detail page and display detailed information about the job
Exceptions	N/A	
Business Rules	N/A	

7. Use case 07: Search job

USE CASE-07 SPECIFICATION			
Use-case No.	<UC-07>	Use-case Version	<1.0>
Use-case Name	Search job		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	Candidate find a job that he/she needs		
Goal	Display list of job filter by some input searching		
Triggers	Candidate chooses the options in filter menu (homepage) then click “Tìm kiếm”		
Preconditions	N/A		
Post Conditions	Candidate find a job that candidate needs		
Main Success Scenario			
Step	Actor Events	System Response	

1	Visit FERS website	
2		Display homepage
3	Fill in input fields on search menu include: Keyword (text) Unit (drop down list) Career (drop down list) Location (drop down list) Then click button “Tìm kiếm”	
4		Redirect to list job page and display the jobs filtered by searching keywords
Alternative Scenario		
Step	Actor Events	System Response
1	Visit FERS website	
2		Display homepage
4	Click to the link “Vị trí tuyển dụng” on header	
5		Redirect to list job page and show list of all jobs
6	Fill in input fields on search menu in list job page, including: Keyword (text) Unit (drop down list) Career (drop down list)	

	Location (drop down list) Then click button “Tim kiém”	
7		Display list of jobs that are filtered by keywords
Exceptions	N/A	
Business Rules	All input fields must not be blank	

8. Use case 08: Create CV

USE CASE-08 SPECIFICATION			
Use-case No.	<UC-08>	Use-case Version	<1.0>
Use-case Name	Create CV		
Author	TungBT		
Date	18/07/2020	Priority	High
Actor	Candidate		
Summary	Candidate create a CV to apply job		
Goal	Create CV a basic CV		
Triggers	Candidate click “Chưa có CV” on modal dialog		
Preconditions	N/A		
Post Conditions	Candidate create a CV		
Main Success Scenario			
Step	Actor Events	System Response	
1	Visit FERS website		
2		Display homepage	

3	Click “Ứng tuyển ngay” on a detail job	
4		Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”
5	Click “Chưa có CV”	
6		Display the create CV dialog
7	Fill in the input fields then click “Nộp CV”	
8		Notice of success and redirect to homepage

Alternative Scenario

Step	Actor Events	System Response
1	Visit FERS website	
2		Display homepage
3	Click “Xem thêm” to see list job filtered by region	
4		Move to list job page and display list jobs filtered by region
5	Click on a job	
6		Move to job detail page and display detailed information about the job

7	Click the button “Ứng tuyển ngay” on a detail job page	
8		Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”
9	Click “Chưa có CV”	
10		Display the create CV dialog
11	Fill in the input fields then click “Nộp CV”	
12		Notice of success and redirect to homepage
Exceptions	N/A	
Business Rules	All input fields that include (*) must not be blank The maximum length of input text fields is 255 The maximum length of text area fields is 5000	

9. Use case 09: Upload CV

USE CASE-09 SPECIFICATION			
Use-case No.	<UC-09>	Use-case Version	<1.0>
Use-case Name	Upload CV		
Author	TungBT		
Date	18/07/2020	Priority	High
Actor	Candidate		
Summary	Once the candidate has a CV, he can upload it to the system		

Goal	Upload CV to the system to apply a job																												
Triggers	Candidate click “Upload CV” on modal dialog																												
Preconditions	N/A																												
Post Conditions	Upload CV to the system																												
Main Success Scenario																													
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Events</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Visit FERS website</td><td></td></tr> <tr> <td>2</td><td></td><td>Display homepage</td></tr> <tr> <td>3</td><td>Click “Ứng tuyển ngay” on a detail job</td><td></td></tr> <tr> <td>4</td><td></td><td>Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”</td></tr> <tr> <td>5</td><td>Click “Chưa có CV”</td><td></td></tr> <tr> <td>6</td><td></td><td>Show modal Upload CV</td></tr> <tr> <td>7</td><td>Fill in the input fields then click “Nộp CV”</td><td></td></tr> <tr> <td>8</td><td></td><td>Notice of successful CV upload</td></tr> </tbody> </table>			Step	Actor Events	System Response	1	Visit FERS website		2		Display homepage	3	Click “Ứng tuyển ngay” on a detail job		4		Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”	5	Click “Chưa có CV”		6		Show modal Upload CV	7	Fill in the input fields then click “Nộp CV”		8		Notice of successful CV upload
Step	Actor Events	System Response																											
1	Visit FERS website																												
2		Display homepage																											
3	Click “Ứng tuyển ngay” on a detail job																												
4		Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”																											
5	Click “Chưa có CV”																												
6		Show modal Upload CV																											
7	Fill in the input fields then click “Nộp CV”																												
8		Notice of successful CV upload																											
Alternative Scenario																													
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Events</th><th>System Response</th></tr> </thead> </table>			Step	Actor Events	System Response																								
Step	Actor Events	System Response																											

1	Visit FERS website	
2		Display homepage
3	Click “Xem thêm” to see list job filtered by region	
4		Move to list job page and display list jobs filtered by region
5	Click on a job	
6		Move to job detail page and display detailed information about the job
7	Click “Ứng tuyển ngay” on a detail job	
8		Display the confirmation dialog to ask if the candidate has a CV yet, include 2 options: “Chưa có CV” “Đã có CV”
9	Click “Chưa có CV”	
10		Show modal Upload CV
11	Fill in the input fields then click “Nộp CV”	
12		Notice of successful CV upload
Exceptions	Failed to upload CV file to server The system gives notification and asks the user to re-upload	
Business Rules	All input fields that include (*) must not be blank The maximum length of input text fields is 255 The maximum length of text area fields is 5000	

	The maximum capacity of CV file is 4MB CV file must be PDF
--	---

10. Use case 10: Register potential candidate

USE CASE-10 SPECIFICATION			
Use-case No.	<UC-10>	Use-case Version	<1.0>
Use-case Name	Register potential candidate		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Candidate		
Summary	When the candidate has not found the desired job, but they intend to apply in the future, they can leave personal information for HR staff to advise them.		
Goal	Candidate register information		
Triggers	Candidate clicks on the button “Đăng ký” in Homepage		
Preconditions	N/A		
Post Conditions	Candidate submit form to send information to the system		
Main Success Scenario			
Step	Actor Events	System Response	
1	Visit FERS website		
2		Display homepage	
3	Click on the button “Đăng ký”		

4		Display modal register potential candidate
5	Fill in all input fields and click “Đăng ký”	
6		Notice of success and close dialog

Alternative Scenario

Step	Actor Events	System Response
1	Visit FERS website	
2		Display homepage
3	Click the link “Gia nhập với chúng tôi” on the header	
4		Display modal register potential candidate
5	Fill in all input fields and click “Đăng ký”	
6		Notice of success and close dialog

Exceptions	N/A
Business Rules	All input fields that include (*) must not be blank The maximum length of input text fields is 255 The maximum length of text area fields is 5000

11. Use case 11: Edit CV**USE CASE-11 SPECIFICATION**

Use-case No.	<UC-11>	Use-case Version	<1.0>
Use-case Name	Edit CV		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	After successfully creating a simple CV on the system, an email will be sent to the candidate, including a link to the page where candidates can edit their CV.		
Goal	Edit the CV		
Triggers	N/A		
Preconditions	Candidates successfully submit their CV by creating it directly on the system		
Post Conditions	Edit the CV		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of one of the following use case: UC-08: Create CV UC-09: Upload CV UC-10: Register potential candidate		
2		Send an email to the candidate, including a link to the page where candidates can edit their CV.	
3	Click the attach link on the email		
4		Redirect to edit CV page	

5	Edit information of the CV and click submit button	
6		Notice of success then display home page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	All input fields that include (*) must not be blank The maximum length of input text fields is 255 The maximum length of text area fields is 5000	

12. Use case 12: Take quiz

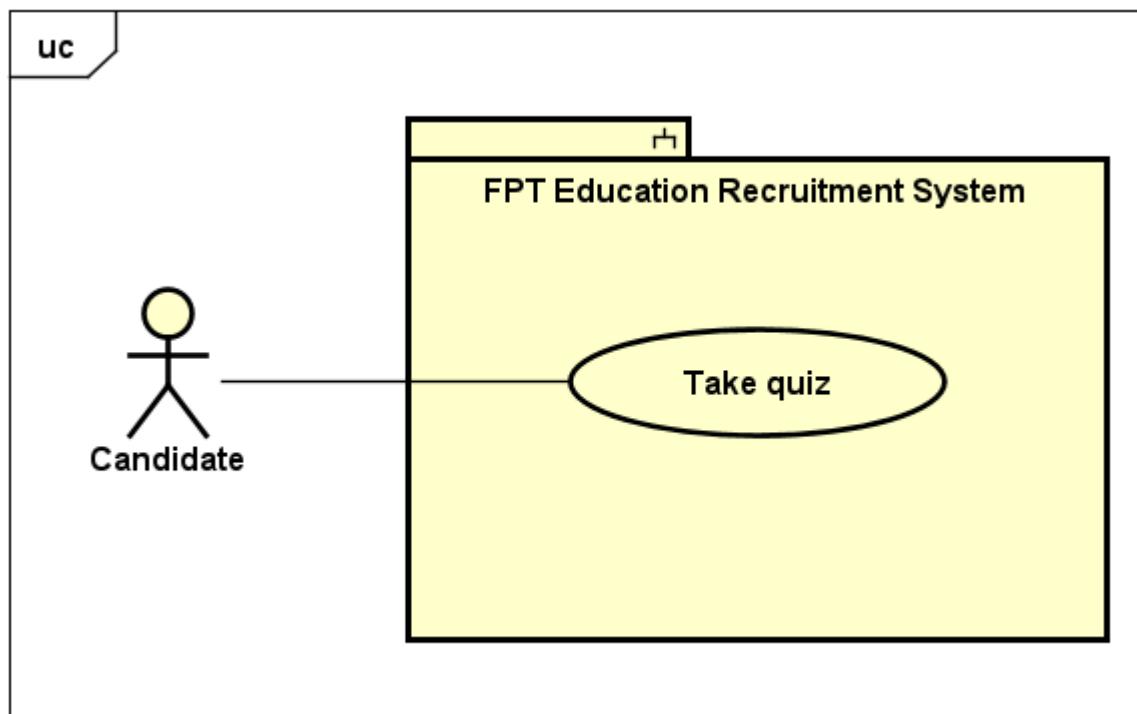


Figure 3.7. Take quiz use case

USE CASE-12 SPECIFICATION			
Use-case No.	<UC-12>	Use-case Version	<1.0>

Use-case Name	Take quiz		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Candidate		
Summary	Candidate received a document about FPT Education to learn about FE, then do a small quiz		
Goal	Help candidate to understand more about FPT Education		
Triggers	Clicks the link of quiz in email which were sent to candidate		
Preconditions	HR Staff clicks send email to the candidate to take quiz		
Post Conditions	Candidate do a small quiz about FPT Education		
Main Success Scenario			
Step	Actor Events	System Response	
1	After HR Staff does normal flow of UC-54 (Send email quiz), Candidate will be received an email that includes link to the quiz Candidate clicks to the link to the quiz		
2		Redirect to the quiz page	
3	After answer all questions, candidate click the button “Nộp bài” to submit the quiz		
4		Display success message: "Chúc mừng bạn đã hoàn thành bài kiểm tra!"	
Alternative Scenario			

N/A	
Exceptions	N/A
Business Rules	Each question has one or more right answers Time for a quiz is 40 minutes

13. Use case 13: View all accounts

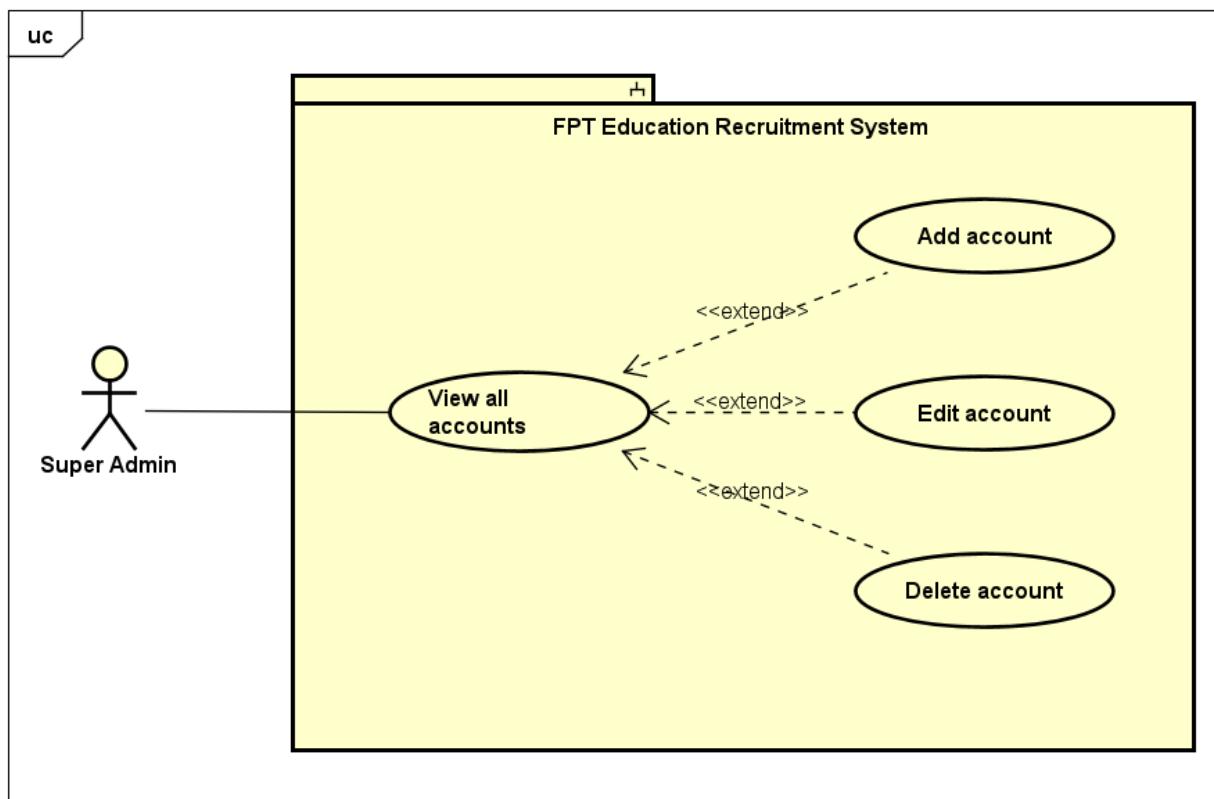


Figure 3.8. Account management use cases

USE CASE-13 SPECIFICATION			
Use-case No.	<UC-13>	Use-case Version	<1.0>
Use-case Name	View all accounts		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		

Summary	Super Admin view all accounts in the system										
Goal	View all accounts in the system										
Triggers	Super Admin clicks tab “Quản lý tài khoản” on the sidebar of admin dashboard										
Preconditions	User has successfully logged in to the system as the Super Admin role										
Post Conditions	Super Admin views table of accounts										
Main Success Scenario											
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Events</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Login with Super Admin role</td><td></td></tr> <tr> <td>2</td><td></td><td>Display admin dashboard with account management tab default</td></tr> </tbody> </table>			Step	Actor Events	System Response	1	Login with Super Admin role		2		Display admin dashboard with account management tab default
Step	Actor Events	System Response									
1	Login with Super Admin role										
2		Display admin dashboard with account management tab default									
Alternative Scenario											
N/A											
Exceptions	N/A										
Business Rules	N/A										

14. Use case 14: Add account

USE CASE-14 SPECIFICATION			
Use-case No.	<UC-14>	Use-case Version	<1.0>
Use-case Name	Add account		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin adds an account to the system		

Goal	Add a new account	
Triggers	Super Admin clicks “Tạo tài khoản mới” button on account management page	
Preconditions	User has successfully logged in to the system as the Super Admin role	
Post Conditions	Add a new account to the system	
Main Success Scenario		
Step	Actor Events	System Response
1	Login with Super Admin role	
2		Display account management page
3	Click on “Tạo tài khoản mới” button	
4		Redirect to create account page
5	Fill in all input fields and submit the form	
6		If creating successfully, the system will redirect to the account management page and notify a success message If creating error, the system will redirect to the error page and show message of the error
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Email must be valid type of email and not duplicate	

15. Use case 15: Edit account

USE CASE-15 SPECIFICATION			
Use-case No.	<UC-15>	Use-case Version	<1.0>
Use-case Name	Edit account		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	User has successfully logged in to the system as the Super Admin role		
Goal	Edit an existing account		
Triggers	Super Admin clicks “Sửa” button on an account when view all accounts		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Edit information about the account		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-13		
2		Display all accounts of the system	
3	Click “Sửa” button on an account		
4		Display edit account page	
5	Edit information of the account and submit the form		
6		Notice of success and back to account management page	

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	Email must be valid type of email and not duplicate

16. Use case 16: Delete account

USE CASE-16 SPECIFICATION			
Use-case No.	<UC-16>	Use-case Version	<1.0>
Use-case Name	Delete account		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin deletes an account in the system		
Goal	Delete an account		
Triggers	Super Admin clicks “Xoá” button on account management page		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete an account		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-13		
2		Display all accounts of the system	
3	Click “Xoá” button on an account		

4		Give a confirmation message
5	Confirm to delete the account	
6		Delete the account then display account management page
Alternative Scenario		
Exceptions	N/A	
Business Rules	Super Admin can not delete account of himself	

17. Use case 17: View all units

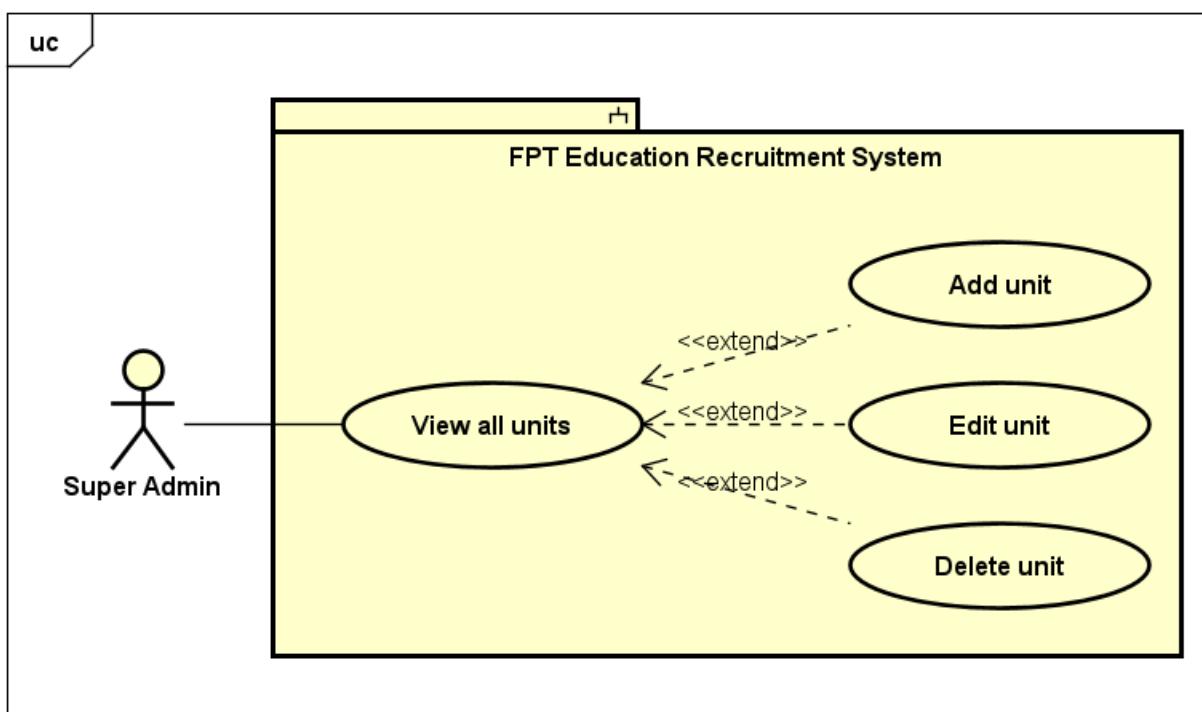


Figure 3.9. Unit management use cases

USE CASE-17 SPECIFICATION			
Use-case No.	<UC-17>	Use-case Version	<1.0>
Use-case Name	View all units		

Author	TungBT				
Date	18/07/2020	Priority	Medium		
Actor	Super Admin				
Summary	Super admin accesses the unit management page and views all units of the system				
Goal	View list of units in FPT Education system				
Triggers	User clicks the tab “Quản lý đơn vị” on the sidebar of admin dashboard				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	View list of units in FPT Education system				
Main Success Scenario					
Step	Actor Events	System Response			
1	User logins as Super Admin role				
2		Display Account management page by default			
3	Click on “Quản lý đơn vị” tab on the sidebar				
4		Display unit management page			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

18. Use case 18: Add unit

USE CASE-18 SPECIFICATION					
Use-case No.	<UC-18>	Use-case Version	<1.0>		
Use-case Name	Add unit				
Author	TungBT				
Date	18/07/2020	Priority	Low		
Actor	Super Admin				
Summary	Super Admin creates a new unit into FPT Education system				
Goal	Create a new unit				
Triggers	User clicks on “Thêm đơn vị làm việc” button on unit management page				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	Create a new unit into the system				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-17 and click on “Thêm đơn vị làm việc” button				
2		Display create an unit page			
3	Enter information in the input fields then click submit button				
4		Notice of success and redirect to unit management page			
Alternative Scenario					
N/A					

Exceptions	N/A
Business Rules	Maximum size of image file is 4MB

19. Use case 19: Edit unit

USE CASE-19 SPECIFICATION			
Use-case No.	<UC-19>	Use-case Version	<1.0>
Use-case Name	Edit unit		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin edits information of an unit in FPT Education system		
Goal	Edit information of an unit		
Triggers	Click on “Sửa” button of an unit		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Edit an unit		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-17		
2		Display unit management page	
3	Click on “Sửa” button of an unit		
4		Display edit an unit page	

5	Edit information of the unit then submit form	
6		Notice of success then redirect to unit management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Maximum length of unit's name is 255	

20. Use case 20: Delete unit

USE CASE-20 SPECIFICATION			
Use-case No.	<UC-20>	Use-case Version	<1.0>
Use-case Name	Delete unit		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin deletes an unit of FPT Education system		
Goal	Delete an unit		
Triggers	Click on “Xoá” button of an unit		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete an unit		
Main Success Scenario			
Step	Actor Events	System Response	

1	Do a normal flow of UC-17	
2		Display unit management page
3	Click on “Xoá” button of an unit	
4		Give confirmation dialog box
5	Confirm to delete the unit	
6		Delete the unit then display unit management page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

21. Use case 21: View all locations

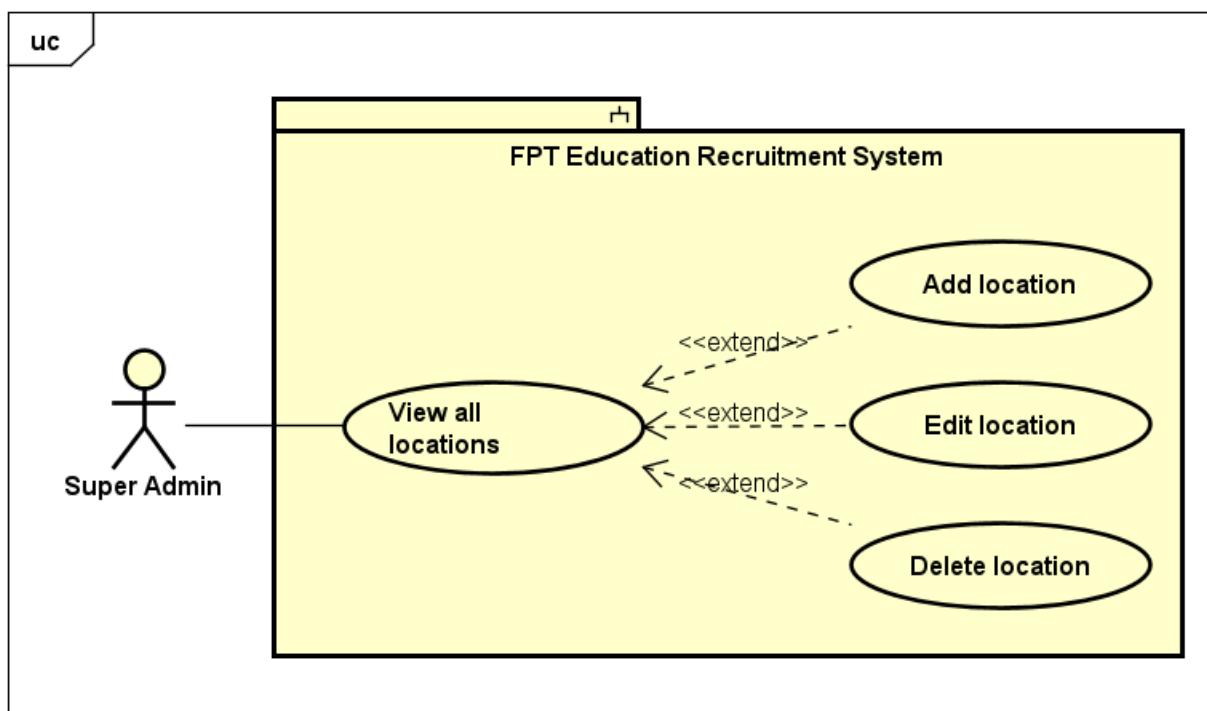


Figure 3.10. Location management use cases

USE CASE-21 SPECIFICATION			
Use-case No.	<UC-21>	Use-case Version	<1.0>
Use-case Name	View all locations		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin views all locations of FPT Education system, these are provinces and cities of Vietnam		
Goal	View all locations of FPT Education system		
Triggers	User clicks the tab “Quản lý địa điểm” on the sidebar of admin dashboard		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	View list of locations in FPT Education system		
Main Success Scenario			
Step	Actor Events	System Response	
1	User logins as Super Admin role		
2		Display account management page by default	
3	Click on “Quản lý địa điểm” tab on the sidebar		
4		Display location management page	

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

22. Use case 22: Add location

USE CASE-22 SPECIFICATION			
Use-case No.	<UC-22>	Use-case Version	<1.0>
Use-case Name	Add location		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin adds a new location into FPT Education system		
Goal	Add a new location		
Triggers	User clicks on “Thêm địa điểm mới” button on location management page		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Add a new location into the system		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-21 and click on “Thêm địa điểm mới” button		
2		Display add a location page	

3	Fill information in the input fields then click submit button	
4		Notice of success and redirect to location management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Max length of the location name is 255	

23. Use case 23: Edit location

USE CASE-23 SPECIFICATION			
Use-case No.	<UC-23>	Use-case Version	<1.0>
Use-case Name	Edit location		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin edits information of a location in FPT Education system		
Goal	Edit information of a location		
Triggers	Click on “Sửa” button of a location		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Edit a location		
Main Success Scenario			
Step	Actor Events	System Response	

1	Do a normal flow of UC-21	
2		Display location management page
3	Click on “Sửa” button of a location	
4		Display edit location page
5	Edit information of the location then submit form	
6		Notice of success then redirect to location management page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	Max length of unit name is 255

24. Use case 24: Delete location

USE CASE-24 SPECIFICATION			
Use-case No.	<UC-24>	Use-case Version	<1.0>
Use-case Name	Delete location		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin deletes a location of FPT Education system		
Goal	Delete a location		
Triggers	Click on “Xóa” button on a location		

Preconditions	User has successfully logged in to the system as the Super Admin role	
Post Conditions	Delete a location	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-21	
2		Display location management page
3	Click on “Xóa” button on a location	
4		Give confirmation message
5	Confirm to delete the location	
6		Delete the location then display location management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

25. Use case 25: View all question groups

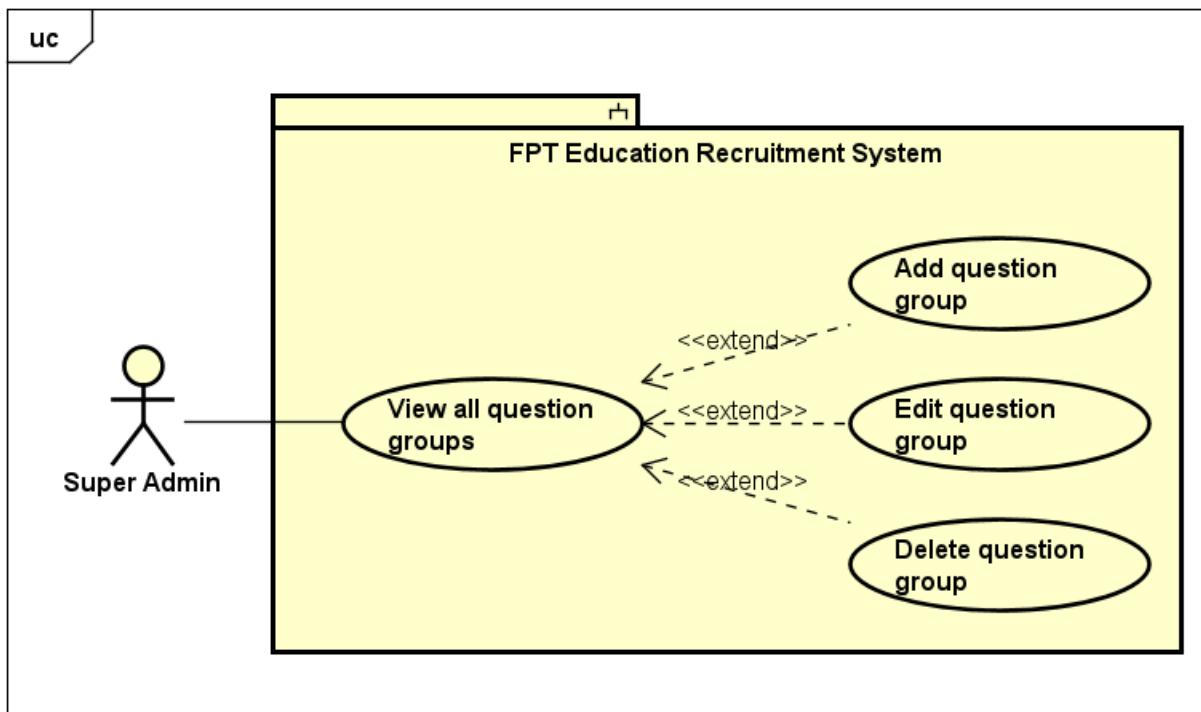


Figure 3.11. Question group management use cases

USE CASE-25 SPECIFICATION			
Use-case No.	<UC-25>	Use-case Version	<1.0>
Use-case Name	View all question groups		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin views all question groups in the system. The questions are divided into groups, each group corresponding to a different topic for easy management		
Goal	View all question groups		
Triggers	User clicks on the tab “Quản lý nhóm câu hỏi” on the sidebar of website		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	View all question groups		

Main Success Scenario		
Step	Actor Events	System Response
1	User logins to the system as role of Super Admin	
2		Display account management page by default
3	Click on the tab “Quản lý nhóm câu hỏi” on the sidebar	
4		Display list of question groups on question group management page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

26. Use case 26: Add question group

USE CASE-26 SPECIFICATION			
Use-case No.	<UC-26>	Use-case Version	<1.0>
Use-case Name	Add question group		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin adds a new question group		
Goal	Add a new question group		

Triggers	User clicks the button “Tạo nhóm mới” on question group management page	
Preconditions	User has successfully logged in to the system as the Super Admin role	
Post Conditions	Add a new question group	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-25	
2		Display question group management page
3	Click on the button “Tạo nhóm mới”	
4		Display add question group page
5	Enter name of the new question group and clicks “Tạo mới”	
6		Notice of success and display question group management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

27. Use case 27: Edit question group

USE CASE-27 SPECIFICATION			
Use-case No.	<UC-27>	Use-case Version	<1.0>

Use-case Name	Edit question group				
Author	TungBT				
Date	18/07/2020	Priority	Low		
Actor	Super Admin				
Summary	Super Admin edit the name of a question group				
Goal	Edit a question group				
Triggers	User clicks button “Sửa” of a question group				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	Edit a question group				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-25				
2		Display question group management page			
3	Click the button “Sửa” on a question group				
4		Display edit question group page			
5	Change the name of the question group then click button “Lưu”				
6		Notice of success and display question group management page			
Alternative Scenario					
N/A					

Exceptions	N/A
Business Rules	Name of question group must not be blank Max length of the name of question group is 255

28. Use case 28: Delete question group

USE CASE-28 SPECIFICATION			
Use-case No.	<UC-28>	Use-case Version	<1.0>
Use-case Name	Delete question group		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin deletes a question group		
Goal	Delete a question group		
Triggers	User clicks button “Xóa” of a question group		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete a question group		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-25		
2		Display question group management page	
3	Click the button “Xóa” on a question group		
4		Pop up a confirmation dialog box	

5	Click OK to confirm delete	
6		The system notifies that the question group has been successfully deleted, then refresh page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

29. Use case 29: View all questions

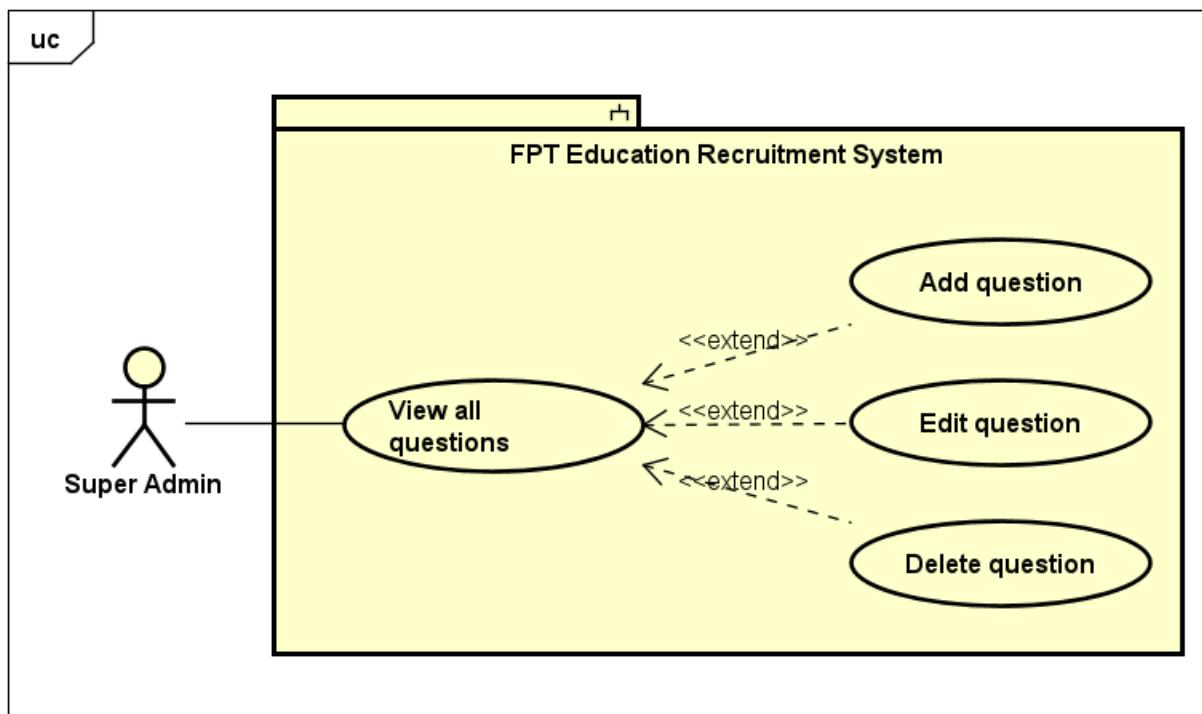


Figure 3.12. Question management use cases

USE CASE-29 SPECIFICATION			
Use-case No.	<UC-29>	Use-case Version	<1.0>
Use-case Name	View all questions		

Author	TungBT				
Date	18/07/2020	Priority	Medium		
Actor	Super Admin				
Summary	Super Admin views list of all questions in the system				
Goal	View all questions				
Triggers	Click tab “Quản lý câu hỏi” in the sidebar				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	System show list of questions				
Main Success Scenario					
Step	Actor Events	System Response			
1	User logins as role of Super Admin				
2		Display account management page by default			
3	Click on “Quản lý câu hỏi” tab on the sidebar				
4		Redirect to question management page, show list of all questions			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

30. Use case 30: Add question

USE CASE-30 SPECIFICATION			
Use-case No.	<UC-30>	Use-case Version	<1.0>
Use-case Name	Add question		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super admin adds a new question into question bank		
Goal	Add a new question		
Triggers	User clicks on “Thêm câu hỏi mới” button on question management page		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Add a new question into question bank		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-29		
2		Display question management page	
3	Click on “Thêm câu hỏi mới” button		
4		Display add question page	
5	Enter information in the input fields then click submit button		
6		Notice of success and move to question management page	

Alternative Scenario	
Exceptions	N/A
Business Rules	Each question must have at least one correct answer Max length of question name field is 255

31. Use case 31: Edit question

USE CASE-31 SPECIFICATION			
Use-case No.	<UC-31>	Use-case Version	<1.0>
Use-case Name	Edit question		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin edits a question in question bank		
Goal	Edit a question		
Triggers	Click on “Sửa” button of an question		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Edit a question		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-29		
2		Display list of question	

3	Click on “Sửa” button of a question	
4		Display edit question page
5	Edit input fields and clicks submit button	
6		Notice of success and back to manage question page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Each question can have one or more correct answers Max length of question name field is 255	

32. Use case 32: Delete question

USE CASE-32 SPECIFICATION			
Use-case No.	<UC-32>	Use-case Version	<1.0>
Use-case Name	Delete question		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin deletes a question in question bank		
Goal	Delete a question		
Triggers	Click on “Xóa” button of a question		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete a question		

Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-29	
2		Display list of question
3	Click on “Xóa” button of a question	
4		Give a confirmation dialog box
5	Click OK to delete the question	
6		Delete successfully and refresh page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

33. Use case 33: Search question

USE CASE-33 SPECIFICATION			
Use-case No.	<UC-33>	Use-case Version	<1.0>
Use-case Name	Search question		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		
Summary	Super Admin search for questions that he/she wants, searching keywords include:		

	Question name Group question name	
Goal	Search a question	
Triggers	User enters the search keyword and/or chooses group on the search menu bar and then clicks button “Tìm kiếm”	
Preconditions	User has successfully logged in to the system as the Super Admin role	
Post Conditions	Search a question	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-29	
2		Display question management page
3	Enter name of question into text field, select group question in drop down list then clicks the button “Tìm kiếm”	
4		Displays a list of suitable questions
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	If all fields are blank, system will return all records Max length of question name field is 255	

34. Use case 34: View all quizzes

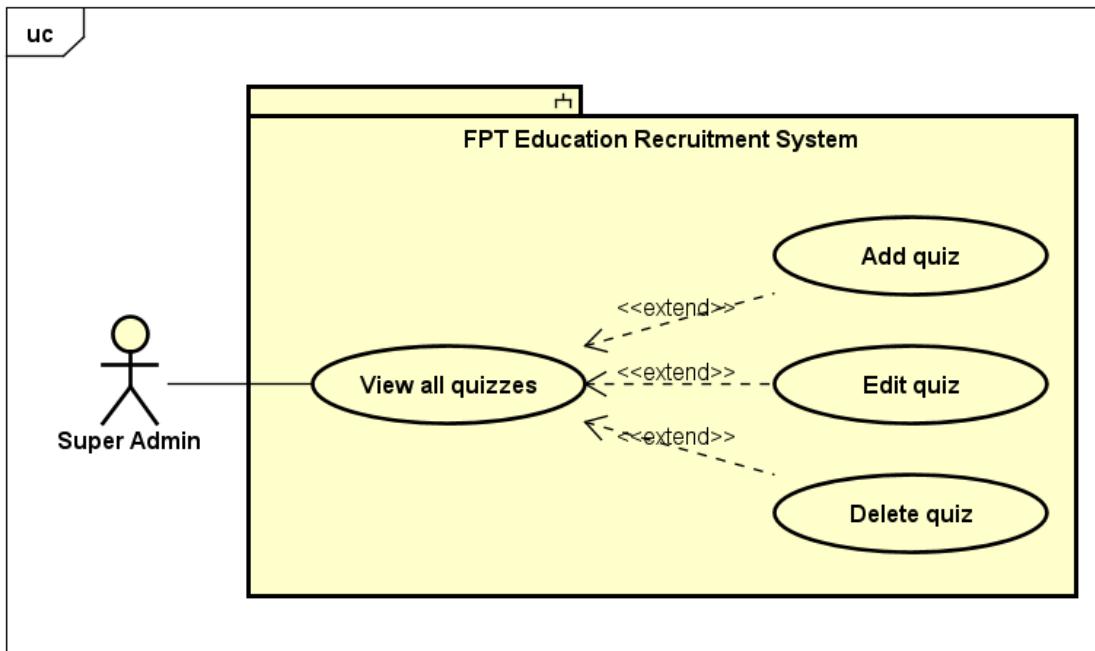


Figure 3.13. Quiz management use cases

USE CASE-34 SPECIFICATION						
Use-case No.	<UC-34>	Use-case Version	<1.0>			
Use-case Name	View all quizzes					
Author	TungBT					
Date	18/07/2020	Priority	Low			
Actor	Super Admin					
Summary	Super Admin views list of all quizzes in the system					
Goal	View all quizzes					
Triggers	Click tab “Quản lý đề bài” in the sidebar					
Preconditions	User has successfully logged in to the system as the Super Admin role					
Post Conditions	System shows list of quizzes					
Main Success Scenario						

Step	Actor Events	System Response
1	User logins as role of Super Admin	
2		Display account management page by default
3	Click on “Quản lý đề bài” tab on the sidebar	
4		Display quiz management page, show list of all quizzes
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

35. Use case 35: Add quiz

USE CASE-35 SPECIFICATION			
Use-case No.	<UC-35>	Use-case Version	<1.0>
Use-case Name	Add quiz		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super admin adds a new quiz into quiz bank		
Goal	Add a new quiz		
Triggers	User clicks on “Tạo đề mới” button on quiz management page		
Preconditions	User has successfully logged in to the system as the Super Admin role		

Post Conditions	Add a new quiz into quiz bank	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-34	
2		Display quiz management page
3	Click on “Tạo đề mới” button	
4		Display add quiz page
5	Enter the name of the quiz, then check the questions user want in that quiz, finally click “Tạo mới” button	
6		Notice of success and move to quiz management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	A Quiz must have name and contain at least 1 question Max length of quiz name field is 255 Quiz name must not be blank	

36. Use case 36: Edit quiz

USE CASE-36 SPECIFICATION			
Use-case No.	<UC-36>	Use-case Version	<1.0>
Use-case Name	Edit quiz		

Author	TungBT				
Date	18/07/2020	Priority	Low		
Actor	Super Admin				
Summary	Super Admin edit a quiz in quiz bank				
Goal	Edit a quiz				
Triggers	Click on “Sửa” button of a quiz				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	Edit a quiz				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-34				
2		Display list of quizzes			
3	Click on “Sửa” button of a quiz				
4		Display edit quiz page			
5	Change the name of quiz, adds or removes questions of the the quiz, then clicks on submit button to complete editing				
6		Notice of success and back to manage quiz page			
Alternative Scenario					
N/A					
Exceptions	N/A				

Business Rules	A Quiz must have name and contain at least 1 question Max length of quiz name field is 255 Quiz name must not be blank
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37. Use case 37: Delete quiz

USE CASE-37 SPECIFICATION			
Use-case No.	<UC-37>	Use-case Version	<1.0>
Use-case Name	Delete quiz		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin deletes a quiz in quiz bank		
Goal	Delete a quiz		
Triggers	Click on “Xóa” button of a quiz		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete a quiz		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-34		
2		Display list of quizzes	
3	Click on “Xóa” button of a quiz		
4		Give a confirmation dialog box	

5	Click OK to delete the quiz	
6		Delete successfully and refresh page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

38. Use case 38: View all careers

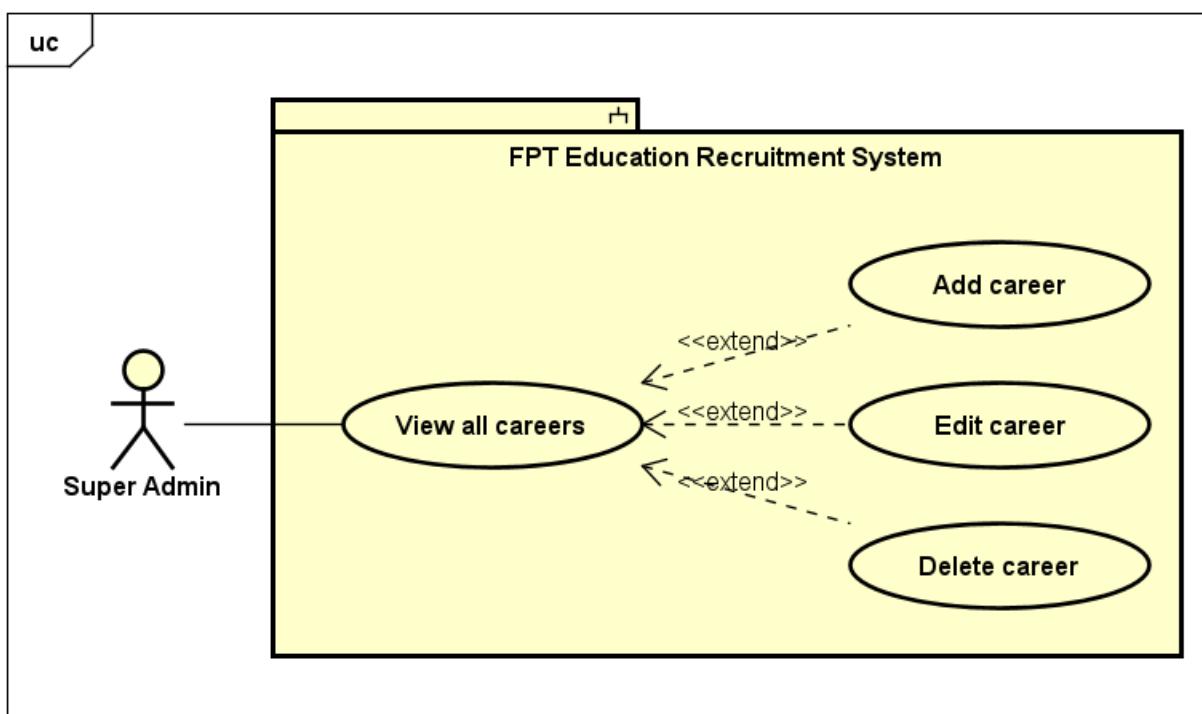


Figure 3.14. Career management use cases

USE CASE-38 SPECIFICATION			
Use-case No.	<UC-38>	Use-case Version	<1.0>
Use-case Name	View all careers		
Author	TungBT		

Date	18/07/2020	Priority	Low			
Actor	Super Admin					
Summary	Super Admin views list of all careers in the system					
Goal	View list of all careers					
Triggers	User clicks on the tab “Quản lý nghề nghiệp” on the sidebar					
Preconditions	User has successfully logged in to the system as the Super Admin role					
Post Conditions	View all careers					
Main Success Scenario						
Step	Actor Events	System Response				
1	User logs in the system as role of Super Admin					
2		Display admin homepage with account management tab default				
3	Click on “Quản lý nghề nghiệp” tab					
4		Display career management page				
Alternative Scenario						
N/A						
Exceptions	N/A					
Business Rules	N/A					

39. Use case 39: Add career

USE CASE-39 SPECIFICATION			
Use-case No.	<UC-39>	Use-case Version	<1.0>

Use-case Name	Add career				
Author	TungBT				
Date	18/07/2020	Priority	Low		
Actor	Super Admin				
Summary	Super Admin adds a new career into the system				
Goal	Add a new career				
Triggers	User clicks on “Tạo nghề nghiệp mới” button on career management page				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	Add a new career into the system				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-38				
2		Display career management page			
3	Click on “Tạo nghề nghiệp mới” button				
4		Display add career page			
5	Enter name of new career then click “Tạo mới”				
6		Notice of success, display career management page			
Alternative Scenario					
N/A					
Exceptions	N/A				

Business Rules	Career name must not be blank Maximum length of career name is 255
-----------------------	---

40. Use case 40: Edit career

USE CASE-40 SPECIFICATION			
Use-case No.	<UC-40>	Use-case Version	<1.0>
Use-case Name	Edit career		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin edits information of a career		
Goal	Edit information of a career		
Triggers	Click on “Sửa” button of a career		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Edit a career		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-38		
2		Display career management page	
3	Click on “Sửa” button of a career		
4		Display edit career page	

5	Change the name of career then clicks on “Lưu” button to complete editing	
6		Notice of success, display career management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

41. Use case 41: Delete career

USE CASE-41 SPECIFICATION						
Use-case No.	<UC-41>	Use-case Version	<1.0>			
Use-case Name	Delete career					
Author	TungBT					
Date	18/07/2020	Priority	Low			
Actor	Super Admin					
Summary	Super Admin deletes a career in the system					
Goal	Delete a career					
Triggers	Click on “Xóa” button of a career					
Preconditions	User has successfully logged in to the system as the Super Admin role					
Post Conditions	Delete a career					
Main Success Scenario						

Step	Actor Events	System Response
1	Do a normal flow of UC-38	
2		Display career management page
3	Click on “Xóa” button of a career	
4		Give a confirmation dialog box
5	Click OK to delete the career	
6		Delete successfully and refresh page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

42. Use case 42: View all config emails

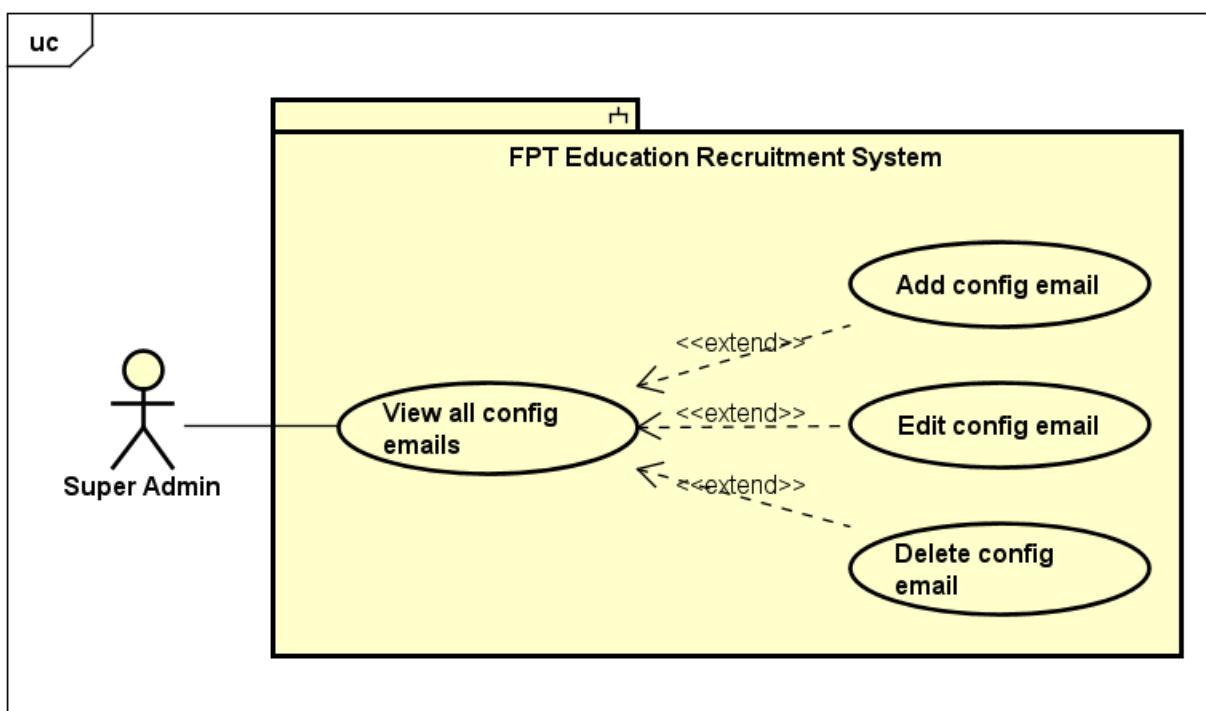


Figure 3.15. Email management use cases

USE CASE-42 SPECIFICATION					
Use-case No.	<UC-42>	Use-case Version	<1.0>		
Use-case Name	View all config emails				
Author	TungBT				
Date	18/07/2020	Priority	Low		
Actor	Super Admin				
Summary	Super Admin views list of all config emails that will be used automatically to send emails for candidates				
Goal	View list of all config emails				
Triggers	Super Admin clicks tab “Quản lý gửi email” on the sidebar of admin page				
Preconditions	User has successfully logged in to the system as the Super Admin role				
Post Conditions	Super Admin views list of all config emails				
Main Success Scenario					
Step	Actor Events	System Response			
1	User logins as Super Admin role				
2		Display account management page by default			
3	Click on “Quản lý gửi email” tab on the sidebar				
4		Display email management page			
Alternative Scenario					
N/A					

Exceptions	N/A
Business Rules	N/A

43. Use case 43: Add config email

USE CASE-43 SPECIFICATION			
Use-case No.	<UC-43>	Use-case Version	<1.0>
Use-case Name	Add config email		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super admin adds a new email into list of emails that will be used automatically to send emails for candidates		
Goal	Add a new email		
Triggers	User clicks on “Tạo tài khoản gửi email mới” button on email management page		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Add a new email		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-42		
2		Display config email management page	
3	Click on “Tạo tài khoản gửi email mới” button		

4		Display add config email page
5	Enter information of a new config email includes: Name of email Password Port number Host Is enable SSL Is active then click “Tạo mới” button	
6		Notice of success and display email management page

Alternative Scenario

N/A

Exceptions	N/A
Business Rules	Email, password, port, host must not be blank

44. Use case 44: Edit email

USE CASE-44 SPECIFICATION			
Use-case No.	<UC-44>	Use-case Version	<1.0>
Use-case Name	Edit config email		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin edits information of an email		
Goal	Edit information of a config email		

Triggers	Click on “Sửa” button of an email	
Preconditions	User has successfully logged in to the system as the Super Admin role	
Post Conditions	Edit an email	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-42	
2		Display email management page
3	Click on “Sửa” button of an email	
4		Display edit email page
5	Edit information of the email includes: Name of email Password Port number Host Is enable SSL Is active	
6	Click “Lưu” button	
		Notice of success then display email management page
Alternative Scenario		
N/A		
Exceptions	N/A	

Business Rules	Email, password, port, host must not be blank
-----------------------	---

45. Use case 45: Delete email

USE CASE-45 SPECIFICATION			
Use-case No.	<UC-45>	Use-case Version	<1.0>
Use-case Name	Delete config email		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	Super Admin		
Summary	Super Admin deletes an email		
Goal	Delete an email		
Triggers	Click on “Xóa” button on an email		
Preconditions	User has successfully logged in to the system as the Super Admin role		
Post Conditions	Delete an email		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-42		
2		Display email management page	
3	Click on “Xóa” button on an email		
4		Give confirmation dialog box	
5	Confirm to delete the email		

6		Delete the email then display email management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

46.. Use case 46: View logs

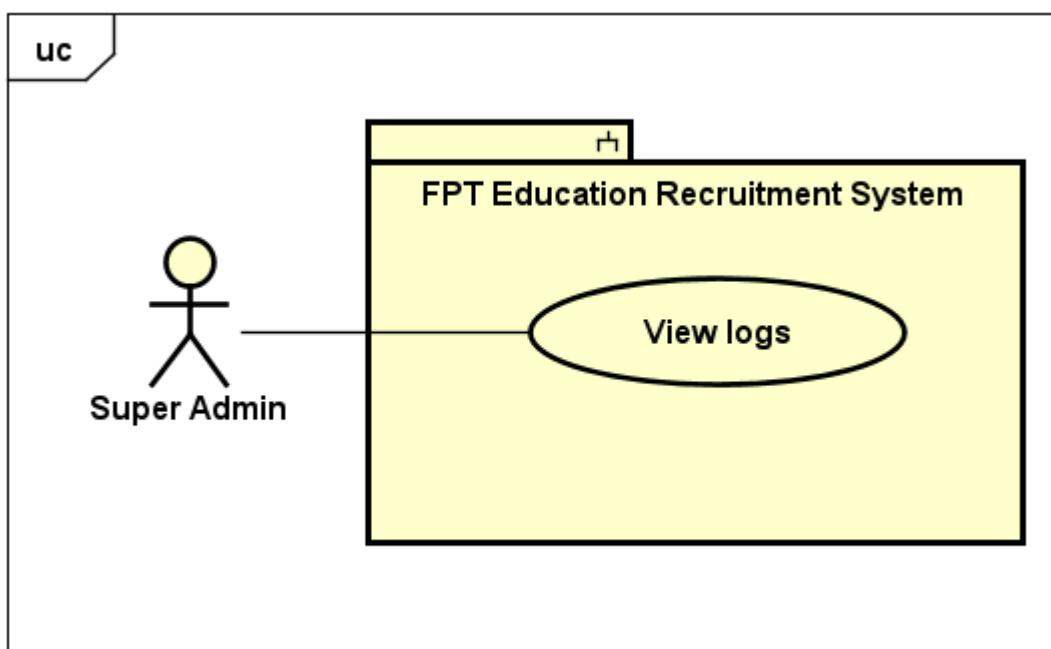


Figure 3.16. View logs use case

USE CASE-46 SPECIFICATION			
Use-case No.	<UC-46>	Use-case Version	<1.0>
Use-case Name	View logs		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	Super Admin		

Summary	When any system changes take place (update accounts, add unit, ...), it is logged, the user can view the changes.																
Goal	View system changes																
Triggers	User clicks on “Quản lý log” tab on the sidebar																
Preconditions	User has successfully logged in to the system as the Super Admin role																
Post Conditions	View log about system changes																
Main Success Scenario																	
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Events</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User logins to the system as role of Super Admin</td><td></td></tr> <tr> <td>2</td><td></td><td>Display account management page by default</td></tr> <tr> <td>3</td><td>Click on the tab “Quản lý log”</td><td></td></tr> <tr> <td>4</td><td></td><td>Display view log page</td></tr> </tbody> </table>			Step	Actor Events	System Response	1	User logins to the system as role of Super Admin		2		Display account management page by default	3	Click on the tab “Quản lý log”		4		Display view log page
Step	Actor Events	System Response															
1	User logins to the system as role of Super Admin																
2		Display account management page by default															
3	Click on the tab “Quản lý log”																
4		Display view log page															
Alternative Scenario																	
N/A																	
Exceptions	N/A																
Business Rules	N/A																

47. Use Case 47: Common use case

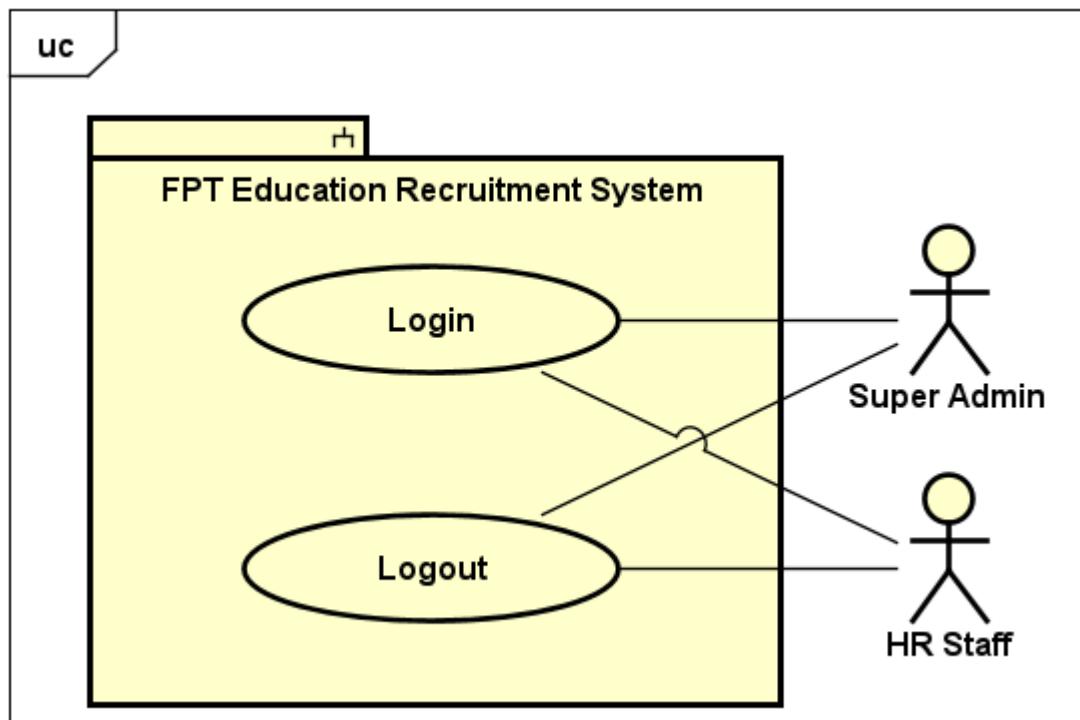


Figure 3.17. Common use cases

USE CASE-47 SPECIFICATION			
Use-case No.	<UC-47>	Use-case Version	<1.0>
Use-case Name	Login		
Author	TungBT		
Date	18/07/2020	Priority	High
Actor	Super Admin, HR Staff		
Summary	User logsins to FERS website as role of Super Admin or HR Staff		
Goal	Login to FERS website		
Triggers	Users access the link " career.fpt.edu.vn/Account/Login "		
Preconditions	N/A		
Post Conditions	Login to FERS website		

Main Success Scenario		
Step	Actor Events	System Response
1	User accesses the link " career.fpt.edu.vn/Account/Login "	
2		Display login page
3	Click on the button “Đăng nhập”	
4		Pop up Google Authentication dialog box, this dialog box will show list of emails account of user to login
5	Click on the email that was registered on the system	
6		Display management page with functions depending on account role

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

48. Use case 48: Logout

USE CASE-48 SPECIFICATION			
Use-case No.	<UC-48>	Use-case Version	<1.0>
Use-case Name	Logout		
Author	TungBT		

Date	18/07/2020	Priority	Low		
Actor	Super Admin / HR Staff				
Summary	User logs out of the system				
Goal	Log out of the system				
Triggers	User clicks on the button “Đăng xuất”				
Preconditions	User successfully logged into the system				
Post Conditions	Log out of the system				
Main Success Scenario					
Step	Actor Events	System Response			
1	User click on the button “Đăng xuất” on the right top of page				
2		Log out the user from the system and move to the login page			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

49. Use case 49: View all CVs

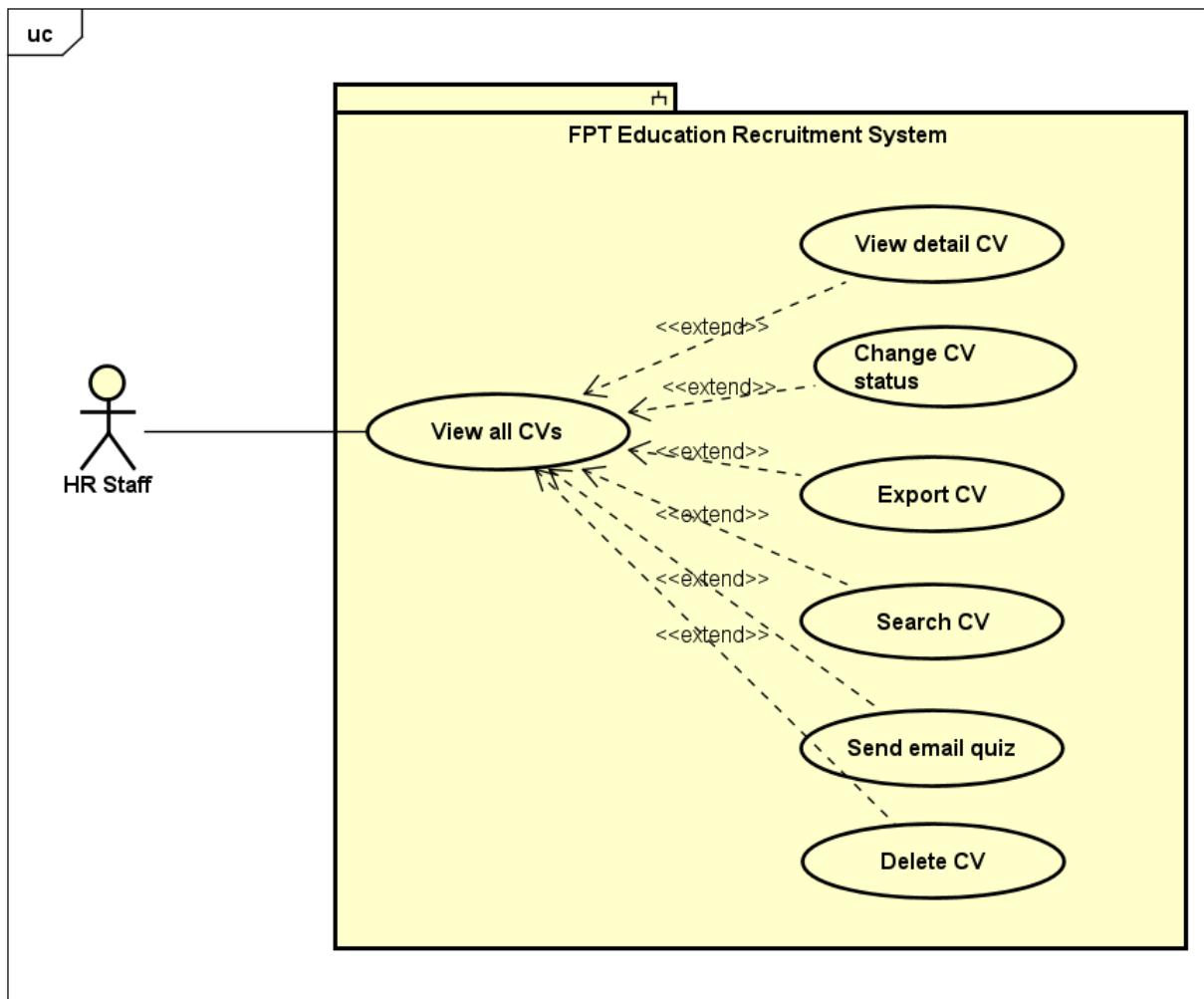


Figure 3.18. CV management use cases

USE CASE-49 SPECIFICATION			
Use-case No.	<UC-49>	Use-case Version	<1.0>
Use-case Name	View all CVs		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	HR Staff views list of all CVs that was submitted to the system		
Goal	View list of all CVs		

Triggers	Click on the tab “Quản lý CV” on the sidebar	
Preconditions	User has successfully logged in to the system as the HR Staff role	
Post Conditions	View list of all CVs	
Main Success Scenario		
Step	Actor Events	System Response
1	User logs in to the system as role of HR Staff	
2		Display job management page as default
3	Click on the tab “Quản lý CV” on the sidebar of website	
4		Display CV management page
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

50. Use case 50: View detail CV

USE CASE-50 SPECIFICATION			
Use-case No.	<UC-50>	Use-case Version	<1.0>
Use-case Name	View detail CV		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		

Summary	HR Staff views detailed information about the candidate																
Goal	View detailed information about candidate																
Triggers	User clicks on the eye icon of a CV																
Preconditions	User has successfully logged in to the system as the HR Staff role																
Post Conditions	A dialog box will pop up and display information about CV																
Main Success Scenario																	
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Events</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Do a normal flow of UC-49</td><td></td></tr> <tr> <td>2</td><td></td><td>Display CV management page</td></tr> <tr> <td>3</td><td>Click on the eye icon of a CV</td><td></td></tr> <tr> <td>4</td><td></td><td>Pop up a dialog box with detailed information about the CV</td></tr> </tbody> </table>			Step	Actor Events	System Response	1	Do a normal flow of UC-49		2		Display CV management page	3	Click on the eye icon of a CV		4		Pop up a dialog box with detailed information about the CV
Step	Actor Events	System Response															
1	Do a normal flow of UC-49																
2		Display CV management page															
3	Click on the eye icon of a CV																
4		Pop up a dialog box with detailed information about the CV															
Alternative Scenario																	
N/A																	
Exceptions	N/A																
Business Rules	N/A																

51. Use case 51: Change CV status

USE CASE-51 SPECIFICATION			
Use-case No.	<UC-51>	Use-case Version	<1.0>
Use-case Name	Change CV status		
Author	TungBT		
Date	18/07/2020	Priority	High

Actor	HR Staff	
Summary	CV is divided into groups with different statuses for easy management. HR Staff can change status of CV	
Goal	Change status of the CV	
Triggers	User clicks on the status options then change it to another option	
Preconditions	User has successfully logged in to the system as the HR Staff role	
Post Conditions	Change status of the CV	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-49	
2		Display CV management page
3	Click on the status options of a CV	
4		Drop down a list of status
5	Change the status of the CV to the state he/she wants. There are 5 states: “Mới” “Đã xem” “Xem xét” “Chấp nhận” “Từ chối”	
6		The system notifies the successful status change, and simultaneously changes the color of the CV status
Alternative Scenario		

N/A	
Exceptions	N/A
Business Rules	It's possible to change from current state to any other state

52. Use case 52: Search CV

USE CASE-52 SPECIFICATION			
Use-case No.	<UC-52>	Use-case Version	<1.0>
Use-case Name	Search CV		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	HR Staff search for a CV that he/she wants, searching keywords include: Job title Candidate name Email Start date End date CV status		
Goal	Search a CV		
Triggers	User enters the search keyword on the search menu bar and then clicks search button		
Preconditions	User has successfully logged in to the system as the HR Staff role		
Post Conditions	Search a CV		
Main Success Scenario			
Step	Actor Events	System Response	

1	Do a normal flow of UC-49	
2		Display CV management page
3	Enter the search keywords and then click search button	
4		Display list of CV filtered by keyword search
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Maximum length of job title, email, candidate name field is 255	

53. Use case 53: Delete CV

USE CASE-53 SPECIFICATION			
Use-case No.	<UC-53>	Use-case Version	<1.0>
Use-case Name	Delete CV		
Author	TungBT		
Date	18/07/2020	Priority	Low
Actor	HR Staff		
Summary	HR Staff deletes a CV of the candidate		
Goal	Delete a CV		
Triggers	Click on the button “Xóa” of a CV		
Preconditions	User has successfully logged in to the system as the HR Staff role		
Post Conditions	Delete a CV		
Main Success Scenario			

Step	Actor Events	System Response
1	Do a normal flow of UC-49	
2		Display CV management page
3	Click button “Xóa” on a CV	
4		Give confirmation message
5	Click OK to confirm delete the CV	
6		Delete the CV then reload page

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	N/A

54. Use case 54: Send email quiz

USE CASE-54 SPECIFICATION			
Use-case No.	<UC-54>	Use-case Version	<1.0>
Use-case Name	Send email quiz		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	After candidate submitted CV to the system, HR Staff can email the quiz link to candidates that they want		
Goal	Send an email that contains the link of quiz		

Triggers	Click on the button “Chưa gửi, gửi ngay” on CV management page	
Preconditions	User has successfully logged in to the system as the HR Staff role	
Post Conditions	Send an email that contains the link of quiz	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-49	
2		Display CV management page
3	In the quiz score column, for candidates who have not taken the quiz, there is a button "Chưa gửi, gửi ngay". User clicks the button	
4		Send an email that contains the quiz link to candidate
Alternative Scenario		
N/A		
Exceptions	The hosting provider does not allow sending emails or restrict sending mail	
Business Rules	N/A	

55. Use case 55: Export CV

USE CASE-55 SPECIFICATION			
Use-case No.	<UC-55>	Use-case Version	<1.0>
Use-case Name	Export CV		
Author	TungBT		

Date	18/07/2020	Priority	Medium		
Actor	HR Staff				
Summary	When HR staff wants to export the CV list to an excel file for easy management, he/she just needs to click “Xuất ra Excel” button				
Goal	Export list of CV to excel file				
Triggers	User clicks on the button “Xuất ra Excel”				
Preconditions	User has successfully logged in to the system as the HR Staff role				
Post Conditions	Export list of CV to excel file				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-49				
2		Display CV management page			
3	Click on the button “Xuất ra Excel”				
4		Export the CV to excel file. The excel file will be automatically downloaded on browser			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

56. Use case 56: View all jobs

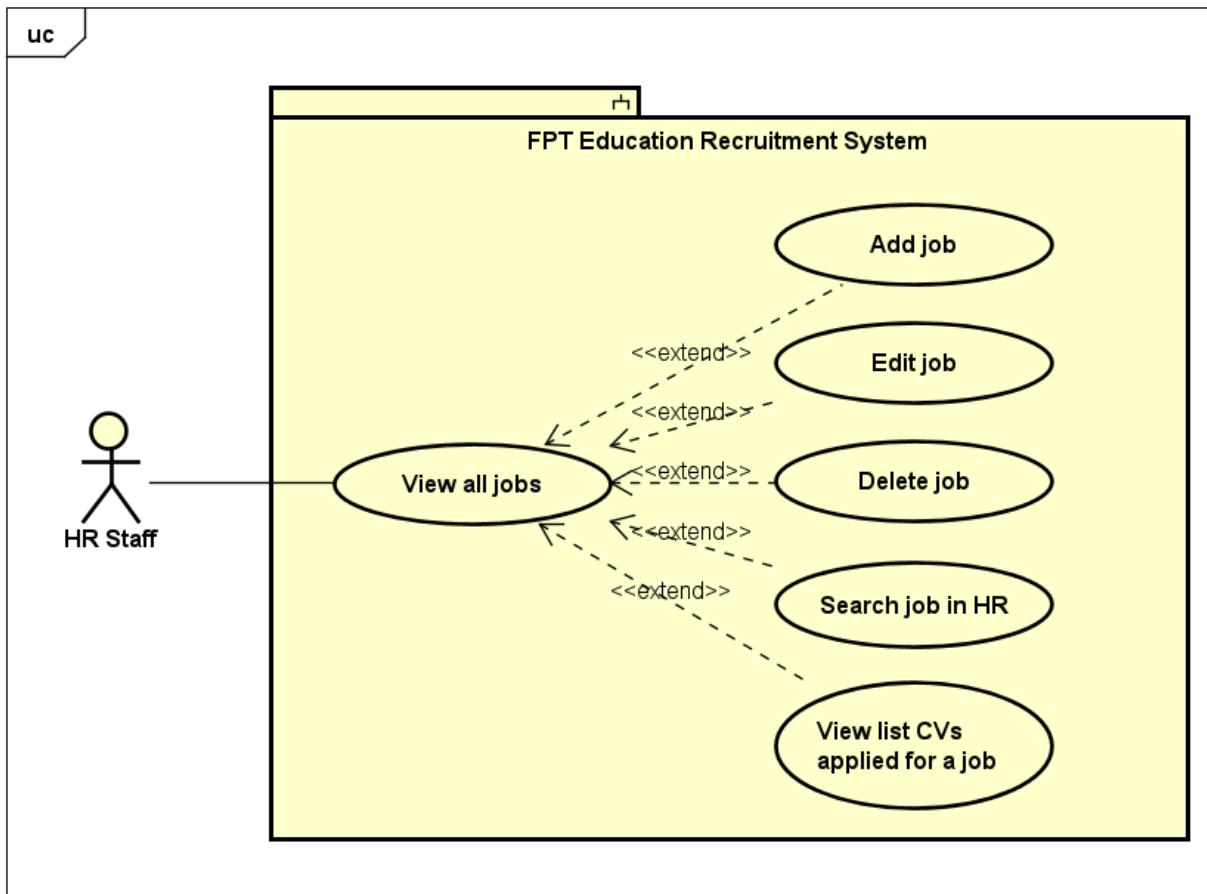


Figure 3.19. Job management use cases

USE CASE-56 SPECIFICATION			
Use-case No.	<UC-56>	Use-case Version	<1.0>
Use-case Name	View all jobs		
Author	DatTQ		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	HR Staff views all jobs which are managed and based on the location of HR Staff can manage in the system.		
Goal	HR Staff views all jobs in the system		
Triggers	HR Staff click tab “Quản lý tin tuyển dụng” on the sidebar of HR Staff page		

Preconditions	User has successfully logged in to the system as the HR Staff role	
Post Conditions	View all job are managed by login HR Staff	
Main Success Scenario		
Step	Actor Events	System Response
1	User login as role of HR Staff	
2		Display HR Staff homepage with job management tab default
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

57. Use case 57: Add job

USE CASE-57 SPECIFICATION			
Use-case No.	<UC-57>	Use-case Version	<1.0>
Use-case Name	Add job		
Author	DatTQ		
Date	18/07/2020	Priority	High
Actor	HR Staff		
Summary	HR Staff add a job to the system		
Goal	Add new job		
Triggers	HR Staff click “Tạo việc mới” button on Job management page		
Preconditions	User has successfully logged in to the system as the HR Staff role		

Post Conditions	Add a new job to the system	
Main Success Scenario		
Step	Actor Events	System Response
1	Do a normal flow of UC-56	
2		Display job management page
3	Click “Tạo việc mới” button	
4		Display create job page
5	Fill in all input fields then click “Tạo mới”	
6		Redirect to job manage page and notify success message
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	Must fill all the input required	

58. Use case 58: Edit job

USE CASE-58 SPECIFICATION			
Use-case No.	<UC-58>	Use-case Version	<1.0>
Use-case Name	Edit job		
Author	DatTQ		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		

Summary	HR Staff edits a job in the system																						
Goal	Edit an existing job																						
Triggers	Click “Sửa” button on an job when view all jobs																						
Preconditions	User has successfully logged in to the system as the HR Staff role																						
Post Conditions	Edit information about an job																						
Main Success Scenario																							
<table border="1"> <thead> <tr> <th>Step</th> <th>Actor Events</th> <th>System Response</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Do a normal flow of UC-56</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>Display all jobs of the system</td> </tr> <tr> <td>3</td> <td>Click “Sửa” button on a job</td> <td></td> </tr> <tr> <td>4</td> <td></td> <td>Display edit job page</td> </tr> <tr> <td>5</td> <td>Edit information of job and submit</td> <td></td> </tr> <tr> <td>6</td> <td></td> <td>Notice of success and back to account management page.</td> </tr> </tbody> </table>			Step	Actor Events	System Response	1	Do a normal flow of UC-56		2		Display all jobs of the system	3	Click “Sửa” button on a job		4		Display edit job page	5	Edit information of job and submit		6		Notice of success and back to account management page.
Step	Actor Events	System Response																					
1	Do a normal flow of UC-56																						
2		Display all jobs of the system																					
3	Click “Sửa” button on a job																						
4		Display edit job page																					
5	Edit information of job and submit																						
6		Notice of success and back to account management page.																					
Alternative Scenario																							
N/A																							
Exceptions	N/A																						
Business Rules	Must fill all the input required.																						

59. Use case 59: Delete job

USE CASE-59 SPECIFICATION			
Use-case No.	<UC-59>	Use-case Version	<1.0>

Use-case Name	Delete job				
Author	DatTQ				
Date	18/07/2020	Priority	Low		
Actor	HR Staff				
Summary	HR Staff deletes a job in the system				
Goal	Delete a job				
Triggers	HR Staff clicks “Xóa” button on Jobs management page				
Preconditions	User has successfully logged in to the system as the HR Staff role				
Post Conditions	Delete a job				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-56				
2		Display all jobs of the system			
3	Click “Xóa” button on an job				
4		Give confirmation message			
5	Confirm to delete the job				
6		Delete the job then reload page			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	When HR Staff deletes a job which has CV applied, although the system doesn't delete the job, the system will hide the job.				

60. Use case 60: Search job in HR

USE CASE-60 SPECIFICATION			
Use-case No.	<UC-60>	Use-case Version	<1.0>
Use-case Name	Search Job In HR		
Author	DatTQ		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	HR Staff find jobs that he/she needs, searching keywords include: Job title Unit Career Location		
Goal	Display list of jobs filter by some input searching		
Triggers	HR Staff choose the options in filter menu (Quản lý tin tuyển dụng) then click “Tim kiém”		
Preconditions	User has successfully logged in to the system as the HR Staff role		
Post Conditions	HR Staff find jobs that HR Staff needs		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-56		
2		Display job management page	
3	Enter the search keywords and then click “Tim kiém” button		
4		Display list of jobs filtered by keyword search	

Alternative Scenario	
N/A	
Exceptions	N/A
Business Rules	Maximum length of job title name field is 255

61. Use case 61: View list CVs applied for a job

USE CASE-61 SPECIFICATION			
Use-case No.	<UC-61>	Use-case Version	<1.0>
Use-case Name	View list CVs applied for a job		
Author	TungBT		
Date	18/07/2020	Priority	Medium
Actor	HR Staff		
Summary	When HR Staffs view list of all the jobs that are currently recruiting, they can see the number of CVs applied for a job, when clicking on the link the system will redirect to a new page - a list of all CVs applied for the job		
Goal	View list of all CVs applied for a job		
Triggers	Click to the number of CV applied for a job on Job management page		
Preconditions	User has successfully logged in to the system as the HR Staff role		
Post Conditions	View list of all CVs applied for a job		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-56, view all jobs		
2		Display job management page	

3	Click to the number of CV applied for a job	
4		Redirect to CV management page, show list of all CVs applied for the job user clicked to
Alternative Scenario		
N/A		
Exceptions	N/A	
Business Rules	N/A	

62. Use case 62: View all error emails

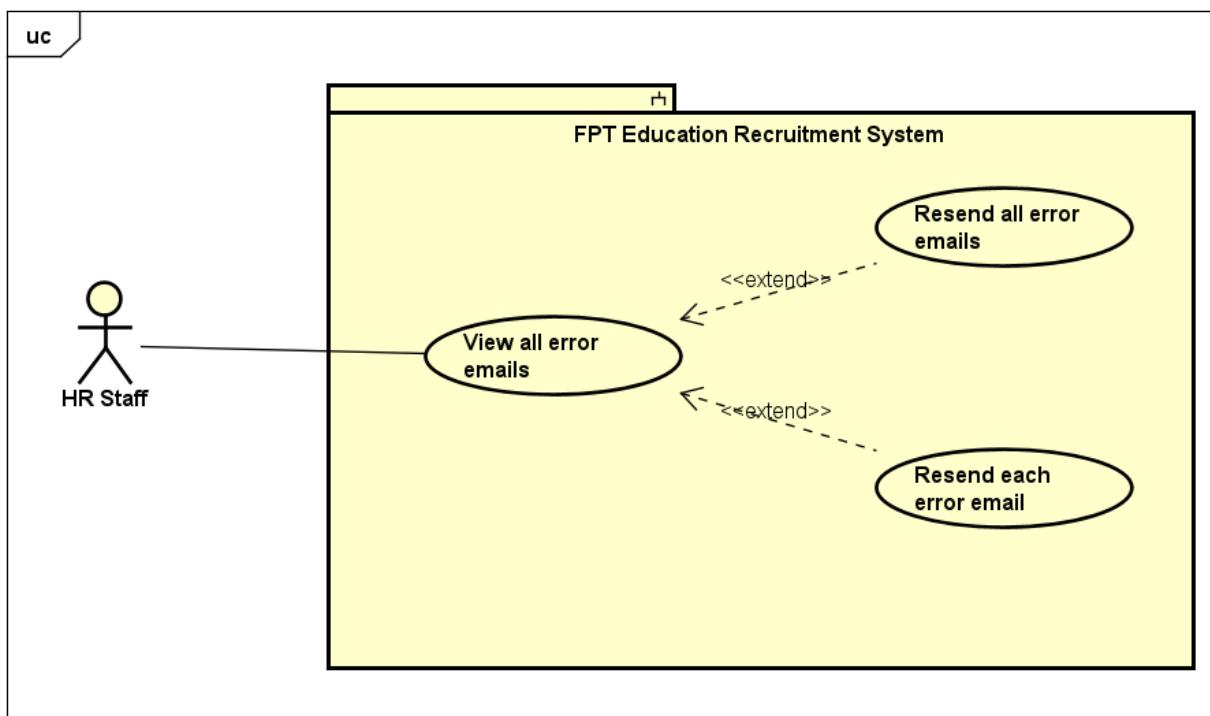


Figure 3.20. Error email management use cases

USE CASE-62 SPECIFICATION			
Use-case No.	<UC-62>	Use-case Version	<1.0>

Use-case Name	View all error emails				
Author	DatTQ				
Date	18/07/2020	Priority	Medium		
Actor	HR Staff				
Summary	FERS send an email to candidates, sometimes it can not be sent. HR Staff can review unsuccessful emails in the tab “Quản lý Email lỗi”				
Goal	HR Staff view list of error email				
Triggers	HR Staff click tab “Quản lý Email lỗi” on the sidebar of HR Staff page				
Preconditions	User has successfully logged in to the system as the HR Staff role				
Post Conditions	View all error email				
Main Success Scenario					
Step	Actor Events	System Response			
1	User logins with HR Staff role				
2		Display job management page by default			
3	Click tab “Quản lý Email lỗi” on the sidebar				
4		Redirect to error email management page			
Alternative Scenario					
N/A					
Exceptions	N/A				
Business Rules	N/A				

63. Use case 63: Resend all error emails

USE CASE-63 SPECIFICATION					
Use-case No.	<UC-63>	Use-case Version	<1.0>		
Use-case Name	Resend all error email				
Author	DatTQ				
Date	18/07/2020	Priority	Medium		
Actor	HR Staff				
Summary	Resend all the failed emails at once				
Goal	Resend all error email to candidates				
Triggers	HR Staff click tab “Gửi lại những Email lỗi” on error email management page				
Preconditions	User has successfully logged in to the system as the HR Staff role				
Post Conditions	Resend all error email to candidates				
Main Success Scenario					
Step	Actor Events	System Response			
1	Do a normal flow of UC-62				
2		Display Email management page			
3	Click on the button “Gửi lại những Email lỗi”				
4		Resend all error email to the candidates			
Alternative Scenario					
N/A					

Exceptions	The hosting provider does not allow sending emails or restrict sending email
Business Rules	N/A

64. Use case 64: Resend each error email

USE CASE-64 SPECIFICATION			
Use-case No.	<UC-64>	Use-case Version	<1.0>
Use-case Name	Resend each error email		
Author	DatTQ		
Date	18/07/2020	Priority	Low
Actor	HR Staff		
Summary	After reviewing the failed emails, HR Staff can just click resend email to a person they specify, no need to resend all email at once		
Goal	Resend a certain error email		
Triggers	Click the button “Gửi lại” of an error email		
Preconditions	Successfully logged in to the system as the HR Staff role		
Post Conditions	Resend a certain error email		
Main Success Scenario			
Step	Actor Events	System Response	
1	Do a normal flow of UC-62		
2		Display email management page	
3	Click the button “Gửi lại” in an error email which HR Staff wants to resend		

4		Resend the email to candidate and notice of success
Alternative Scenario		
N/A		
Exceptions	The hosting provider does not allow sending emails or restrict sending email	
Business Rules	N/A	

3.3. Non-functional Requirement

3.3.1. Reliability

- All data entered by the user is validated before sending it to the server
- The system complies with business rules

3.3.2. Security

- The system must use FPT Edu Google accounts (@fpt.edu.vn) to sign in.
- The system must use HTTPS to secure the information transferred between clients and servers.
- The system sends a quiz link via the candidate's email address and secured, authorized by a token generated by the system.
- The user authorization table is as follow:

Function	Super Admin	HR staff	Candidate
Login	✓	✓	
Logout	✓	✓	
Manage accounts	✓		
Manage quiz	✓		
Manage careers	✓		
Manage units	✓		
Manage locations	✓		

Manage questions	✓		
Manage group question	✓		
View log	✓		
Manage configure email	✓		
Manage CVs		✓	
Manage Jobs		✓	
Manage error email		✓	
Apply job			✓
Take quiz			✓

Table 3.3. User authorization

3.3.3. Maintainability

This system using .NET MVC 5, with the following advantages to maintain:

- A main advantage of MVC is separation of concern. Separation of concern means we divide the application Model, Controller and View.
- We can easily maintain our application because of separation of concern.
- At the same time we can split many developers' work at a time. It will not affect one developer work to another developer work.
- It supports TTD (test-driven development).

3.3.4. Portability

This system supports responsiveness for candidate actor's views.

3.4. Entity relationship diagram

This system has the following entities:

No.	Entity	Description
1	Role	Contains a role of the system: Super Admin and Hr Staff
2	Account	Contains an information of user
3	Location	Contains a province that have units of FPT Education there

4	Region	Existing a region in Vietnam as: "mien Bac, mien Trung, mien Nam, mien Tay"
5	Job	Contains a job that hr staff posted and candidate can apply
6	Career	Contains a career in FPT Education. Example: "Giao vien"
7	Unit	Contains a unit of FPT Education. Example: FPT University.
8	CV	Contains an information CV of candidate who applied job
9	QuestionGroup	Contains a question group of the system
10	Question	Contains a question for each group of questions
11	QuestionAnswer	Contains a possible answer for each question
12	Quiz	Contains a quiz of the system which can taken by candidates
13	QuizResult	Results of quiz done by candidates

Table 3.4. Entities description

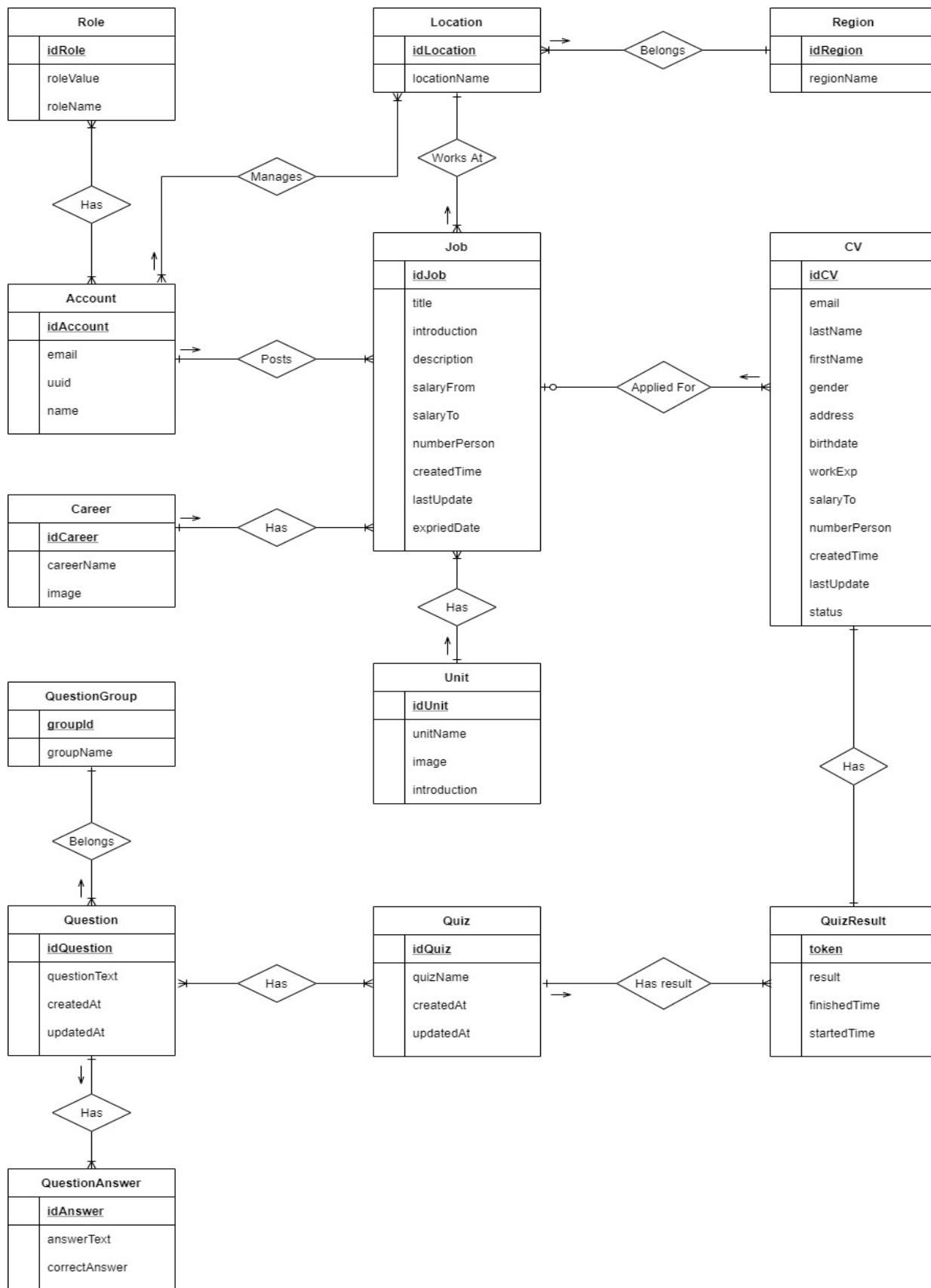


Figure 3.21. Entity relationship diagram

Chapter 4: System Detailed Design

4.1. System Overview

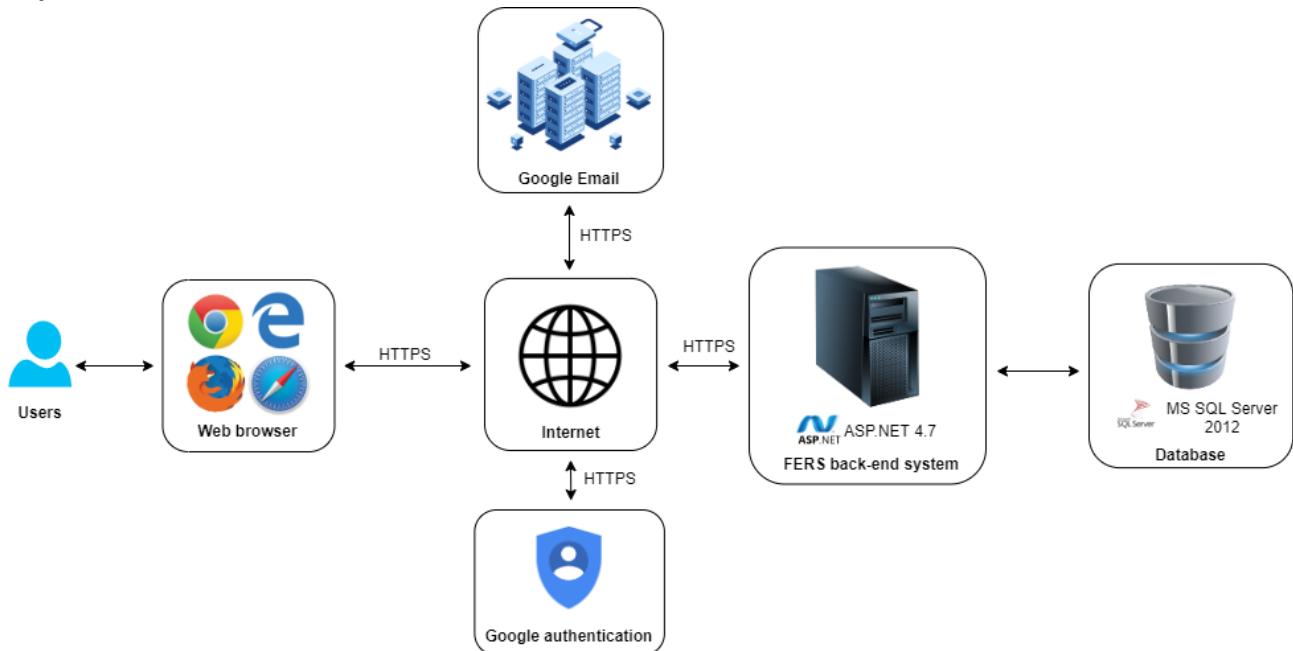


Figure 4.1 - System overview

4.2. System Architecture Design

The FPT Recruitment System uses MVC pattern.

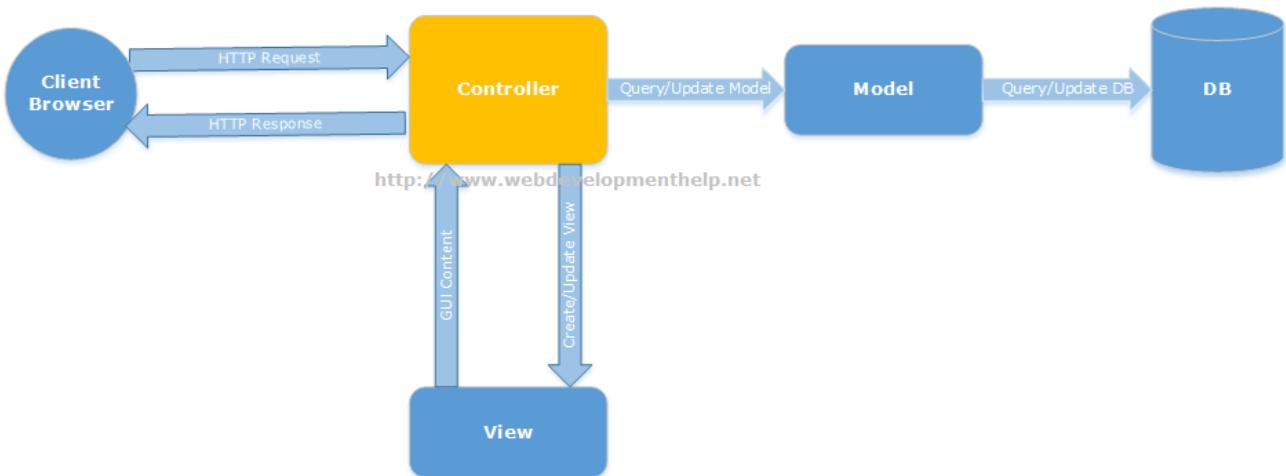


Figure 4.2 – ASP.NET MVC Architecture

4.2.1. Choice of System Architecture

The Model-View-Controller (MVC) structure, which is the standard software development approach offered by most of the popular web frameworks, is clearly a layered architecture. Just above the database is the model layer, which often contains business logic and information about the types of data in the database. At the top is the view layer, which is often CSS, JavaScript, and

HTML with dynamic embedded code. In the middle, you have the controller, which has various rules and methods for transforming the data moving between the view and the model.

4.2.2. Description of System Interface

1. *Database management system*



Figure 4.3 - Database management system

Database management system is a software which is used to manage the database. SQL Server is a very popular commercial database which is used in different applications. DBMS provides an interface to perform various operations like database creation, storing data in it, updating data, creating a table in the database and a lot more. It provides protection and security to the database. In the case of multiple users, it also maintains data consistency.

2. *Web browser*

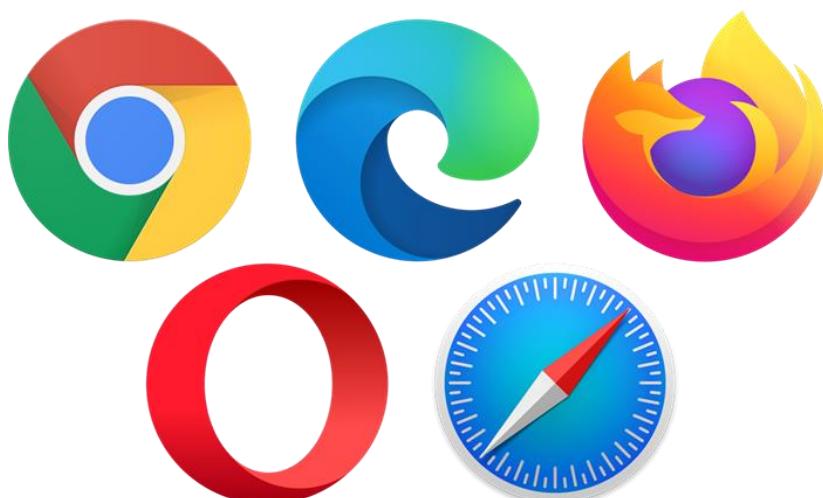


Figure 4.4 - Browsers

A web browser (commonly referred to as a browser) is a software application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device. A web browser is not the same thing as a search engine, though the two are often confused. For a user, a search engine is just a website that provides links to other websites. However, to connect to a website's server and display its web pages, a user must have a web browser installed. Web browsers are used on a range of devices, including desktops, laptops, tablets, and smartphones. . In 2019, an estimated 4.3 billion people used a browser.

3. Google authentication



Figure 4.5 - Google authentication

Google authentication is a service to help verifying email accounts by their access tokens - which will be returned from Google authentication service.

4. Simple Mail Transfer Protocol (SMTP)



Figure 4.6 - Simple Mail Transfer Protocol

The Simple Mail Transfer Protocol (SMTP) is a communication protocol for electronic mail transmission. As an Internet standard, SMTP was first defined in 1982 by RFC⁶ 821, and updated in 2008 by RFC 5321 to Extended SMTP additions, which is the protocol variety in widespread use today. Mail servers and other message transfer agents use SMTP to send and receive mail messages. SMTP servers commonly use the Transmission Control Protocol on port number 25.

User-level email clients typically use SMTP only for sending messages to a mail server for relaying, and typically submit outgoing email to the mail server on port 587 or 465 as per RFC 8314. For retrieving messages, IMAP⁷ and POP3⁸ are standard, but proprietary servers also often implement proprietary protocols, e.g.

⁶ RFC: https://en.wikipedia.org/wiki/Request_for_Comments

⁷ IMAP: https://en.wikipedia.org/wiki/Internet_Message_Access_Protocol

⁸ POP3: https://en.wikipedia.org/wiki/Post_Office_Protocol

4.3. Component Diagram

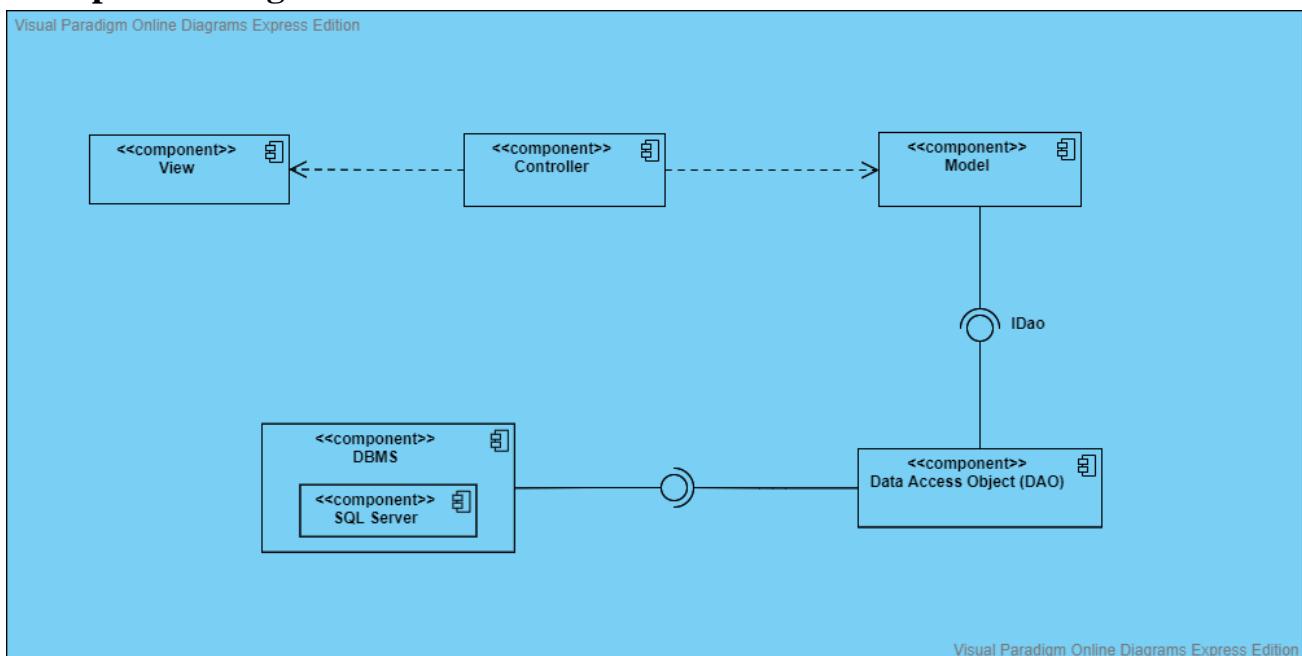


Figure 4.7 - Component diagram

4.4. Detailed Description of Component

4.4.1. View

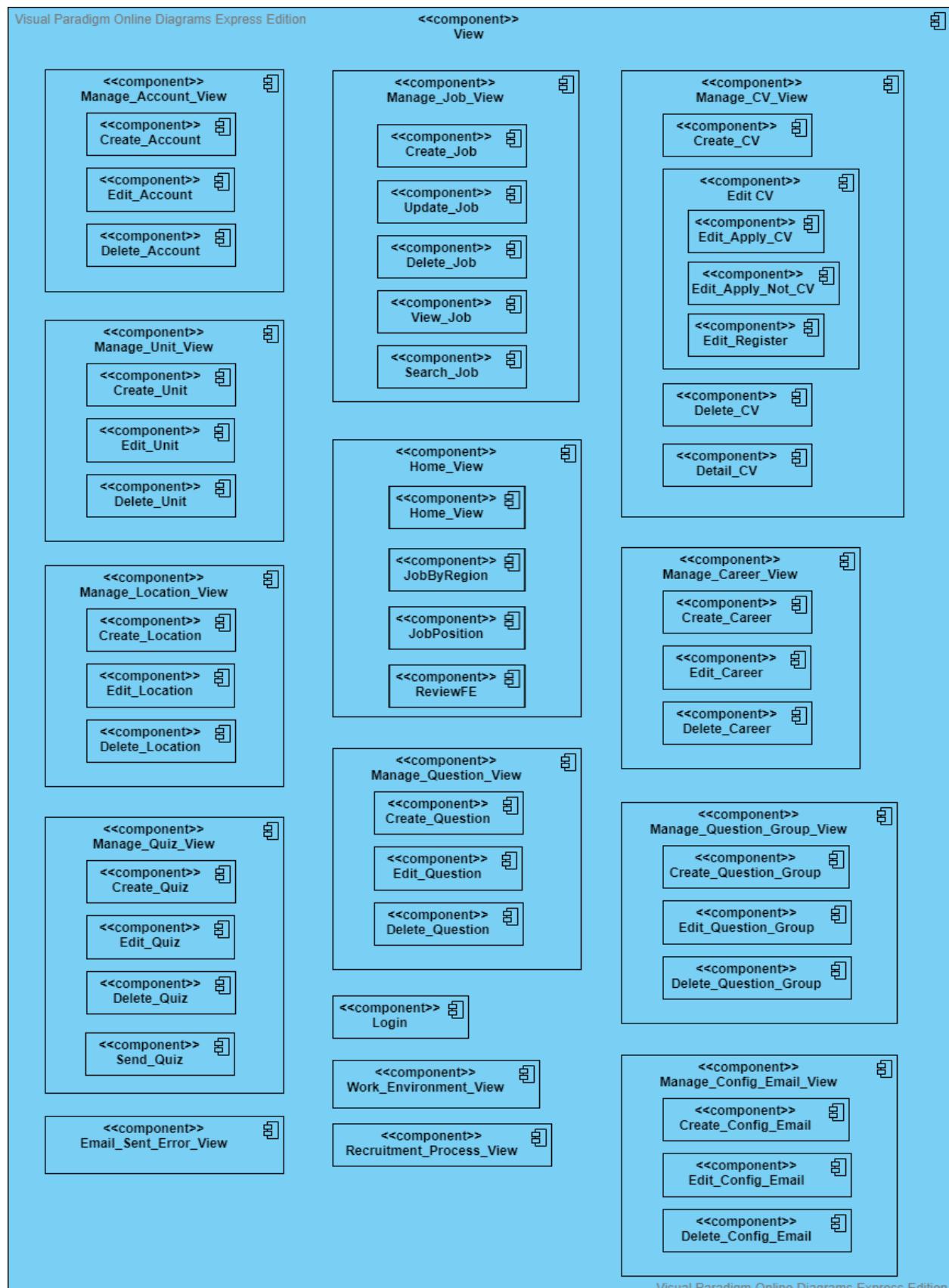


Figure 4.8 - View

4.4.2. Controller

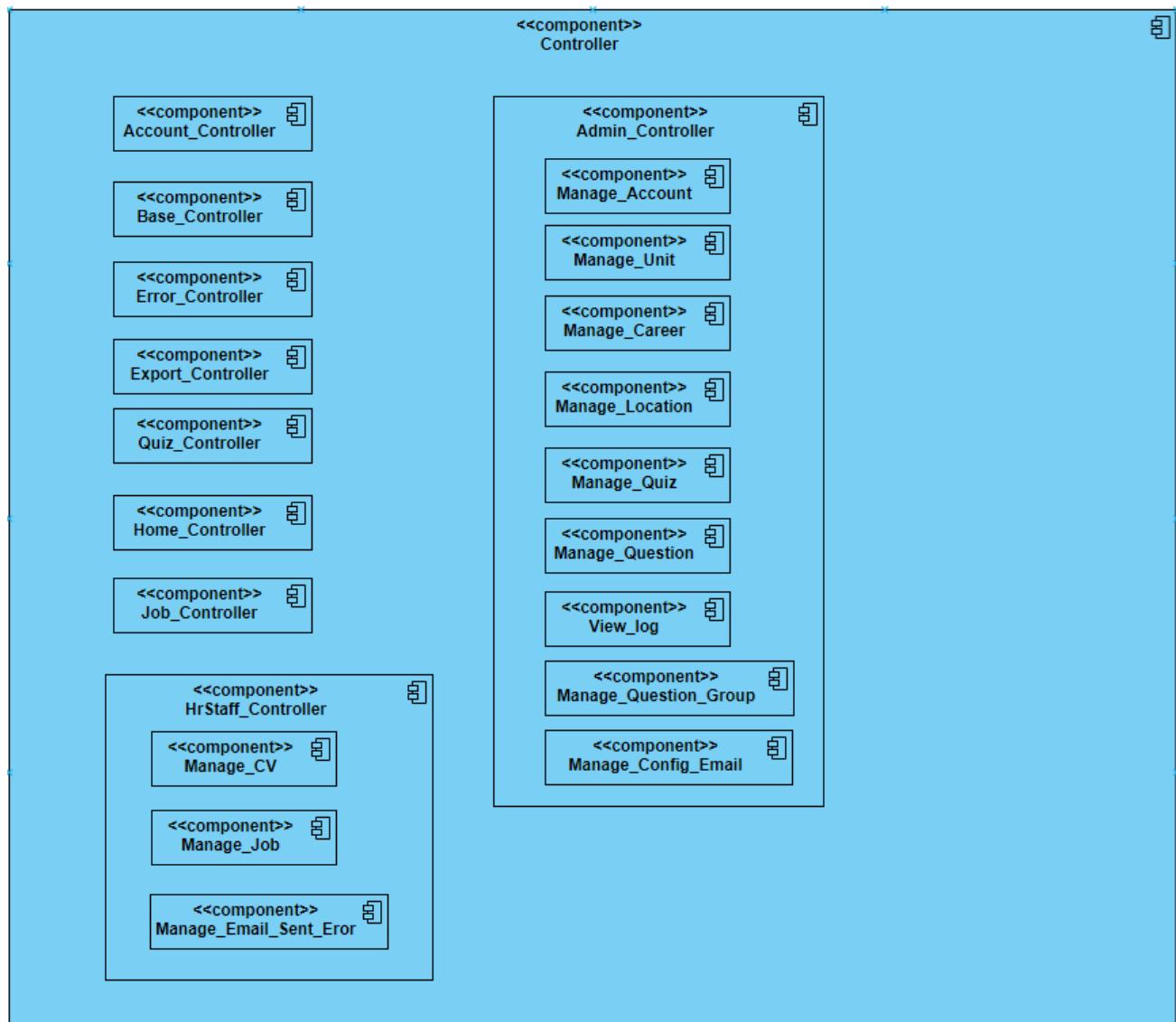


Figure 4.9 - Controller

4.4.3. Model

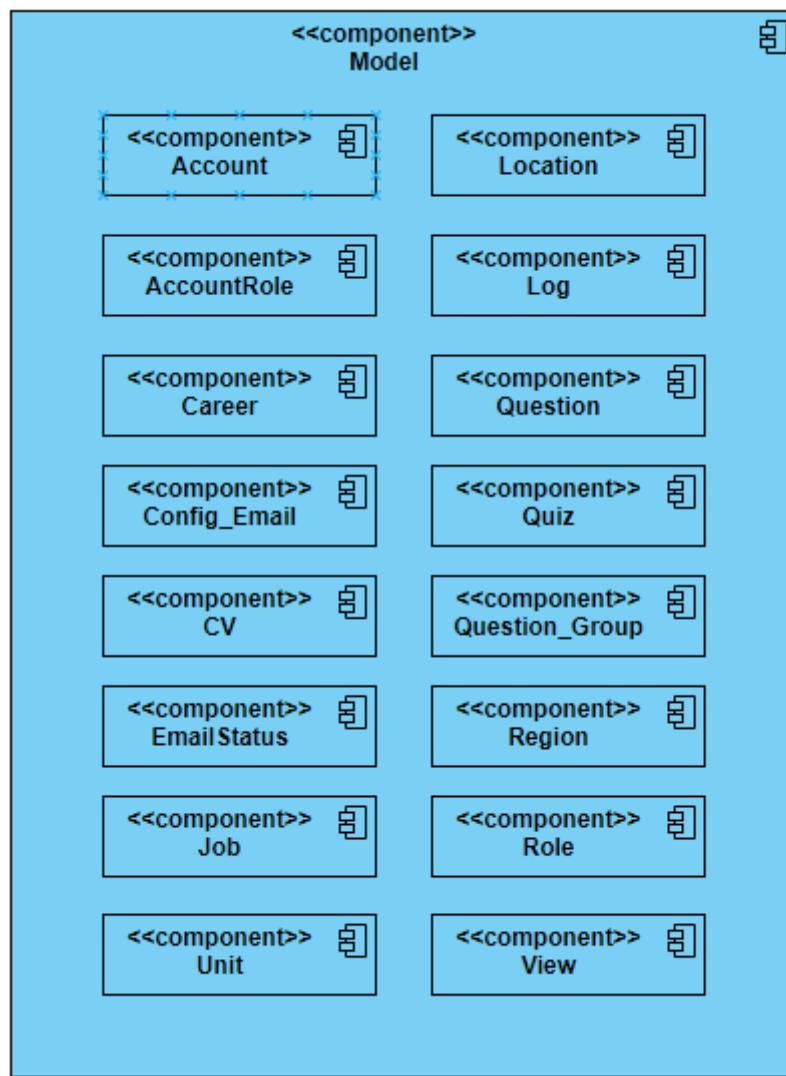


Figure 4.10 - Model

5. DAO

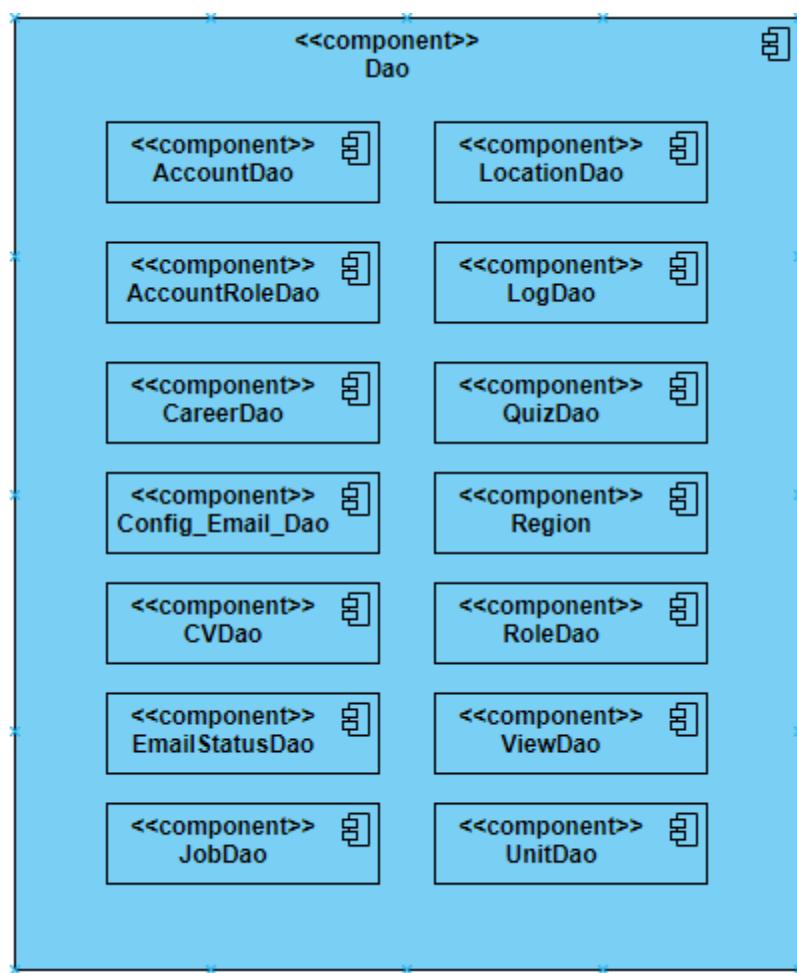


Figure 4.11 - DAO

4.5. Class Diagram

4.5.1. Class diagram

1. UC-01 (*View recruitment process*)

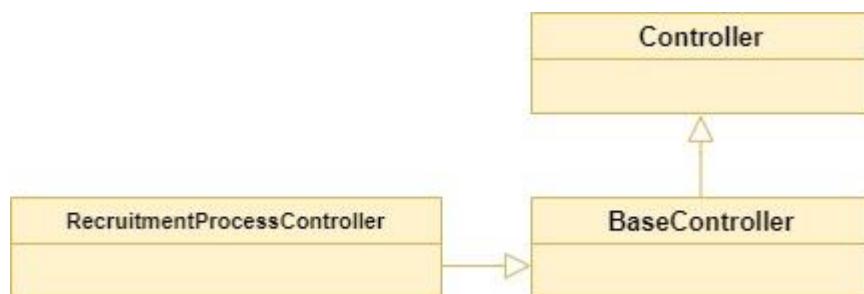


Figure 4.12 - Class diagram for UC-01

2. UC-02 (View home)

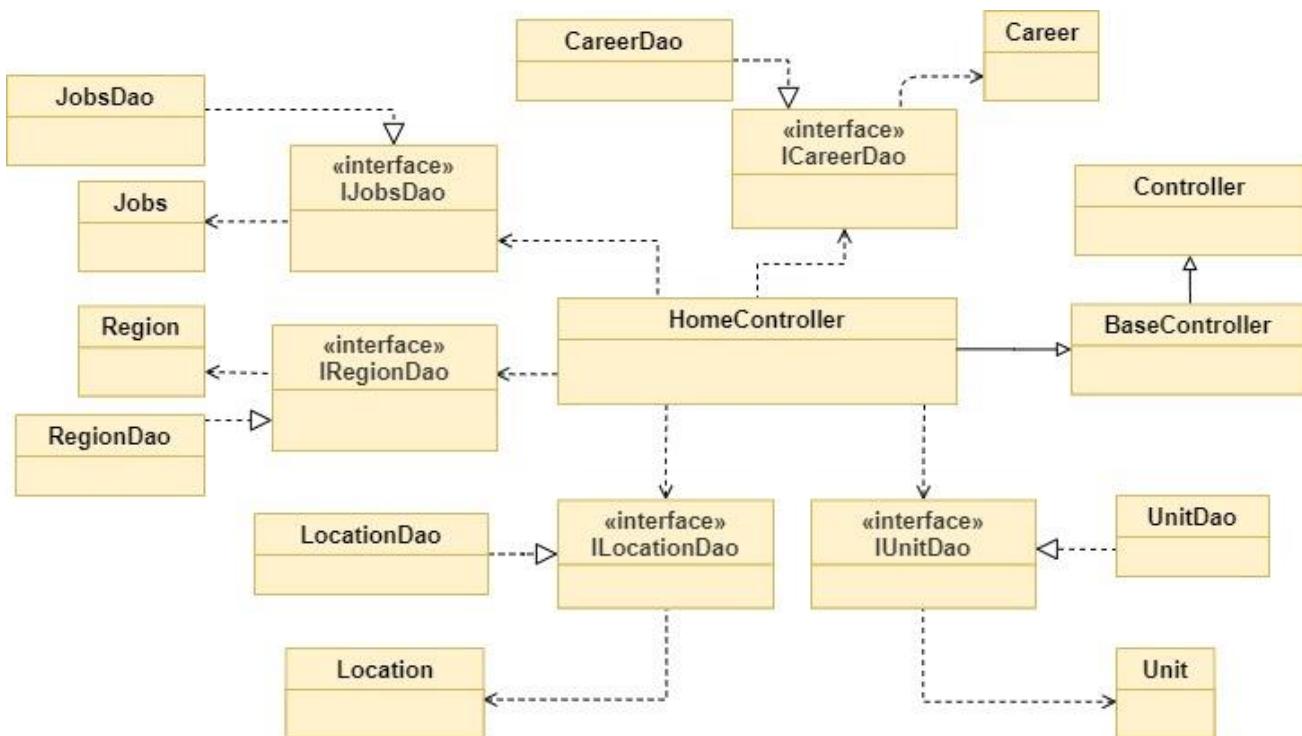


Figure 4.13 - Class diagram for UC-02

3. UC-03,04,05,06,07 (View all jobs - View list jobs by region - View list jobs by unit - View job detail - Search job)

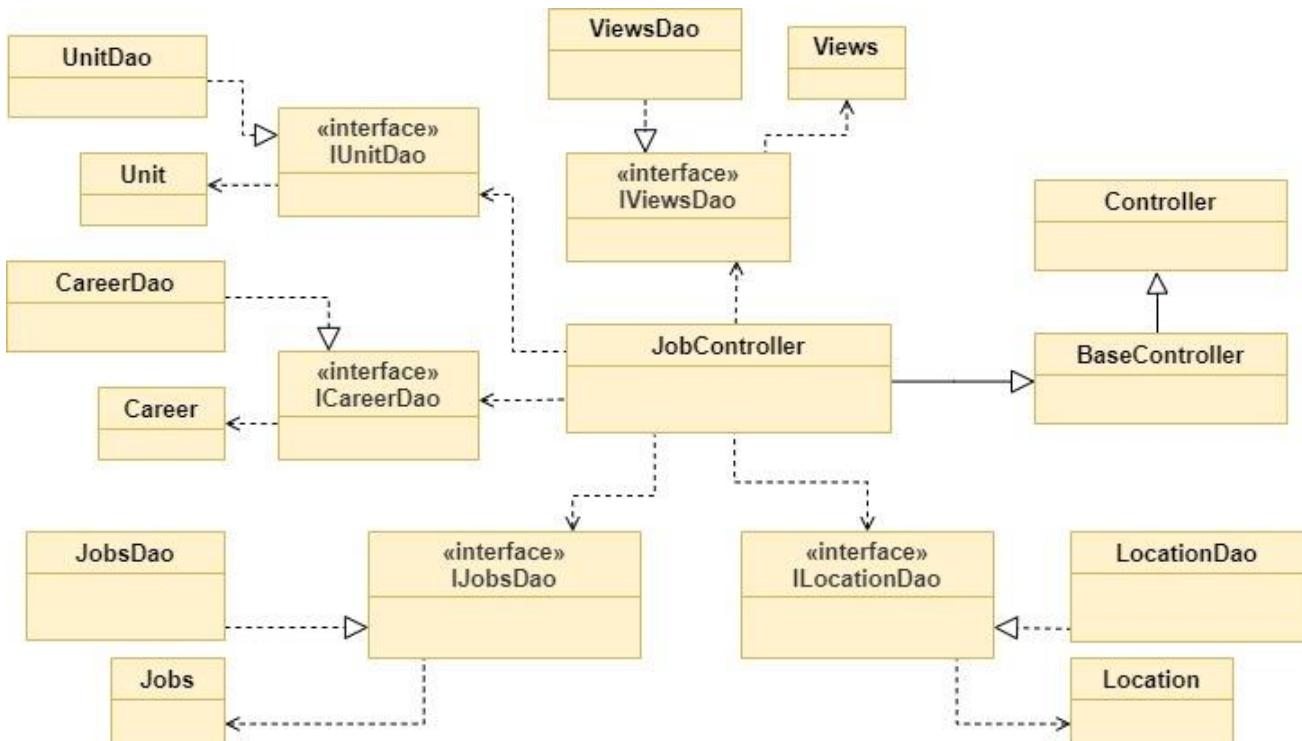


Figure 4.14 - Class diagram for UC-03 to UC-07

4. UC-08,09,10,11 (Create CV - Upload CV - Register potential candidate - Edit CV)

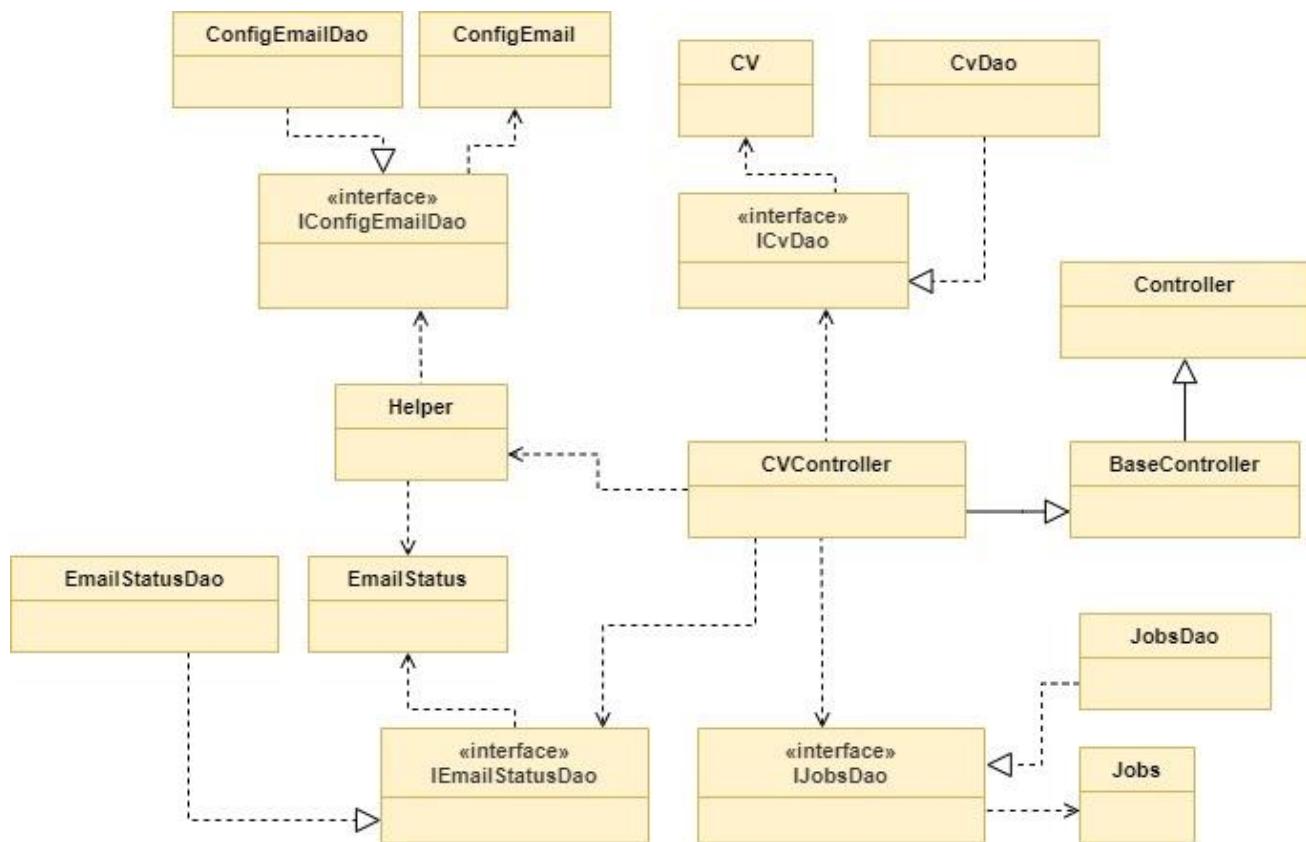


Figure 4.15 - Class diagram for UC-8 to UC-11

5. UC-12 (Take Quiz)

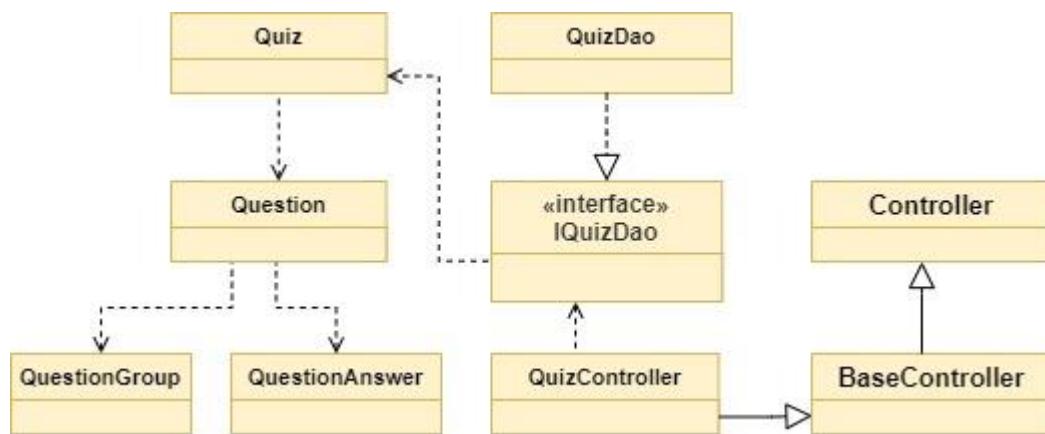


Figure 4.16 - Class diagram for UC-12

6. UC-13,14,15,16 (View all accounts – Add account – Edit account – Delete account)

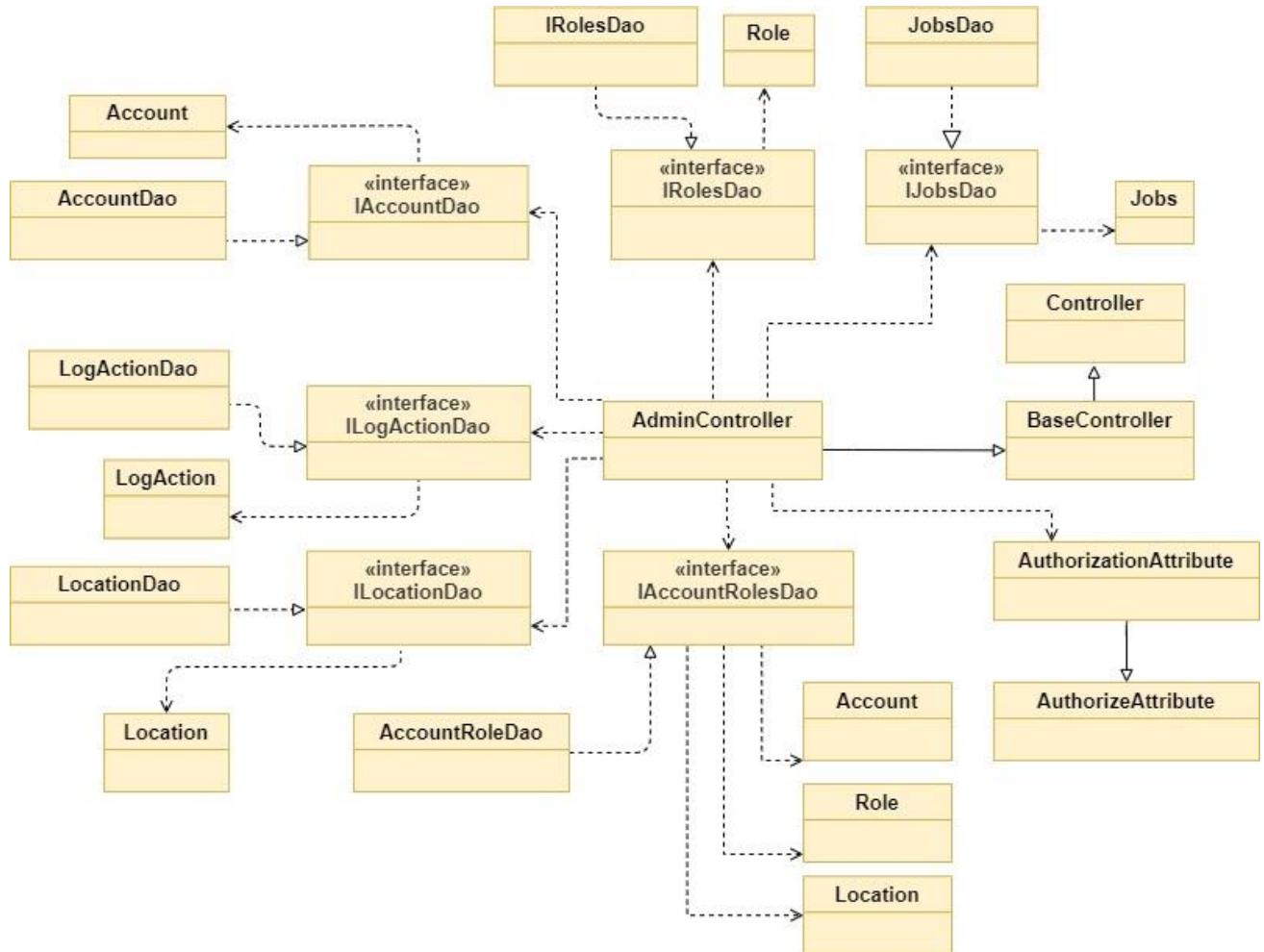


Figure 4.17 – Class diagram for UC-13 to UC-16

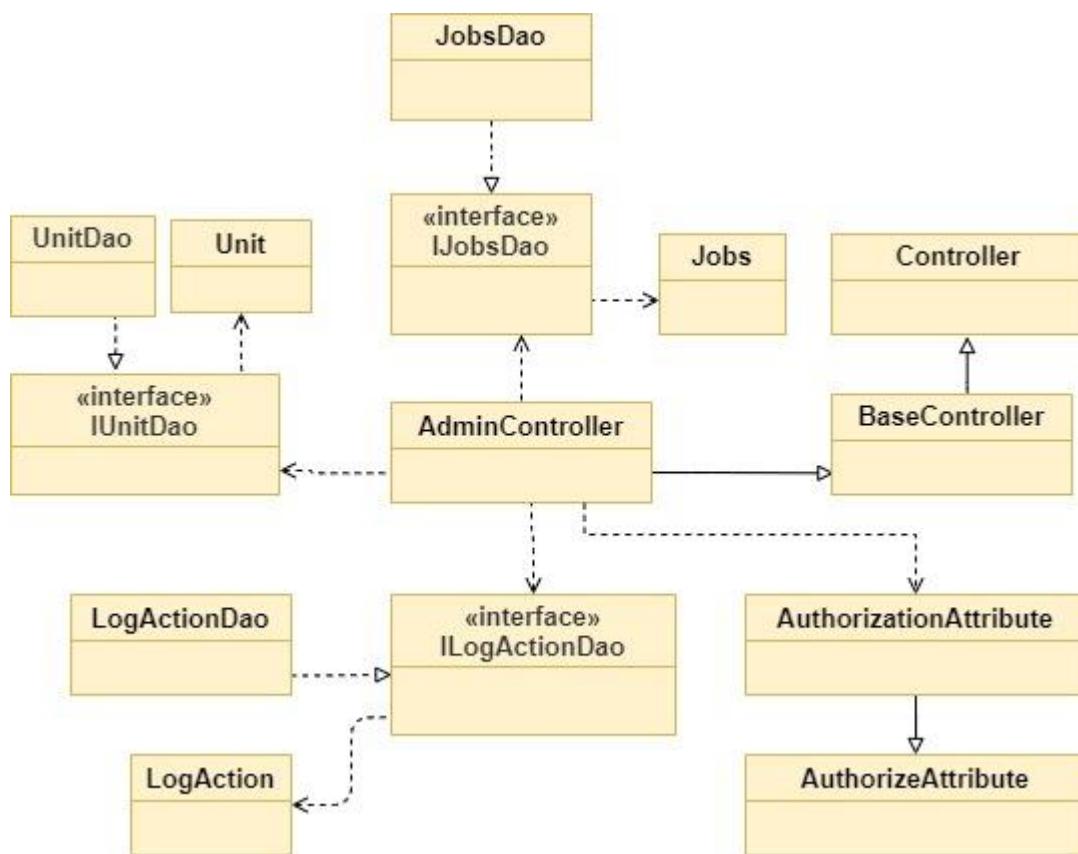
7. UC-17,18,19,20 (View all units – Add unit – Edit unit – Delete unit)

Figure 4.18 – Class diagram for UC-17 to UC-20

8. UC-21,22,23,24 (View all locations - Add location - Edit location - Delete location)

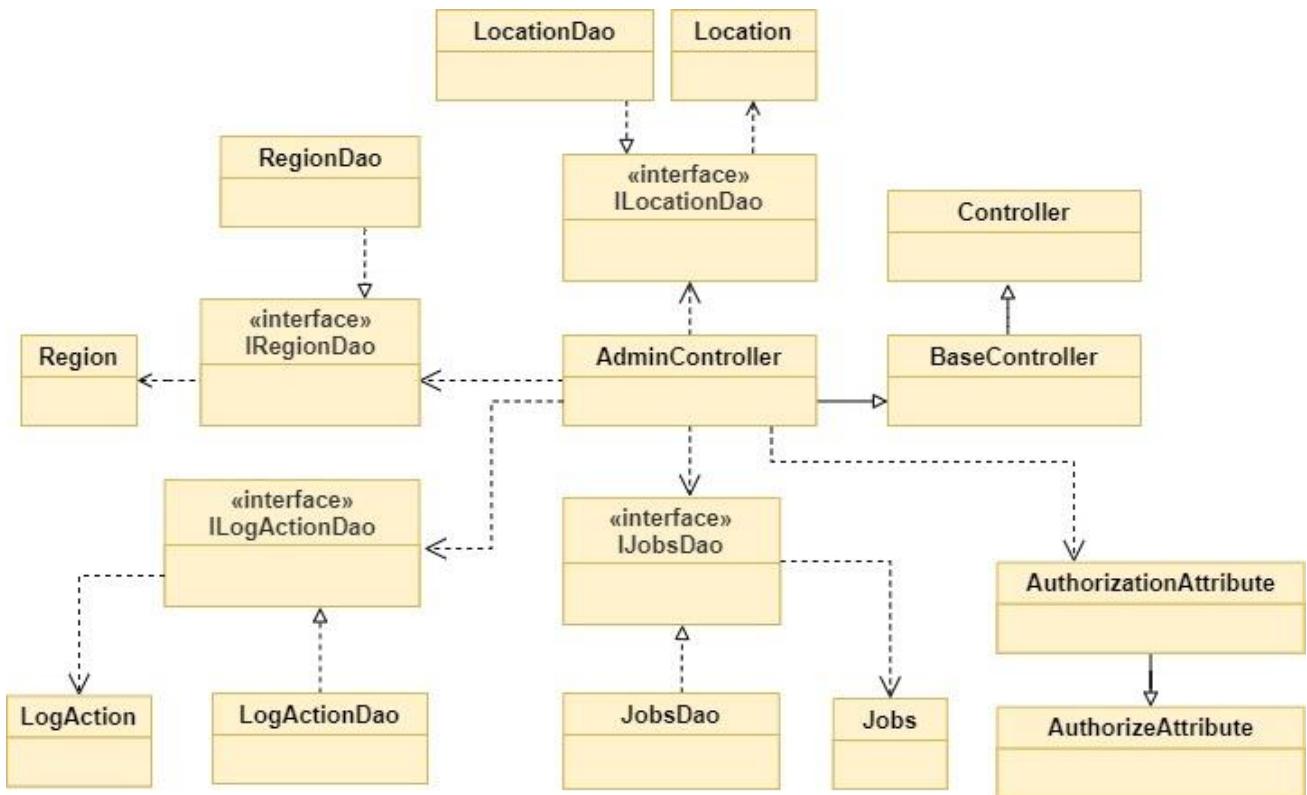


Figure 4.19 - Class diagram for UC-21 to UC-24

9. UC-25,26,27,28 (View all question groups - Add question groups - Edit question groups - Delete question groups)

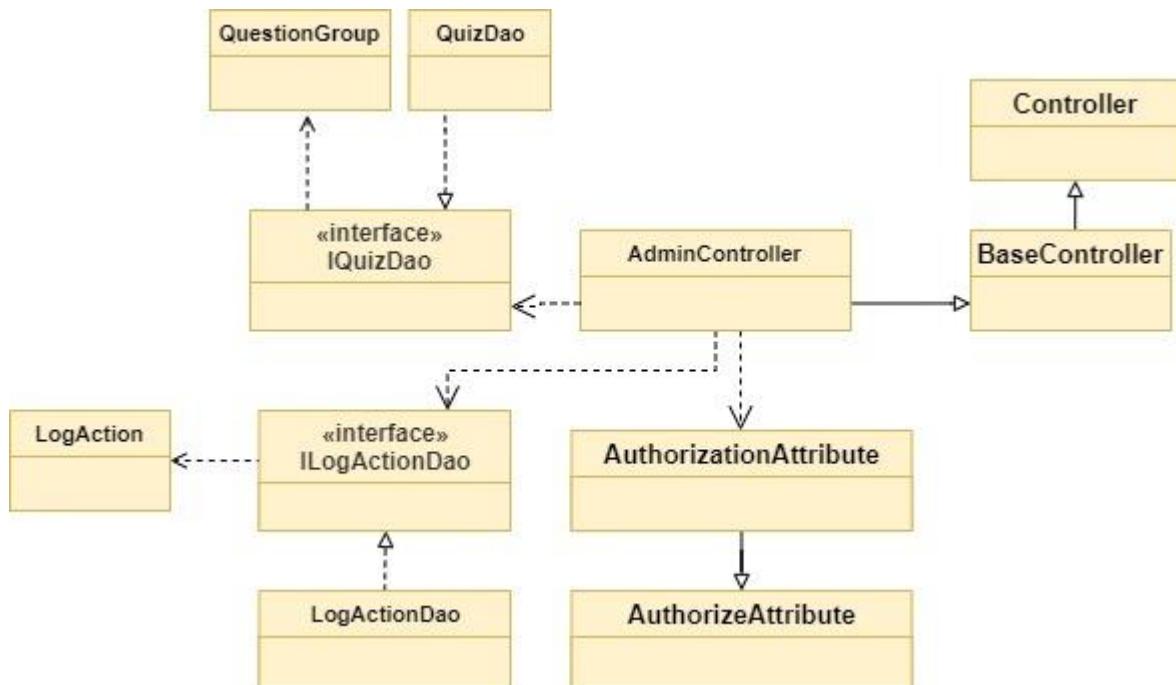


Figure 4.20 - Class diagram for UC-25 to UC-28

10. UC-29,30,31,32,33 (View all questions - Add question - Edit question - Delete question - Search question)

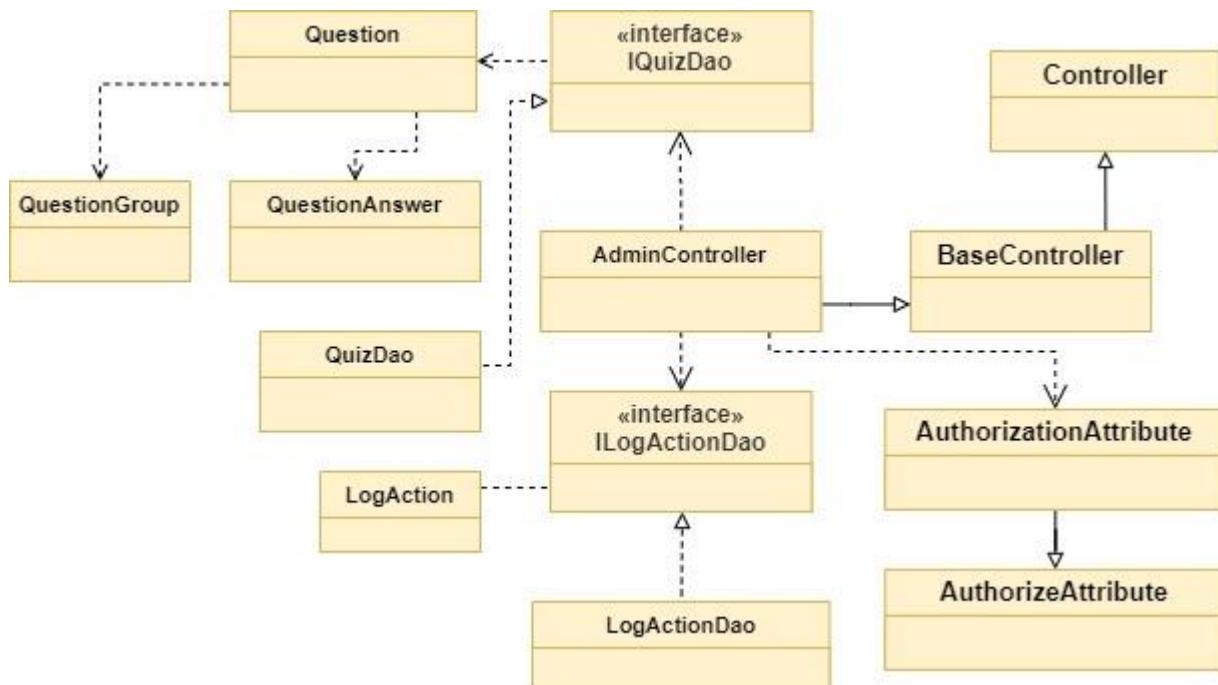


Figure 4.21 - Class diagram for UC-29 to UC-33

11. UC-34,35,36,37 (View all quizzes – Add quiz – Edit quiz – Delete quiz)

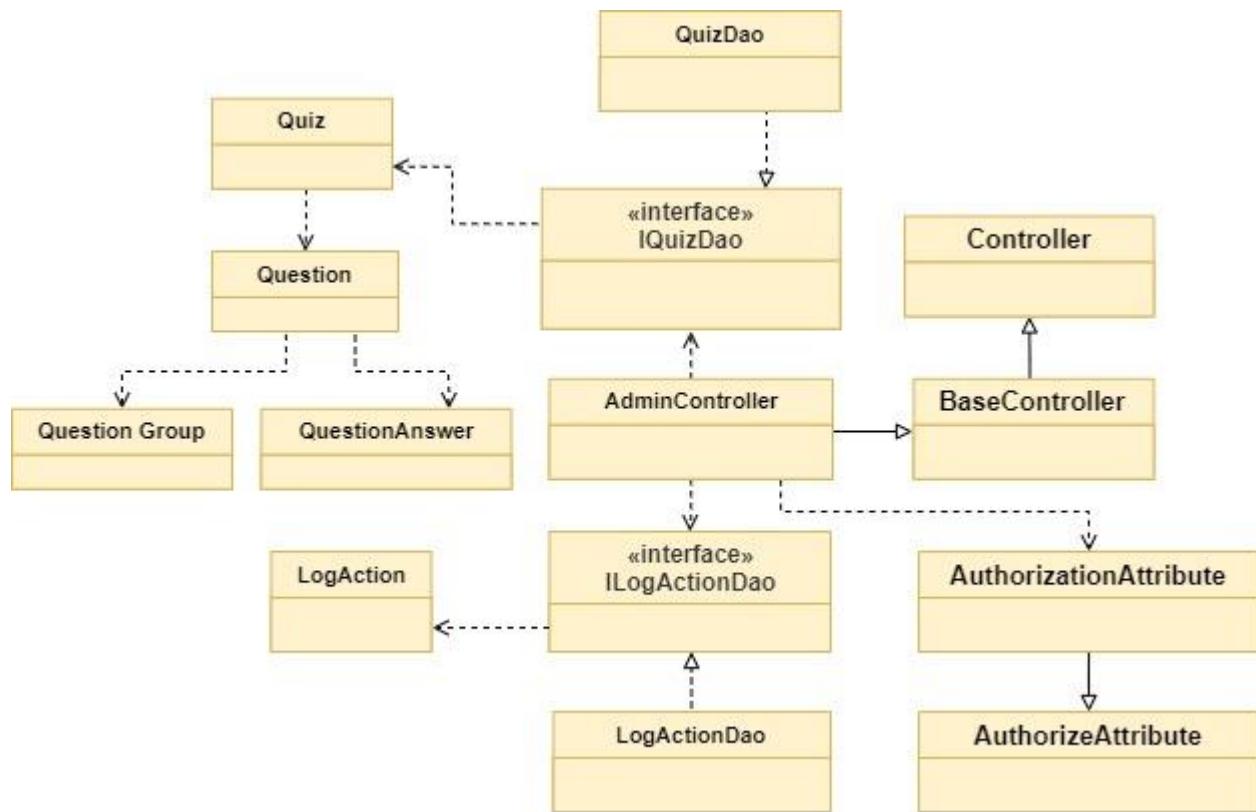


Figure 4.22 – Class diagram for UC-34 to UC-37

12. UC-38,39,40,41 (View all careers – Add career – Edit career – Delete career)

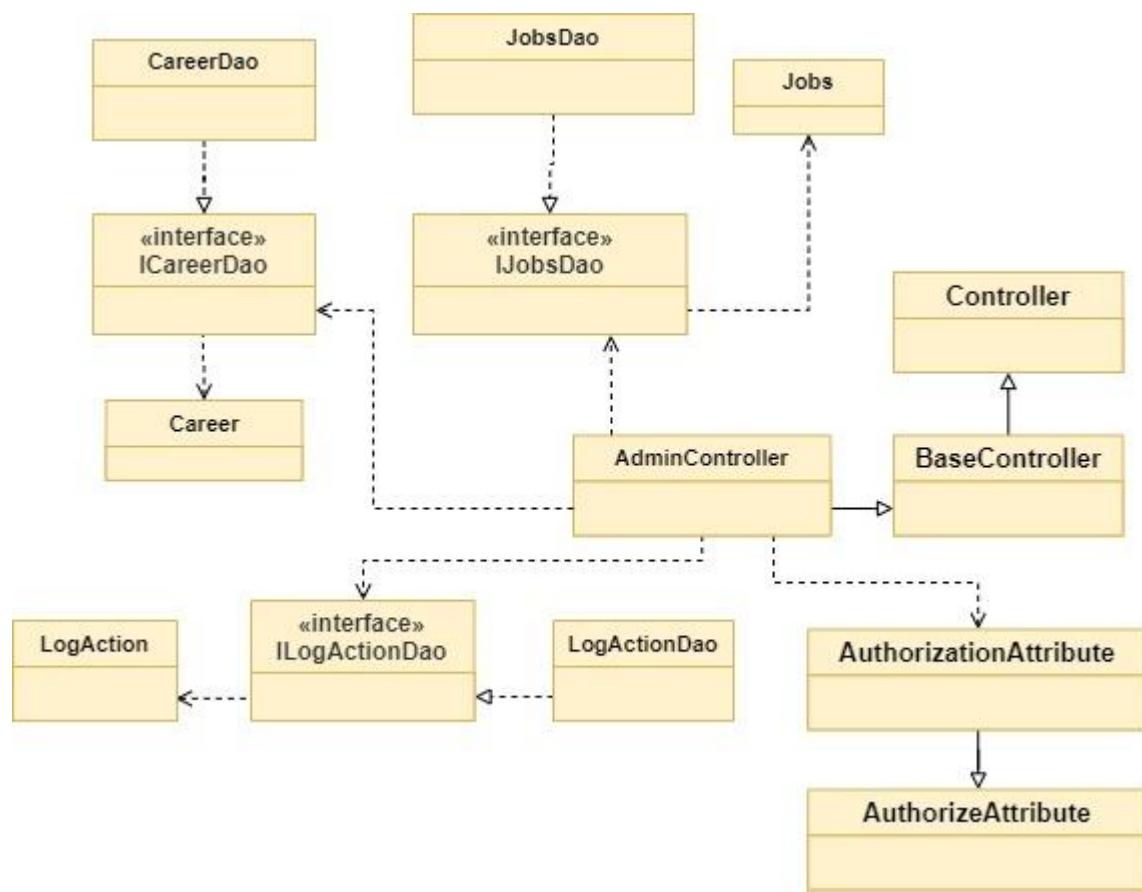


Figure 4.23 – Class diagram for UC-38 to UC-41

13. UC-42,43,44,45 (View all config emails - Add config email - Edit config email - Delete config email)

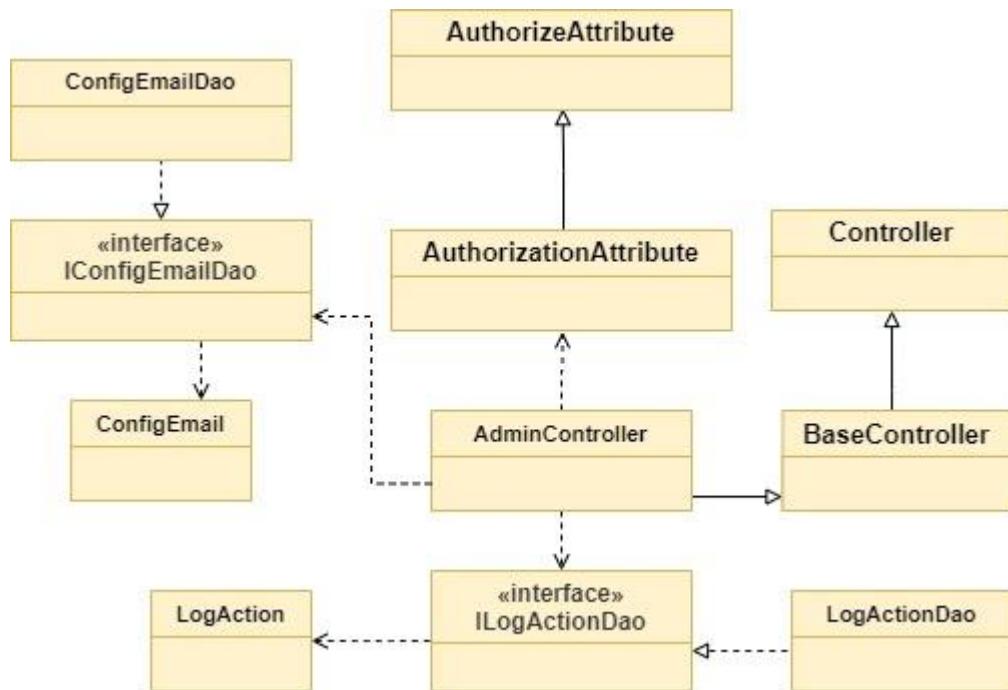


Figure 4.24 - Class diagram for UC-42 to UC-45

14. UC-46 (View log)

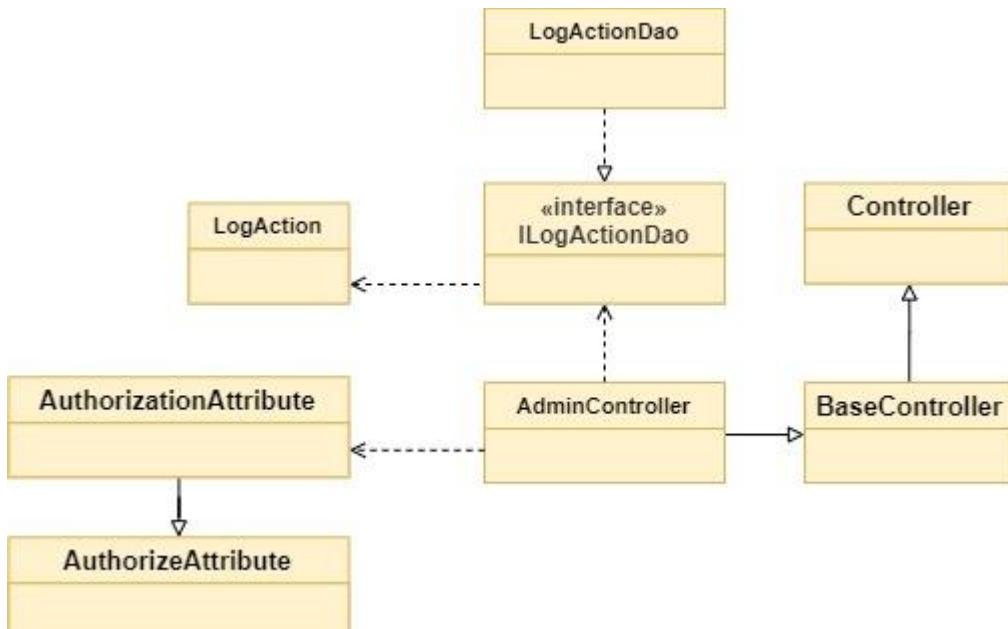


Figure 4.25 – Class diagram for UC-46

15. UC-47,48 (Login – Logout)

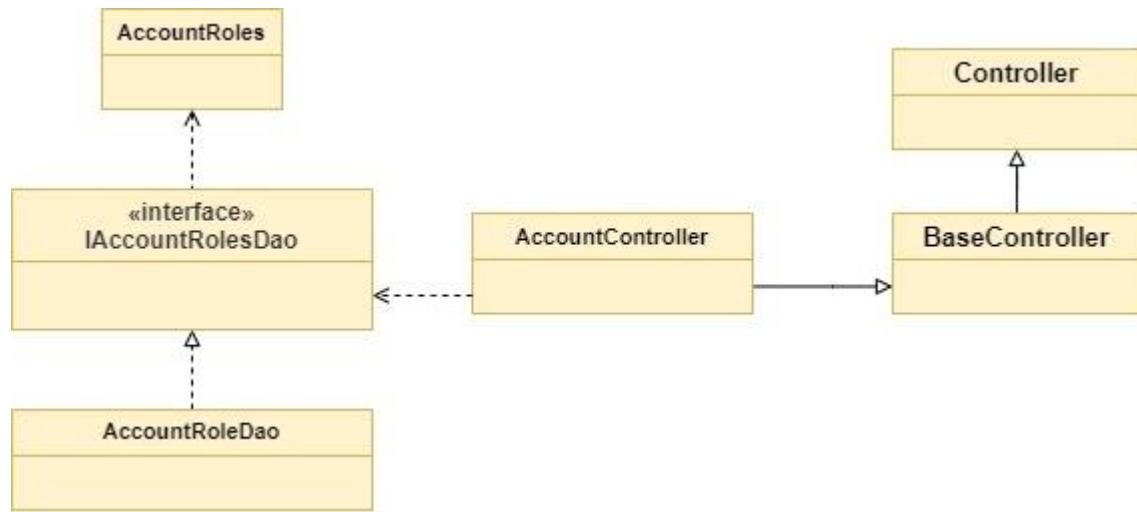


Figure 4.26 – Class diagram for UC-47 to UC-48

16. UC-49,50,51,52,53,54 (View all CVs - View detail CV - Change CV status - Search CV - Delete CV - Send email quiz)

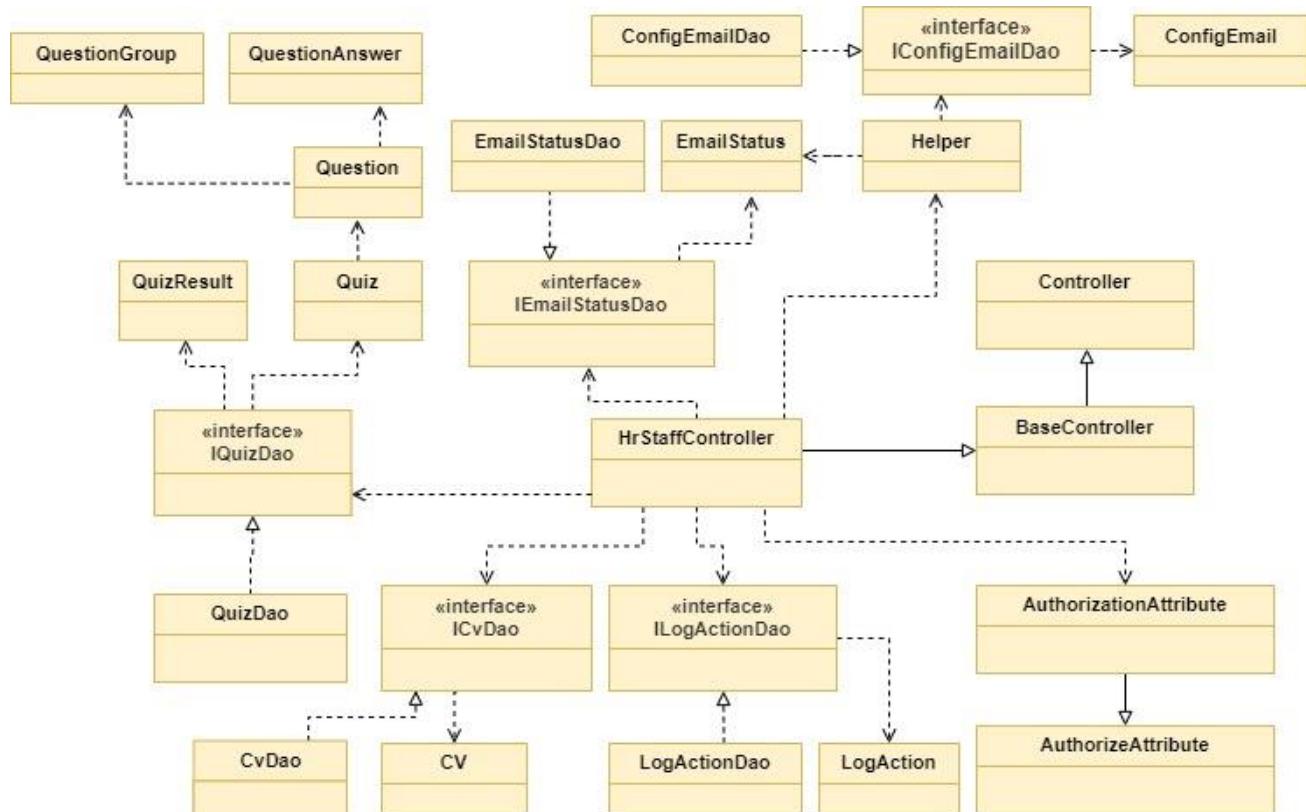


Figure 4.27 - Class diagram for UC-49 to UC-54

17. UC-55 (Export CV)

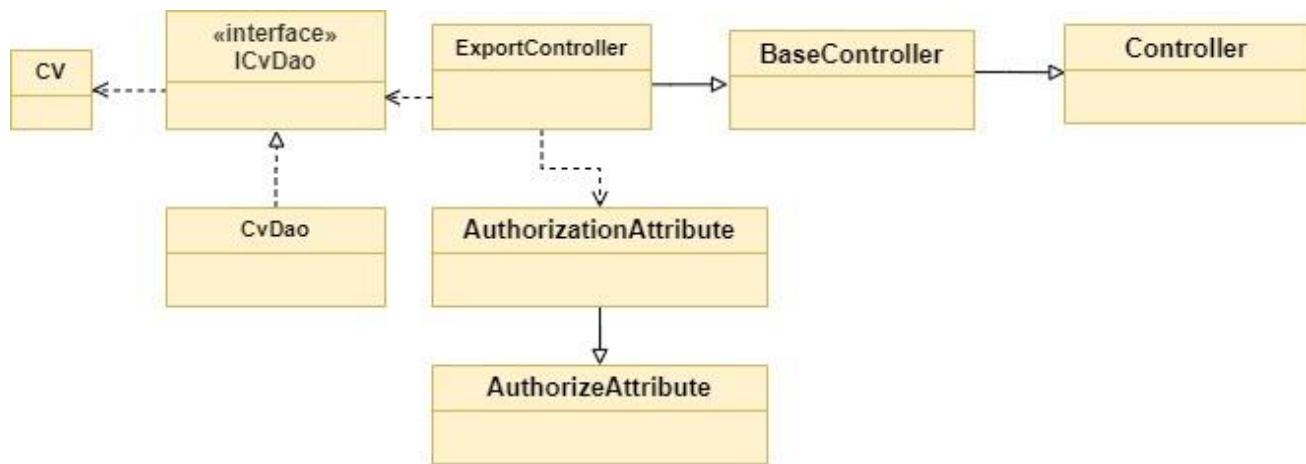


Figure 4.28 – Class diagram for UC-55

18. UC-56,57,58,59,60 (View all jobs – Add job – Edit job – Delete job – Search job in HR)

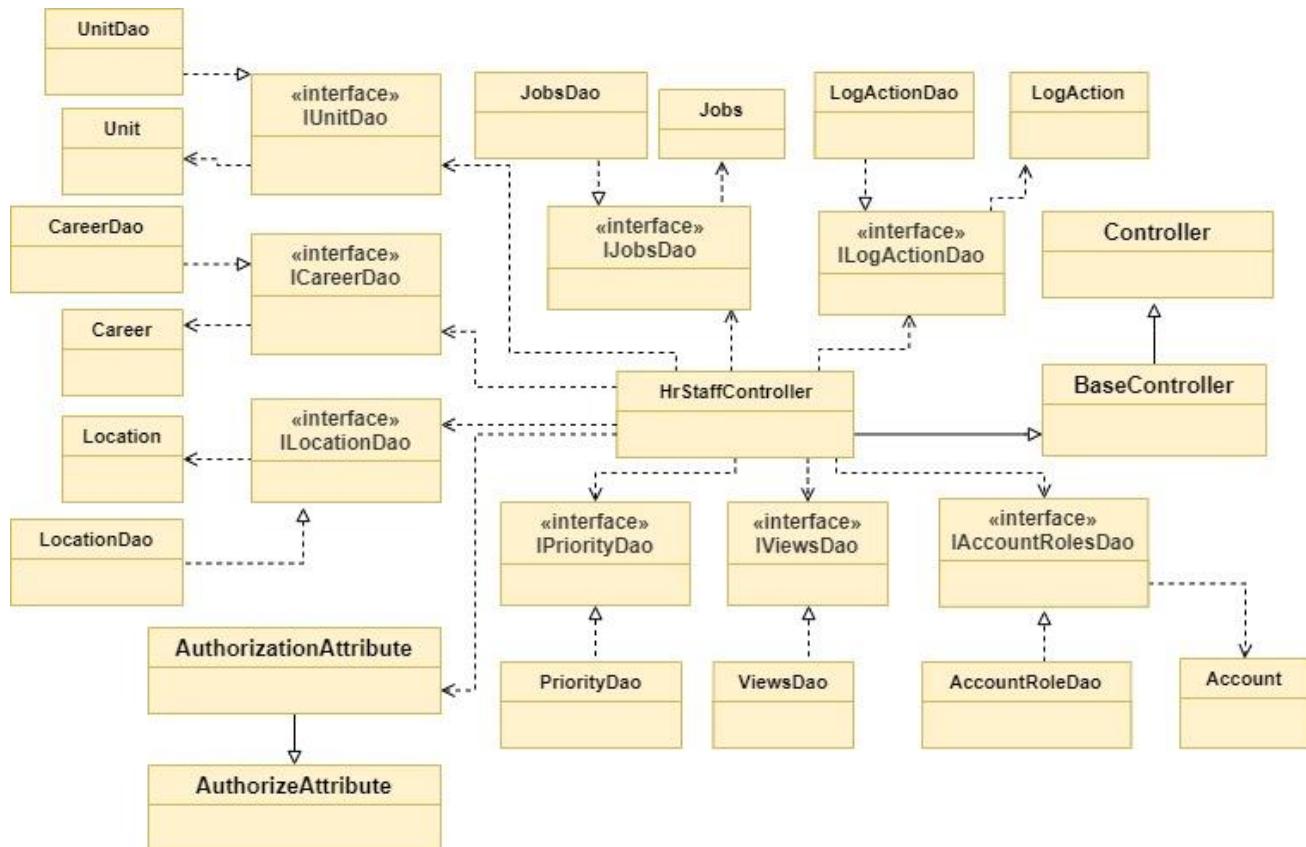


Figure 4.29 – Class diagram for UC-56 to UC-60

19. UC-61 (View list CVs applied for a job)

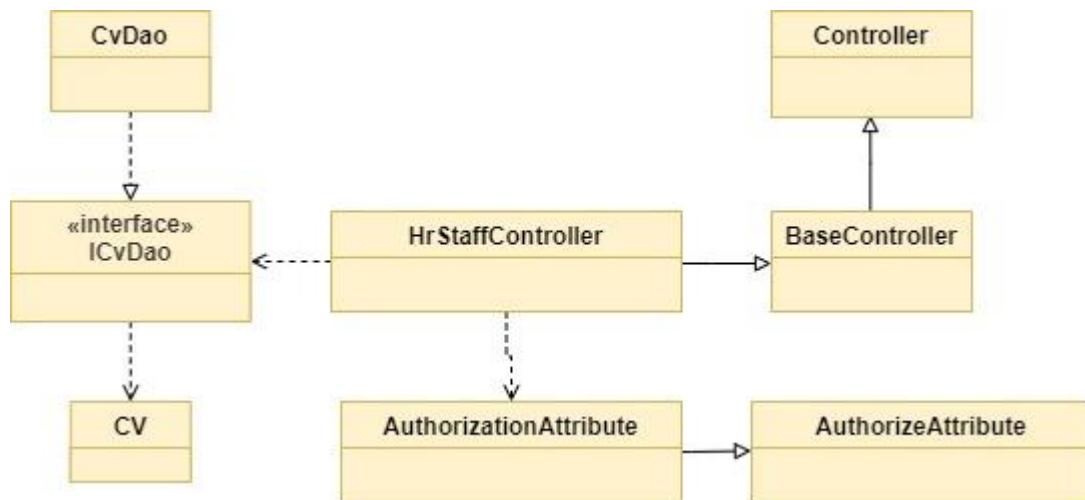


Figure 4.30 - Class diagram for UC-61

20. UC-62,63,64 (View all error emails - Resend all error email - Resend each error email)

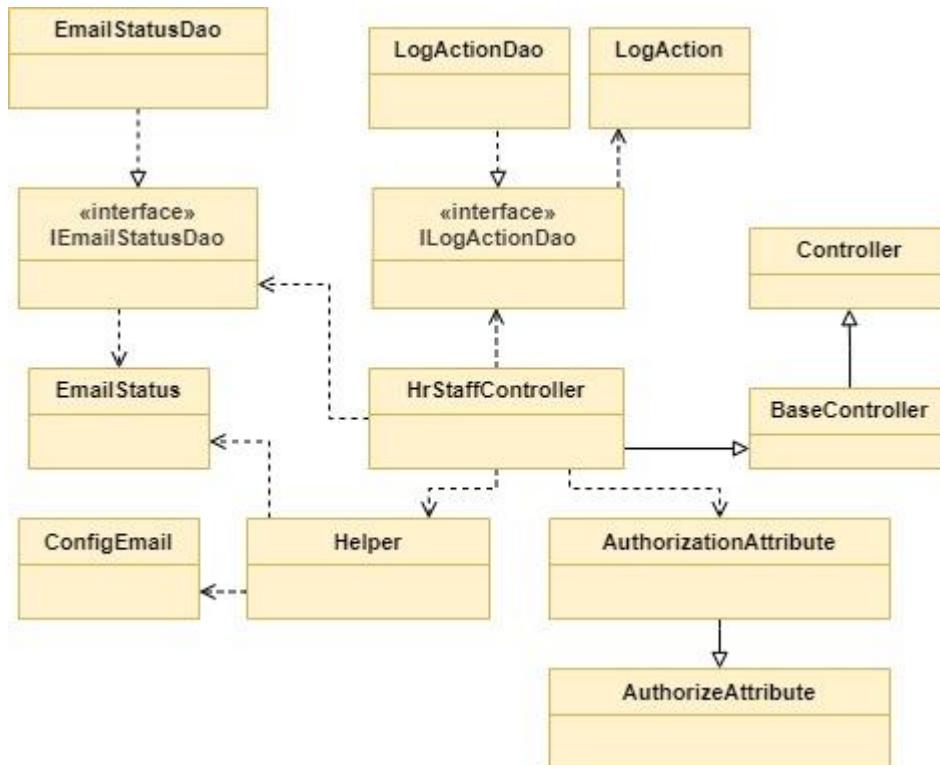


Figure 4.31 - Class diagram for UC-62 to UC-64

4.5.2. Models

1. Account

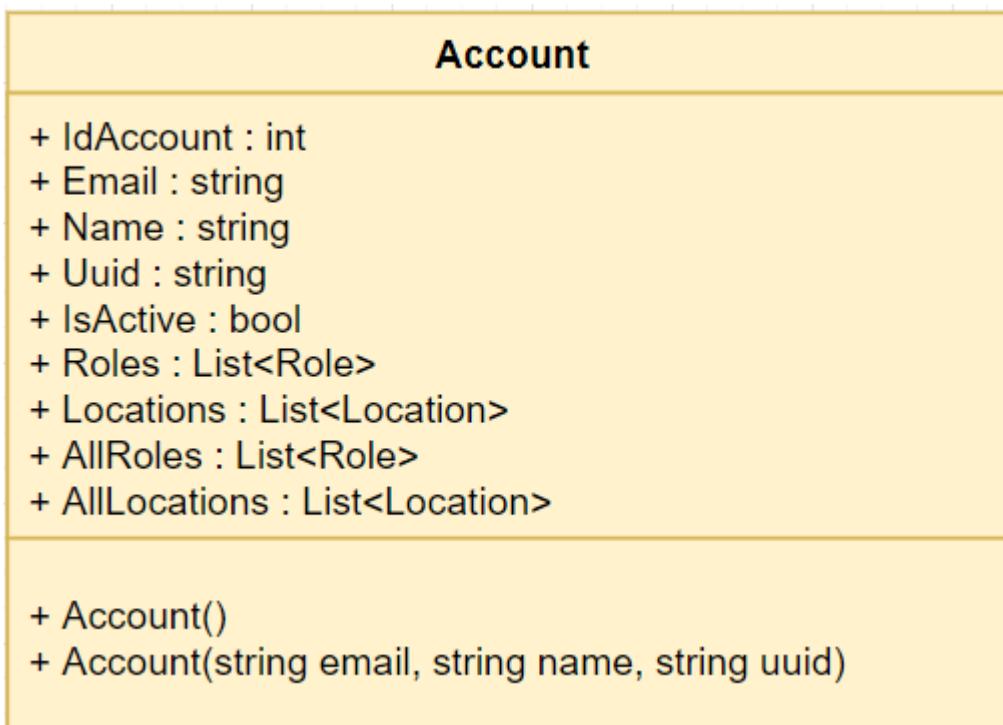


Figure 4.32 - Account model

Class specification

No	Attribute	Type	Description
01	IdAccount	int	ID of account
02	Email	string	Email of account
03	Name	string	Name of account
04	Uuid	string	Using to manage account
05	IsActive	bool	To know an account is active or disable
06	Roles	List<Role>	All roles of login account manage
07	Locations	List<Location>	All locations of login account manage
08	Roles	List<Role>	All roles of system
09	Locations	List<Location>	All locations of system

No	Method	Description
01	Account()	Default constructor
02	Account(string email, string name, string uuid)	Another constructor

Table 4.1: Account model

2. AccountRoles

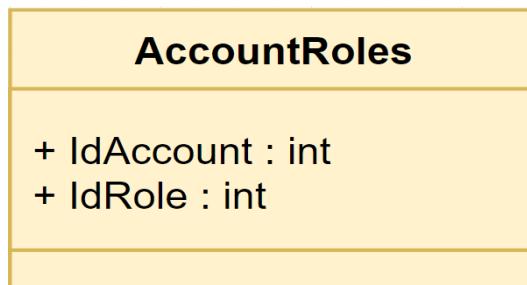


Figure 4.33 - AccountRoles model

Class specification

No	Attribute	Type	Description
01	IdAccount	int	Id of account
02	IdRole	int	Id of role

Table 4.2: Account's Role model

3. Location

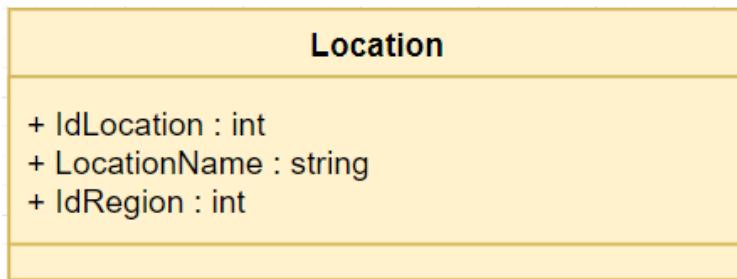


Figure 4.34 - Location model

Class specification

No	Attribute	Type	Description
01	IdLocation	int	Id of location
02	LocationName	string	Name of location
03	IdRegion	int	Id of region

Table 4.3: Location model

4. Career

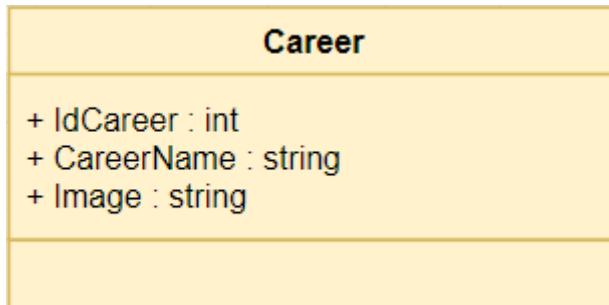


Figure 4.35 - Career model

Class specification

No	Attribute	Type	Description
01	IdCareer	int	Id of career
02	CareerName	string	Name of career
03	Image	string	Name of image to represent the career

Table 4.4: Location model

5. ConfigEmail

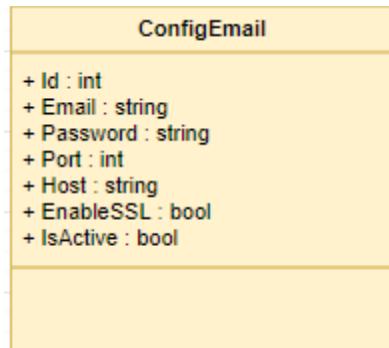


Figure 4.36 - ConfigEmail model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of config email
02	Email	string	Name of config email
03	Password	string	Password of config email
04	Port	int	Port to config send email
05	Host	string	Host to config send email
06	EnableSSL	bool	Set SSL is enable or not
07	IsActive	bool	Set config email is active or not

Table 4.5: ConfigEmail model

6. CV

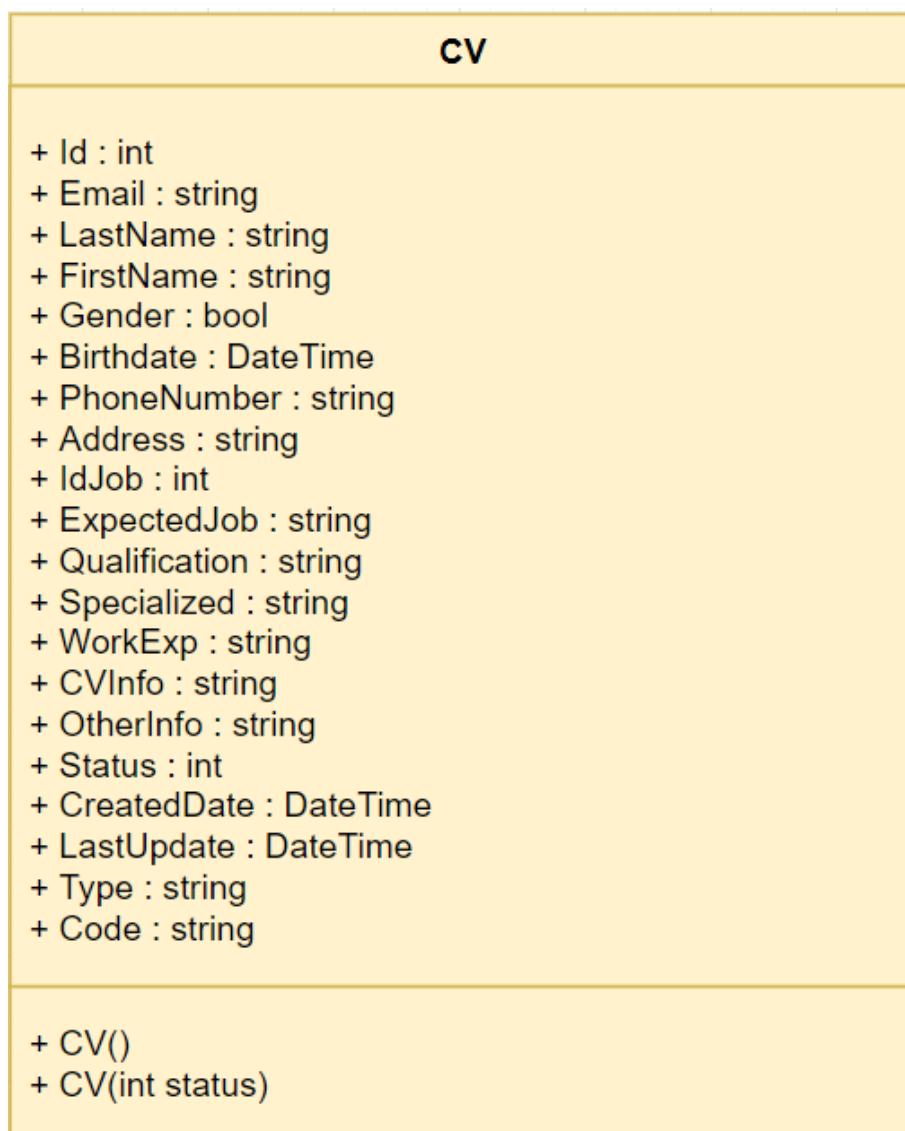


Figure 4.37 - CV model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of CV
02	Email	string	Email of candidate who send CV
03	LastName	string	Last name of candidate who send CV
04	FirstName	string	First name of candidate who send CV
05	Gender	bool	Gender of candidate who send CV
06	Birthdate	DateTime	Birthdate of candidate who send CV

07	PhoneNumber	string	Phone number of candidate who send CV
08	Address	string	Address of candidate who send CV
09	IdJob	int	Id of job candidate apply for
10	ExpectedJob	string	Expected job of candidate want to apply for
11	Qualification	string	Qualification of candidate who send CV
12	Specialized	string	Specialized of candidate who send CV
13	WorkExp	string	Work experience of candidate who send CV
14	CVInfo	string	CV of candidate
15	OtherInfo	string	Other information of candidate who send CV
16	Status	int	Status of CV : <ul style="list-style-type: none"> ● Status = 1 : “Mới” ● Status = 2 : “Đã xem” ● Status = 3 : “Cân nhắc” ● Status = 4 : “Chấp nhận” ● Else : “Tù chói”
17	CreatedDate	DateTime	Created time of CV when candidate sends CV
18	LastUpdate	DateTime	Last update time of CV when candidate edits CV
19	Type	string	Type of CV: <ul style="list-style-type: none"> ● Có CV ● Không có CV ● Đăng ký
20	Code	string	Code of CV to send link edit CV to candidate

No	Method	Description
01	CV()	Default constructor
02	CV(int status)	Another constructor

Table 4.6: CV model

7. EmailStatus

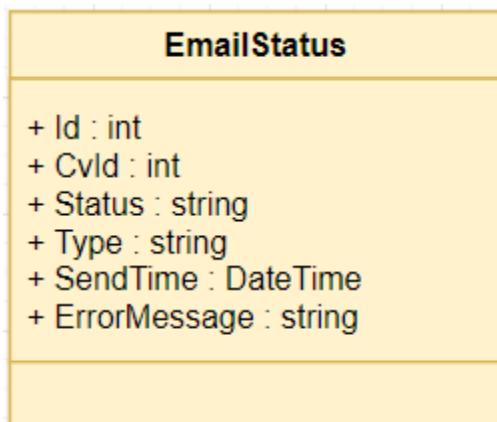


Figure 4.38 - EmailStatus model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of email status
02	CvId	int	Id of CV
03	Status	string	Status of email status <ul style="list-style-type: none"> • SUCCESS : when send email success • FAIL : when fail to send email
04	Type	string	Type of email status <ul style="list-style-type: none"> • RECEIVED : when candidate send CV • QUIZ : when HR staff send quiz
05	SendTime	DateTime	Time to send mail
06	ErrorMessage	string	Message of error when send fail

Table 4.7: EmailStatus model

8. Job

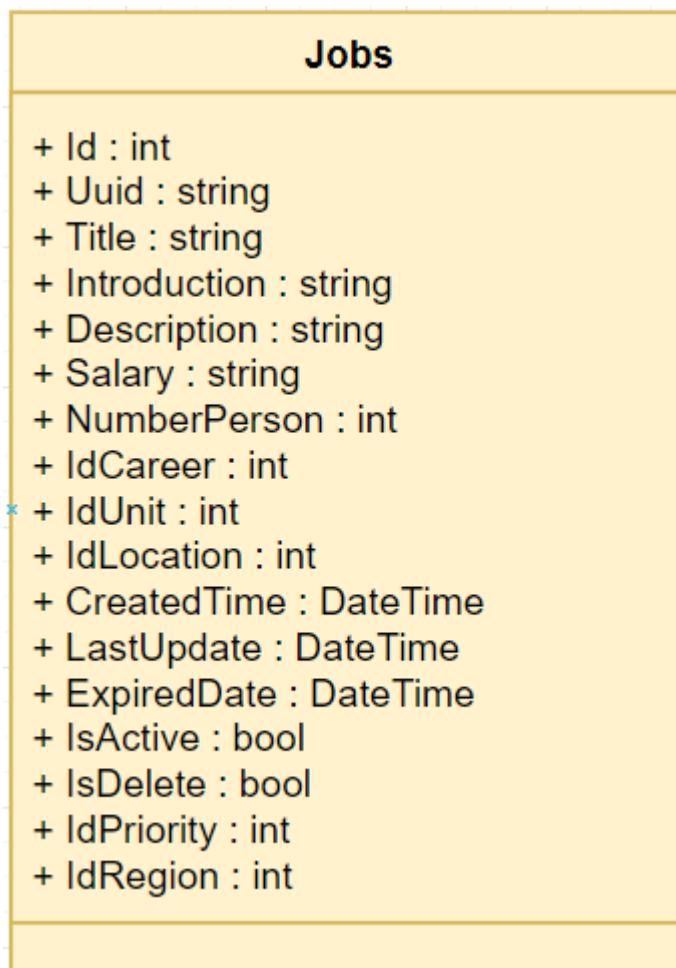


Figure 4.39 - Jobs model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of job
02	Uuid	string	Uuid of account of login user who create job
03	Title	string	Title of job
04	Introduction	string	Introduction of created job
05	Description	string	Description of created job
06	Salary	string	Salary of created job
07	NumberPerson	int	Number of candidates that HR staff want to recruit
08	IdCareer	int	Id of career (Type career of job)

09	IdUnit	int	Id of unit (Type unit of job)
10	IdLocation	int	Id of location (Location of job)
11	CreatedTime	DateTime	Time when job is created
12	LastUpdate	DateTime	Time of job when HR staff update
13	ExpiredDate	DateTime	Expiry time of job
14	IsActive	bool	To know job is showed or not
15	IsDelete	bool	To know job was deleted or not
16	IdPriority	int	Priority of created job
17	IdRegion	int	Region of created job

Table 4.8: Job model

9. LogAction

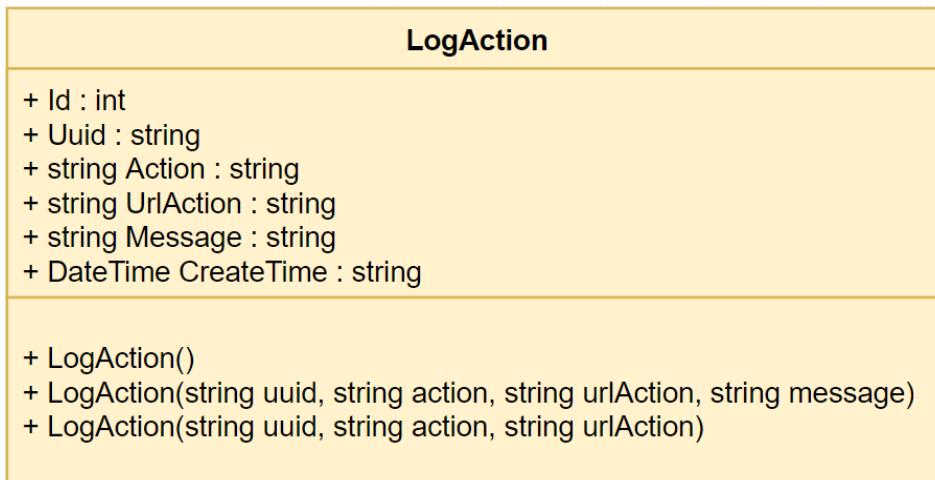


Figure 4.40 - LogAction model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of log action
02	Uuid	string	Uuid of account of login user who do action
03	Action	string	Name of action
04	UrlAction	string	Url of screen when user do action

05	Message	string	Description of action
06	CreateTime	DateTime	Time when user do action

Table 4.9: LogAction model

10. Priority

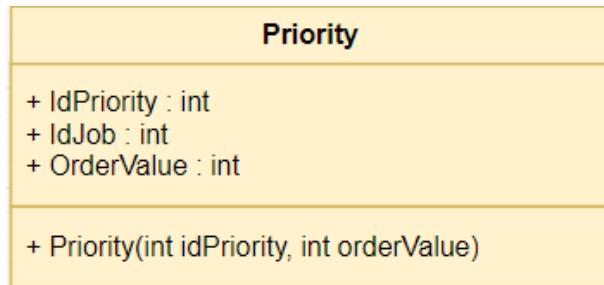


Figure 4.41 - Priority model

Class specification

No	Attribute	Type	Description
01	Id	int	Id of priority
02	IdJob	string	Id of job which want to prioritize
03	OrderValue	int	Order value to prioritize, min is 1 and max is 3

Table 4.10: Priority model

11. Question

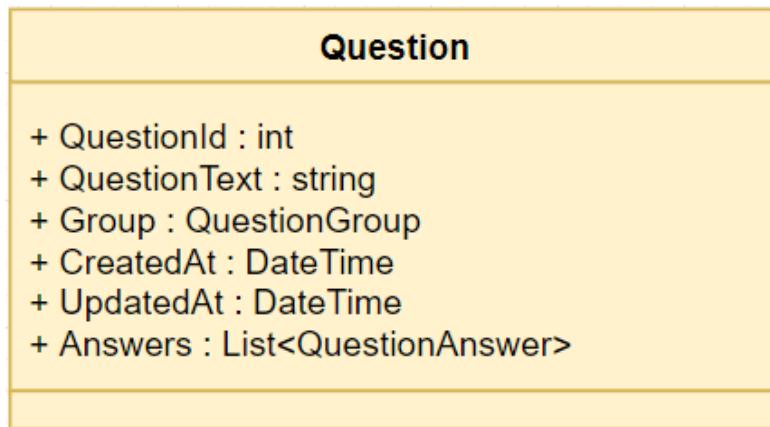


Figure 4.42 - Question model

Class specification

No	Attribute	Type	Description
01	QuestionId	int	Id of question
02	QuestionText	string	Text of question
03	Group	QuestionGroup	Group of question
04	CreatedAt	DateTime	Time when question was created
05	UpdatedAt	DateTime	Time when question was updated
06	Answers	List<QuestionAnswer>	List answers of question

Table 4.11: Question model

12. QuestionAnswer

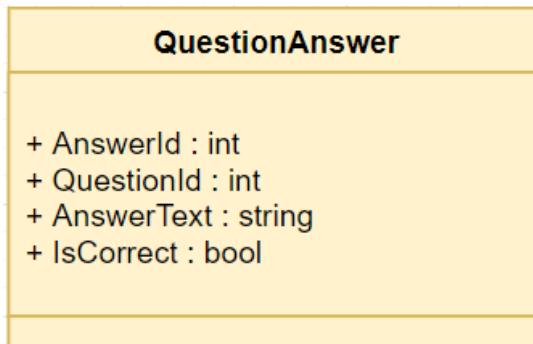


Figure 4.43 - QuestionAnswer model

Class specification

No	Attribute	Type	Description
01	AnswerId	int	Id of answer
02	QuestionId	int	Id of question that answer belong to
03	AnswerText	string	Text of answer
04	IsCorrect	bool	To now this is correct answer or not

Table 4.12: QuestionAnswer model

13. QuestionGroup

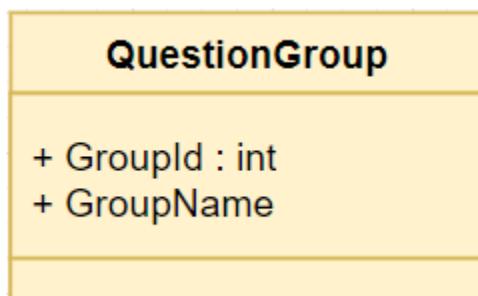


Figure 4.44 - QuestionGroup model

Class specification

No	Attribute	Type	Description
01	GroupId	int	Id of group question
02	GroupName	int	Name of group question

Table 4.13: QuestionGroup model

14. Quiz

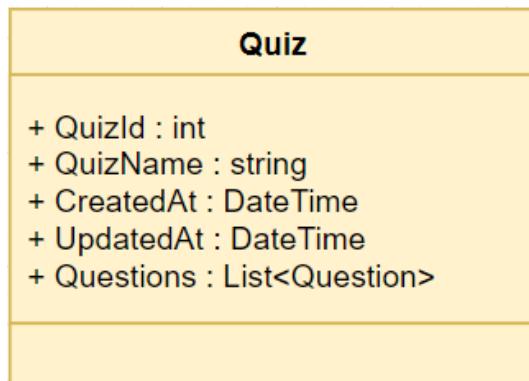


Figure 4.45 - Quiz model

Class specification

No	Attribute	Type	Description
01	QuizId	int	Id of quiz
02	QuizName	string	Name of quiz
03	CreatedAt	DateTime	Time when quiz was created
04	UpdatedAt	DateTime	Time when quiz was updated

05	Questions	List<Question>	List questions of quiz
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Table 4.14: Quiz model

15. QuizResult

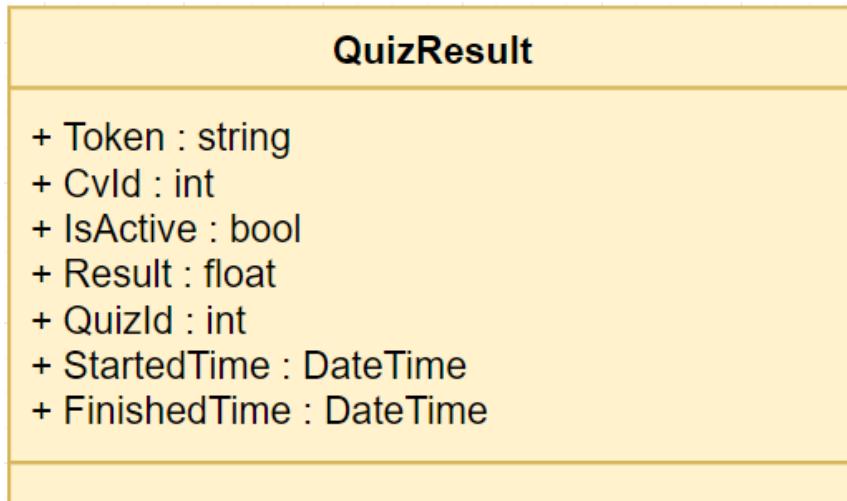


Figure 4.46 - QuizResult model

Class specification

No	Attribute	Type	Description
01	Token	string	Token to distinguish between quizzes of candidate
02	CvId	int	Id of CV
03	IsActive	bool	To know candidate did quiz or not
04	Result	float	Scores of candidate after did quiz
05	QuizId	int	Id of quiz
06	StartTime	DateTime	Time when candidate start to do quiz
07	FinishTime	DateTime	Time when candidate finish the quiz

Table 4.14: QuizResult model

16. Region

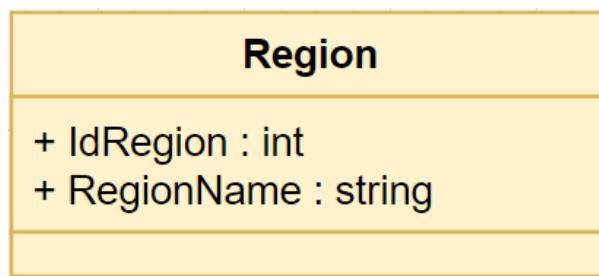


Figure 4.47 - Region model

Class specification

No	Attribute	Type	Description
01	IdRegion	int	Id of region
02	RegionName	string	Name of region

Table 4.15: Region model

17. Role

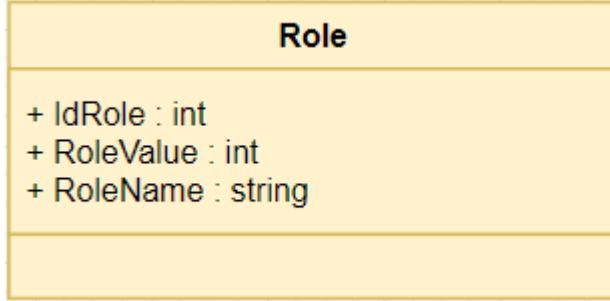


Figure 4.48 - Role model

Class specification

No	Attribute	Type	Description
01	IdRole	int	Id of role
02	RoleValue	int	Value of role
03	RoleName	string	Name of role

Table 4.16: Role model

18. Unit

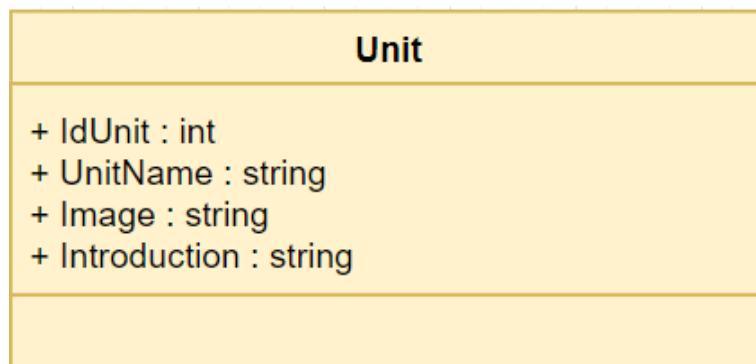


Figure 4.49 - Unit model

Class specification

No	Attribute	Type	Description
01	IdUnit	int	Id of Unit
02	UnitName	string	Name of unit
03	Introduction	string	Introduce about unit

Table 4.17: Role model

19. View



Figure 4.50 - Views model

Class specification

No	Attribute	Type	Description
01	IdView	int	Id of view
02	IdJob	int	Id of job has candidate view
03	TrackedTime	DateTime	Time when candidate view job

Table 4.18: Role model

4.5.3. DAO

1. AccountDao

AccountDao
<ul style="list-style-type: none"> + GetAllAccount() : List<Account> + InsertNewAccount(Account acc) : int + GetInfoAccount(int id) : Account + UpdateAccount(Account acc) : int + DeleteAccount(int id) : int

Figure 4.51 - AccountDao

Class specification

No	Method	Description
01	GetAllAccount()	Get all account in system
02	InsertNewAccount(Account acc)	Create a new account into system
03	GetInfoAccount(int id)	Get all information of an account
04	UpdateAccount(Account acc)	Edit information of an account
05	DeleteAccount(int id)	Delete an account in system

Table 4.19: AccountDao

2. AccountRolesDao

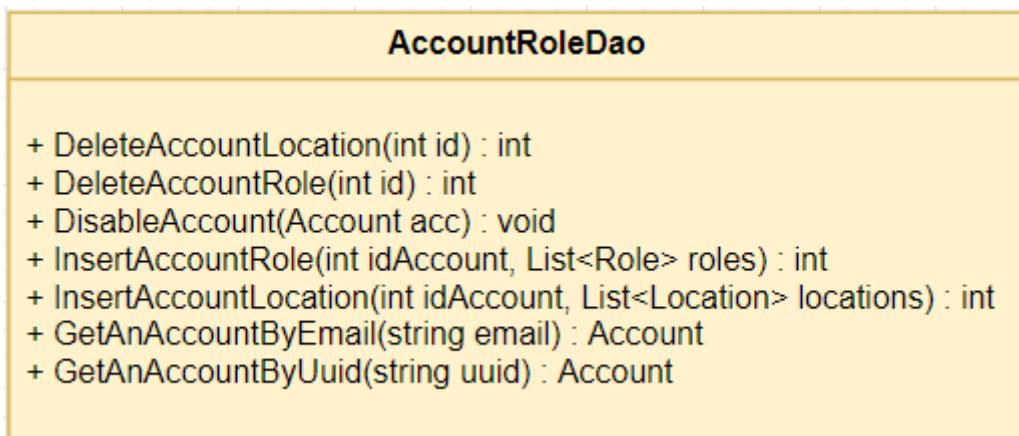


Figure 4.52 - AccountRoleDao

Class specification

No	Method	Description
01	DeleteAccountLocation(int id)	Delete locations of an account
02	DeleteAccountRole(int id)	Delete roles of an account
03	DisableAccount(Account acc)	Disable an account in system
04	InsertAccountRole(int idAccount, List<Role>)	Add roles for an account
05	InsertAccountLocation(int idAccount, List<Location>)	Add locations for an account
06	GetAnAccountByEmail(string email)	Get an account from system by email
07	GetAnAccountByUuid(string uuid)	Get an account from system by uuid

Table 4.20: AccountRoleDao

3. CareerDao

CareerDao
<ul style="list-style-type: none"> + GetCareer(int idCareer) : Career + GetAllCareers() : List<Career> + GetAllCareerJobActive() : List<Career> + InsertNewCareer(Career career) : int + UpdateCareer(Career career) : int + DeleteAnCareer(int idCareer) : int

Figure 4.53 - CareerDao

Class specification

No	Method	Description
01	GetCareer(int idCareer)	Get information of a career
02	GetAllCareers()	Get all career in system
03	GetAllCareerJobActive()	Get all career of jobs which are active
04	InsertNewCareer(Career career)	Create a new career into system
05	UpdateCareer(Career career)	Update a career in system
06	DeleteAnCareer(int idCareer)	Delete a career in system

Table 4.21: CareerDao

4. ConfigEmail

ConfigEmailDao
<ul style="list-style-type: none"> + GetEmail(int id) : ConfigEmail + GetEmailActive() : ConfigEmail + GetAllConfigEmails() : List<ConfigEmail> + InsertNewConfigEmail(ConfigEmail email) : int + UpdateConfigEmail(ConfigEmail email) : int + DeleteConfigEmail(int id) : int

Figure 4.54 - ConfigEmailDao

Class specification

No	Method	Description
01	GetEmail(int id)	Get an email config in system
02	GetEmailActive()	Get an email config is active in system which is used to send email to candidate
03	GetAllConfigEmails()	Get all emails config in system
04	InsertNewConfigEmail(ConfigEmail email)	Create an new email config into system
05	UpdateConfigEmail(ConfigEmail email)	Edit an email config in system
06	DeleteConfigEmail(int id)	Delete an email config in system

Table 4.22: ConfigEmailDao

5. CVDao

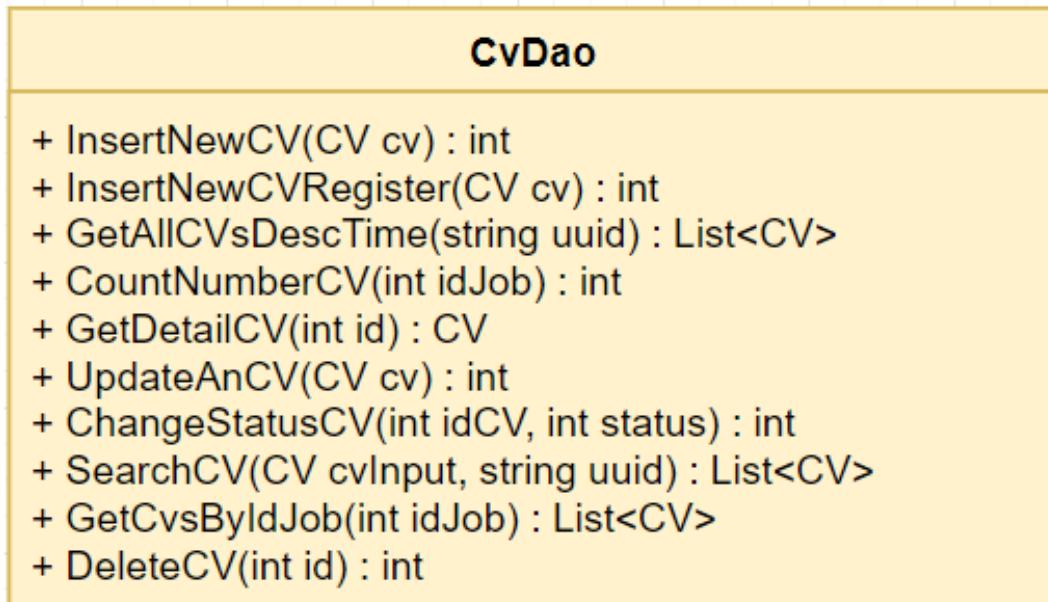


Figure 4.55 - CVDao

Class specification

No	Method	Description
01	InsertNewCV(CV cv)	Create a new CV when candidate apply job
02	InsertNewCVRegister(CV cv)	Create a new CV when candidate register potential candidate
03	GetAllCVsDescTime(string uuid)	Get all CV are managed by login account
04	CountNumberCV(int idJob)	Count number of CVs were apply for a job
05	GetDetailCV(int id)	Get detail of a CV
06	UpdateAnCV(CV cv)	Edit an CV
07	ChangeStatusCV(int idCV, int status)	Change status of CV <ul style="list-style-type: none"> • Status = 1 : Mới • Status = 2 : Đã xem • Status = 3 : Cân nhắc • Status = 4 : Chấp nhận • Else : Từ chối
08	SearchCV(CV cvInput, string uuid)	Search CV base on information input
09	GetCvsByIdJob(int idJob, string uuid)	Get all CVs were applied for a job
10	DeleteCV(int id)	Delete a CV in system

Table 4.23: CVDao

6. EmailStatusDao

EmailStatusDao
<ul style="list-style-type: none"> + GetAllEmailStatusError() : List<EmailStatus> + GetAnEmailStatus(int id) : EmailStatus + InsertNewEmailStatus(EmailStatus email) : int + UpdateSuccessEmailStatus(int id) : int

Figure 4.56 – EmailStatusDao

Class specification

No	Method	Description
01	GetAllEmailStatusError()	Get all emails which were error send to candidate
02	GetAnEmailStatus(int id)	Get an email was send in system
03	InsertNewEmailStatus(EmailStatus email)	Insert a new email when system send to candidate
04	UpdateSuccessEmailStatus(int id)	Update email was resent success in system

Table 4.24: EmailStatusDao

7. JobsDao

JobsDao
<ul style="list-style-type: none"> + GetDetailJob(int id) : Jobs + GetListJobByRegion(int numRecord, int regionId) : List<Jobs> + GetAllActiveJob() : List<Jobs> + SearchJob(Jobs job, bool isHrStaff, string uuid) : List<Jobs> + InsertNewJob(Jobs job) : int + GetAllJobs() : List<Jobs> + GetJobsByAccount(string uuid) : List<Jobs> + DeleteJob(int id) : int + UpdateJob(Jobs job) : int + GetJobsByIdLocation(int idLocation) : List<Jobs> + GetJobsByIdUnit(int idUnit) : List<Jobs> + GetJobsByIdCareer(int idCareer) : List<Jobs> + GetJobsByUuid(string uuid) : List<Jobs>

Figure 4.57 – JobsDao

Class specification

No	Method	Description
01	GetDetailJob(int id)	Get detail information of job
02	GetListJobByRegion(int numRecord, int regionId)	Get list job by a region
03	GetAllActiveJob()	Get all jobs is active in system
04	SearchJob(Jobs job, bool isHrStaff, string uuid)	Candidates search jobs with conditions of input, but HR staff just search jobs which are managed by HR staff and based on location.
05	InsertNewJob(Jobs job)	Create a new job into system
06	GetAllJobs()	Get all jobs in system
07	GetJobsByAccount(string uuid)	Get all job were created and managed by login account
08	GetJobsByUuid(string uuid)	Get all jobs were created by login account
09	DeleteJob(int id)	Delete a job in system
10	UpdateJob(Jobs job)	Edit a job in system
11	GetJobsByIdLocation(int idLocation)	Get all job of a location
12	GetJobsByIdUnit(int idUnit)	Get all jobs of an unit
13	GetJobsByIdCareer(int idCareer)	Get all jobs of a career

Table 4.25: JobsDao

8. ***LocationDao***

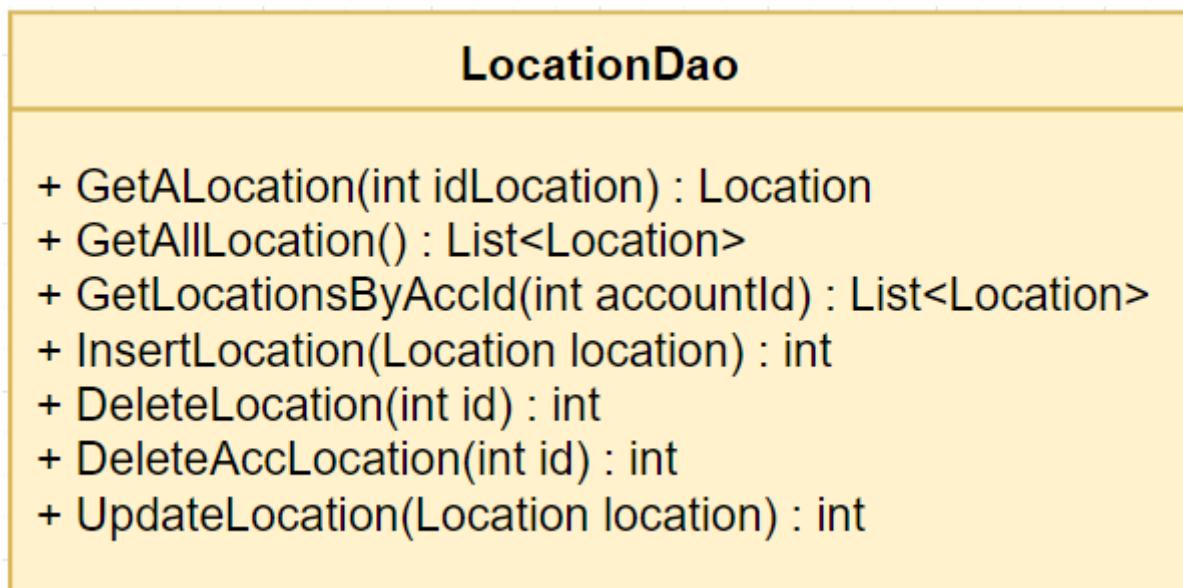


Figure 4.58 - *LocationDao*

Class specification

No	Method	Description
01	GetALocation(int idLocation)	Get information of a location in system
02	GetAllLocation()	Get all locations in system
03	GetLocationsByAccId(int accountId)	Get all locations are managed by an account
04	InsertLocation(Location location)	Create a location into system
05	DeleteLocation(int id)	Delete a location in system
06	DeleteAccLocation(int id)	Delete all account's location management right
07	UpdateLocation(Location location)	Edit a location in system

Table 4.26: *LocationDao*

9. LogActionDao

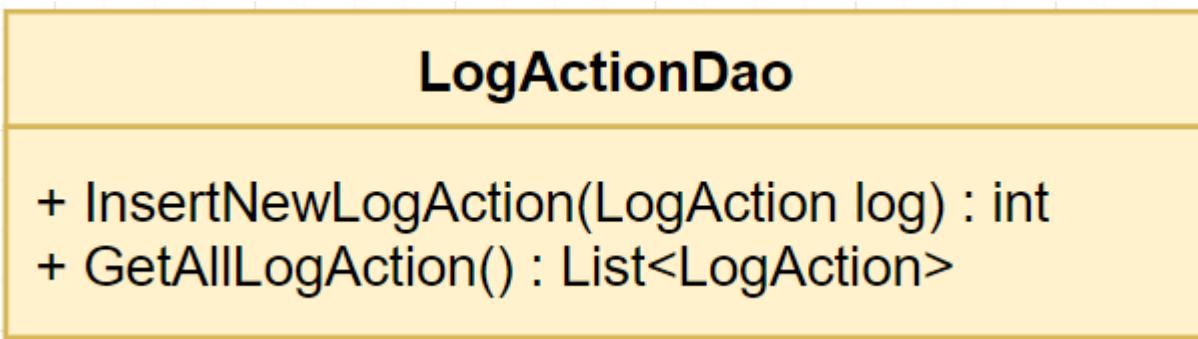


Figure 4.59 - LogActionDao

Class specification

No	Method	Description
01	InsertNewLogAction(LogAction log)	Create a new log action of an account
02	GetAllLogAction()	Get all logs were created in system

Table 4.27: LogActionDao

10. PriorityDao

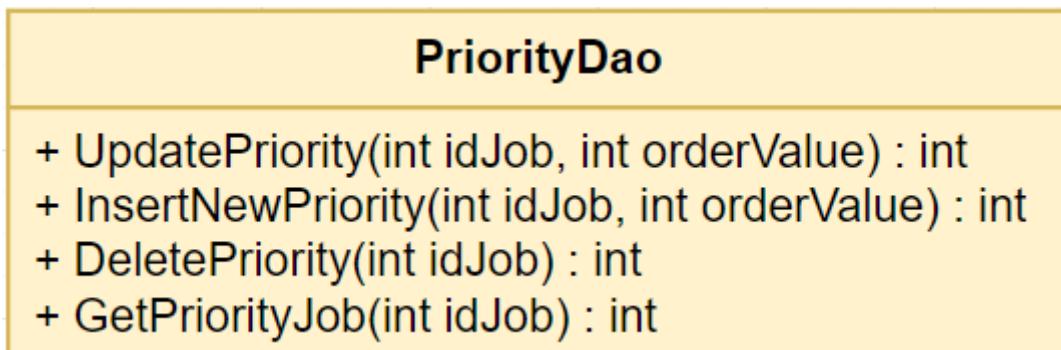


Figure 4.60 - PriorityDao

Class specification

No	Method	Description
01	UpdatePriority(int idJob, int orderValue)	Update order value priority of a job
02	InsertNewPriority(int idJob, int orderValue)	Create a order value priority of a job
03	DeletePriority(int idJob)	Delete order value priority of a job
04	GetPriorityJob(int idJob)	Get order value priority of a job

Table 4.27: PriorityDao

11. QuizDao

QuizDao	
+ GetQuizzes() : List<Quiz>	
+ GetQuizResult(string token) : QuizResult	
+ GetAllQuestions() : List<Question>	
+ GetQuestionsByQuizId(int quizId) : List<Question>	
+ GetQuestionsByGroupId(int groupId) : List<Question>	
+ VerifyAndStartQuiz(string token) : int	
+ SaveQuizResult(string token, float mark) : int	
+ CreateNewQuiz(Quiz quiz) : int	
+ GetQuiz(int id) : Quiz	
+ DeleteAQuiz(int id) : int	
+ EditAQuiz(Quiz quiz) : int	
+ CreateNewQuestion(Question question) : int	
+ GetQuestion(int questionId) : Question	
+ DeleteAQuestion(int id) : int	
+ EditAQuestion(Question question) : int	
+ SearchQuestion(Question question) : List<Question>	
+ GetQuestionGroups() : List<Question>	
+ GetAQuestionGroup(int id) : QuestionGroup	
+ CreateAGroup(QuestionGroup group) : int	
+ EditAGroup(QuestionGroup group) : int	
+ DeleteAGroup(int groupId) : int	
+ CreateAQuizResult(QuizResult quizResult) : int	

Figure 4.61 – QuizDao

Class specification

No	Method	Description
01	getQuizzes()	Get all quizzes in system
02	GetQuizResult(string token)	Get result of a quiz
03	GetAllQuestions()	Get all questions in system
04	GetQuestionsByQuizId(int quizId)	Get all questions of a quiz
05	GetQuestionsByGroupId(int groupId)	Get all questions of a group question
06	VerifyAndStartQuiz(string token)	Verify a result of a quiz to start this quiz
07	SaveQuizResult(string token, float mark)	Update result of quiz after finish
08	CreateAQuizResult(QuizResult quizResult)	Create result of a quiz
09	CreateNewQuiz(Quiz quiz)	Create a new quiz in system
10	GetQuiz(int id)	Get information of a quiz in system
11	DeleteAQuiz(int id)	Delete a quiz in system
12	EditAQuiz(Quiz quiz)	Edit a quiz in system
13	CreateNewQuestion(Question question)	Create a new question in system
14	GetQuestion(int questionId)	Get information of a question in system
15	DeleteAQuestion(int id)	Delete a question in system
16	EditAQuestion(Question question)	Edit a question in system
17	SearchQuestion(Question question)	Search question with input condition
18	GetQuestionGroups()	Get all question groups in system (include question in this group)
19	GetAQuestionGroup(int id)	Get information of a question group in system (include question in this group)
20	CreateAGroup(QuestionGroup group)	Create a group question in system
21	EditAGroup(QuestionGroup group)	Edit a group question in system
22	DeleteAGroup(int groupId)	Delete a group question in system

Table 4.28: QuizDao

12. RegionDao

RegionDao	
+ GetRegion(int idLocation) : Region	
+ UpdateARegion(Region region) : int	
+ DeleteARegion(int regionId) : int	
+ GetAllRegion() : List<Region>	

Figure 4.62 - RegionDao

Class specification

No	Method	Description
01	GetRegion(int idLocation)	Get region of a location
02	UpdateARegion(Region region)	Edit a region in system
03	DeleteARegion(int regionId)	Delete a region in system
04	GetAllRegion()	Get all regions in system

Table 4.29: RegionDao

13. RolesDao

RolesDao	
+ GetAllRoles() : List<Role>	
+ GetRolesByAccId(int accountId) : List<Role>	

Figure 4.63 - RolesDao

Class specification

No	Method	Description
01	GetAllRoles()	Get all roles in system
02	GetRolesByAccId(int accountId)	Get all roles of an account in system

Table 4.30: RolesDao

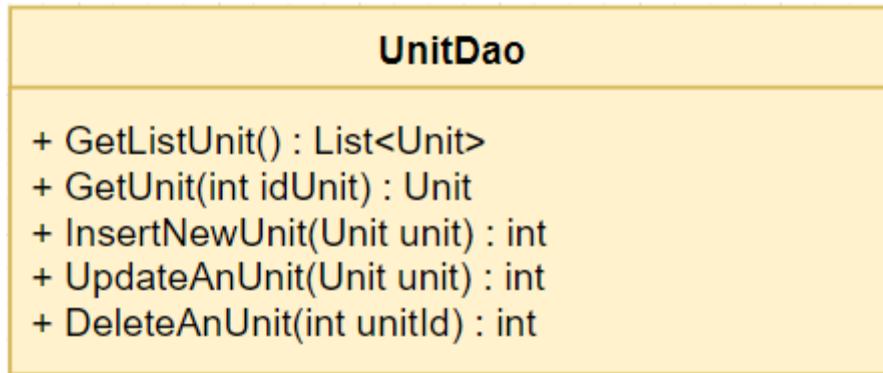
14. UnitDao

Figure 4.64 - UnitDao

Class specification

No	Method	Description
01	GetListUnit()	Get all units in system
02	GetUnit(int idUnit)	Get information of an unit in system
03	InsertNewUnit(Unit unit)	Create an new unit in system
04	UpdateAnUnit(Unit unit)	Edit an unit in system
05	DeleteAnUnit(int? unitId)	Delete an unit in system

Table 4.31: UnitDao

15. ViewsDao

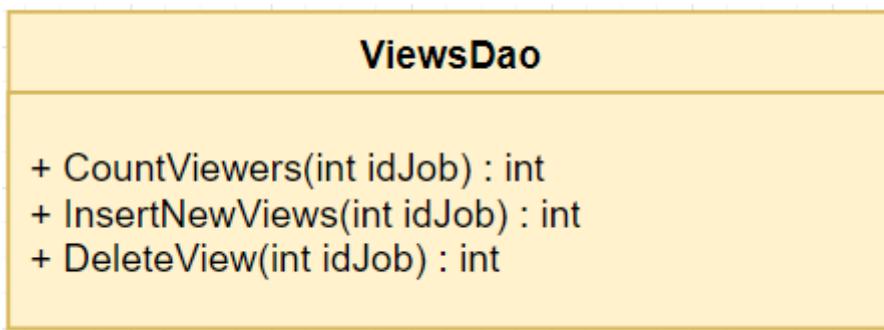


Figure 4.65 - ViewsDao

Class specification

No	Method	Description
01	CountViewers(int idJob)	Count number of viewer of a job
02	InsertNewViews(int idJob)	Insert of new view of a job
03	DeleteView(int idJob)	Delete all view of a job

Table 4.32: ViewsDao

4.5.4. Controller

1. BaseController

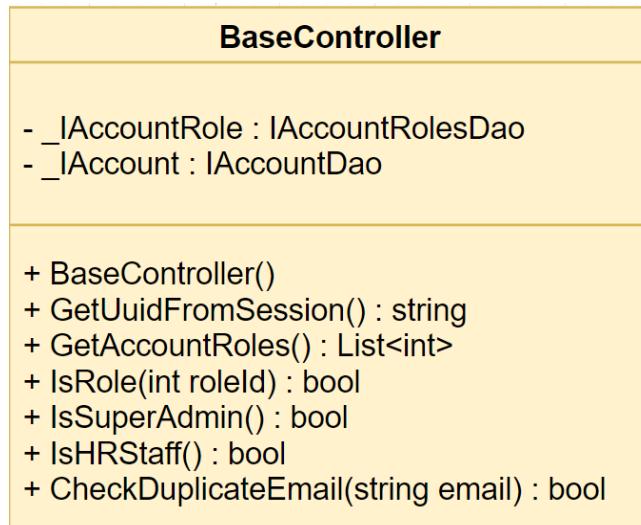


Figure 4.66 - Base Controller

Class specification

No	Method	Description
01	BaseController()	Default constructor
02	GetUuidFromSession()	Get uuid of login account from session
03	IsRole(int roleId)	Check an account has role or not
04	IsSupperAdmin()	Check an account is Super Admin or not
05	IsHRStaff()	Check an account is HR Staff or not
07	CheckDuplicateEmail(string email)	Check email of an account is exist or not

Table 4.33: Base Controller

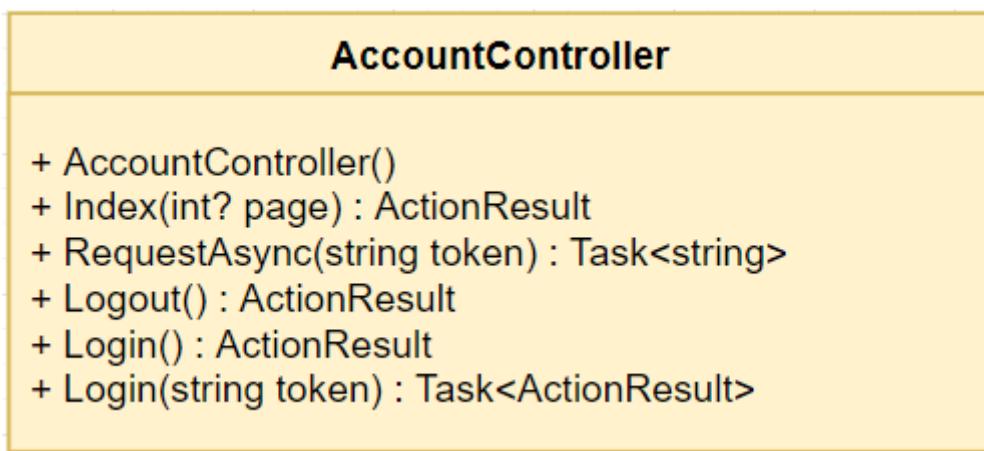
2. AccountController

Figure 4.67 - Account Controller

Class specification

No	Method	Description
01	AccountController	Default constructor
02	Index()	If login account is Admin, then redirect to Admin page If login account is HR staff, then redirect to HR staff page If not login, redirect to login page
03	RequestAsync(string token)	Verify token with google
04	Logout()	Logout account from system
05	Login()	Redirect to login page
07	Login(string token)	Login account into system

Table 4.34: Account Controller

3. AdminController

AdminController
<pre>+ AdminController() + Index(int page) : ActionResult + DeleteAccount(int id) : ActionResult + CreateAccount() : ActionResult + CreateAccount(Account model) : ActionResult + EditAccount(int id) : ActionResult + EditAccount(Account model) : ActionResult + ManageLocation(int page) : ActionResult + CreateLocation() : ActionResult + CreateLocation(Location model) : ActionResult + DeleteLocation(int id) : ActionResult + EditLocation(int id) : ActionResult + EditLocation(Location model) : ActionResult + ManageUnit(int page) : ActionResult + CreateUnit() : ActionResult + CreateUnit(Unit model) : ActionResult + DeleteUnit(int id) : ActionResult + EditUnit(int id) : ActionResult + EditUnit(Unit model) : ActionResult + ManageCareer(int page) : ActionResult + CreateCareer() : ActionResult + CreateCareer(Career model) : ActionResult + DeleteCareer(int id) : ActionResult + EditCareer(int id) : ActionResult + EditCareer(Career model) : ActionResult + ManageConfigEmail(int page) : ActionResult + CreateConfigEmail() : ActionResult + CreateConfigEmail(ConfigEmail model) : ActionResult + DeleteConfigEmail(int id) : ActionResult + EditConfigEmail(int id) : ActionResult + EditConfigEmail(ConfigEmail model) : ActionResult + CheckActiveEmail() : ActionResult + ManageQuiz(int page) : ActionResult + CreateQuiz() : ActionResult + CreateQuiz(Quiz quiz) : ActionResult + QuestionsByGroup(int group) : string + DeleteQuiz(int id) : ActionResult + EditQuiz(int id) : ActionResult + EditQuiz(Quiz quiz) : ActionResult + ManageQuestion(int page) : ActionResult + SearchQuestion(Question question, int page) : ActionResult + CreateQuestion() : ActionResult + CreateQuestion(Question question) : ActionResult + DeleteQuestion(int id) : ActionResult + EditQuestion(int id) : ActionResult + EditQuestion(Question question) : ActionResult + ManageLogs(int page) : ActionResult + ManageGroup(int page) : ActionResult + CreateGroup() : ActionResult + CreateGroup(QuestionGroup group) : ActionResult + DeleteGroup(int id) : ActionResult + EditGroup(int id) : ActionResult + EditGroup(QuestionGroup group) : ActionResult</pre>

Figure 4.68 - Admin Controller

Class specification

No	Method	Description
01	AdminController()	Default constructor
02	Index(int page)	Get list accounts and return to list account manage page
03	DeleteAccount(int id)	Delete account from system
04	CreateAccount()	Check permission and return to create account page
05	CreateAccount(Account model)	Handle and verify to create an account into the system. If verify failed, return to create account page with submit information
06	EditAccount(int id)	Check permission, get account to edit and return to edit account page
07	EditAccount(Account model)	Handle and verify to edit an account in the system. If verify failed, return to edit account page with submit information
08	ManageLocation(int page)	Get list locations and return to location manage page
09	CreateLocation()	Check permission and return to create location page
10	CreateLocation(Location model)	Handle and verify to create a location into the system. If verify failed, return to create location page with submit information
11	DeleteLocation(int id)	Delete a location in system
12	EditLocation(int id)	Check permission and return to edit location page
13	EditLocation(Location model)	Handle and verify to edit a location in the system. If verify failed, return to edit location page with submit information
14	ManageUnit(int page)	Get list units and return to unit manage page
15	CreateUnit()	Check permission and return to create unit page

16	CreateUnit(Unit model)	Handle and verify to create a unit into the system. If verify failed, return to create unit page with submit information
17	DeleteUnit(int id)	Delete a unit in system
18	EditUnit(int id)	Check permission and return to edit unit page
19	EditUnit(Unit model)	Handle and verify to edit a unit in the system. If verify failed, return to edit unit page with submit information
20	ManageCareer(int page)	Get list careers and return to unit manage page
21	CreateCareer()	Check permission and return to create career page
22	CreateCareer(Career model)	Handle and verify to create a career into the system. If verify failed, return to create career page with submit information
23	DeleteCareer(int id)	Delete a career in system
24	EditCareer(int id)	Check permission and return to edit career page
25	EditCareer(Career model)	Handle and verify to edit a career in the system. If verify failed, return to edit career page with submit information
26	ManageConfigEmail(int page)	Get list config emails and return to config email manage page
27	CreateConfigEmail()	Check permission and return to create config email page
28	CreateConfigEmail(ConfigEmail model)	Handle and verify to create a config email into the system. If verify failed, return to create config email page with submit information
29	DeleteConfigEmail(int id)	Delete a config email in system
30	EditConfigEmail(int id)	Check permission and return to edit config email page
31	EditConfigEmail(ConfigEmail model)	Handle and verify to edit a config email in the system. If verify failed, return to edit config email page with submit information

32	CheckActiveEmail()	Check system has config email active or not
33	ManageQuiz(int page)	Get list quizzes and return to quiz manage page
34	CreateQuiz()	Check permission and return to create quiz page
35	CreateQuiz(Quiz quiz)	Handle and verify to create a quiz into the system. If verify failed, return to create quiz page with submit information
36	QuestionsByGroup(int group)	Return list questions of a group question
37	DeleteQuiz(int id)	Delete a quiz in system
38	EditQuiz(int id)	Check permission and return to edit quiz page
39	EditQuiz(Quiz quiz)	Handle and verify to edit a quiz in the system. If verify failed, return to edit quiz page with submit information
40	ManageQuestion(int page)	Get list questions and return to question manage page
41	SearchQuestion(String search, int group, int page)	Get list questions with condition of input and return to question manage page
42	CreateQuestion()	Check permission and return to create question page
43	CreateQuestion(Question question)	Handle and verify to create a question in the system. If verify failed, return to create question page with submit information
44	DeleteQuestion(int id)	Delete a question in system
45	EditQuestion(int id)	Check permission and return to edit question page
46	EditQuestion(Question question)	Handle and verify to edit a question in the system. If verify failed, return to edit question page with submit information
47	ManageLogs(int page)	Get list logs and return to log manage page

48	ManageGroup(int page)	Get list question group and return to question group manage page
49	CreateGroup()	Check permission and return to create question group page
50	CreateGroup(QuestionGroup group)	Handle and verify to create a question group in the system. If verify failed, return to create question group page with submit information
51	DeleteGroup(int id)	Delete a question group in system
52	EditGroup(int id)	Check permission and return to edit question group page
53	EditGroup(QuestionGroup group)	Handle and verify to edit a question group in the system. If verify failed, return to edit question group page with submit information

Table 4.35: Admin Controller

4. CVController

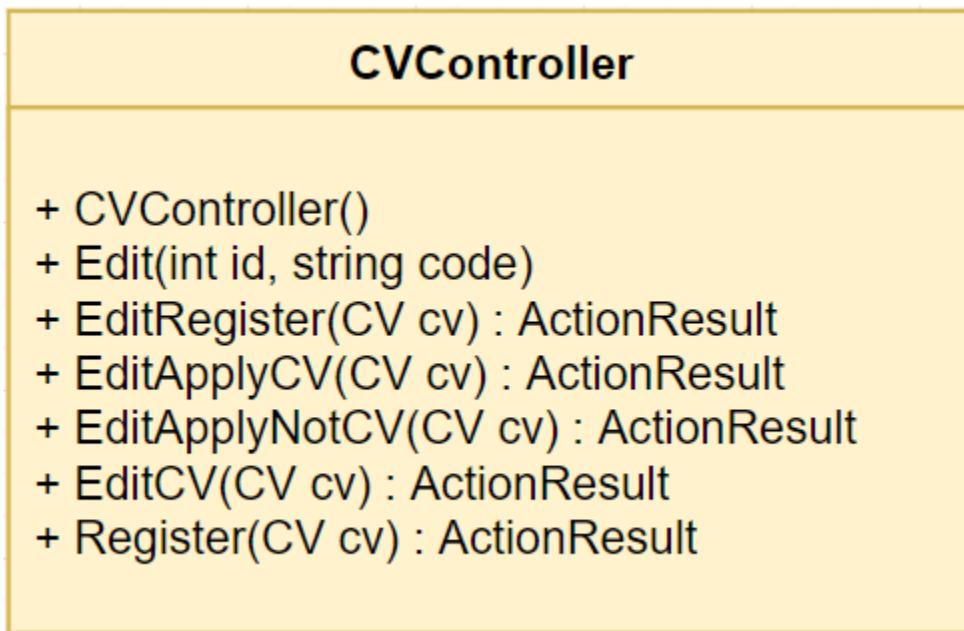


Figure 4.69 - CV Controller

Class specification

No	Method	Description
01	CVController()	Default constructor
02	Edit(int id, string code)	Check CV and type of CV to redirect to suitable edit page
03	EditRegister(CV cv)	Return to edit CV register page
04	EditApplyCV(CV cv)	Return to edit CV apply page which have CV file
05	EditApplyNotCV(CV cv)	Return to edit CV apply page which don't have CV file
06	EditCV(CV cv)	Handle and verify to edit a CV in the system. If verify failed, return to edit CV page with submit information
07	Register(CV cv)	Handle to create a CV into the system. Then send mail to candidate to confirm about CV

Table 4.36: CV Controller

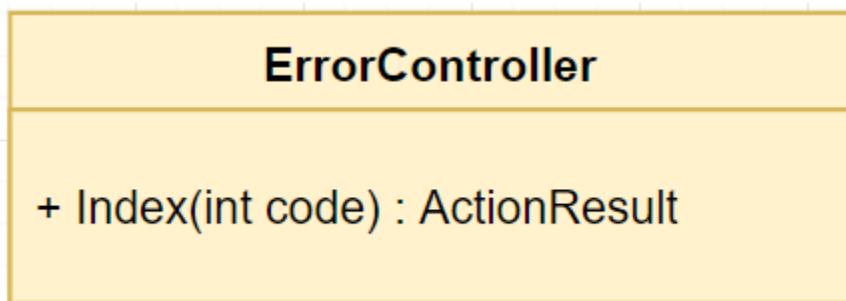
5. ErrorController

Figure 4.70 - Error Controller

Class specification

No	Method	Description
01	Index()	Return to error page with error message

Table 4.37: Error Controller

6. ExportController

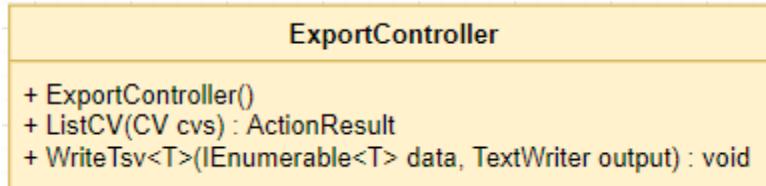


Figure 4.71 - Export Controller

Class specification

No	Method	Description
01	ExportController()	Default constructor
02	ListCV(CV cvs)	Handle to get list CVs to export
03	WriteTsv<T>	Handle to export list CVs to excel file

Table 4.38: Export Controller

7. HomeController

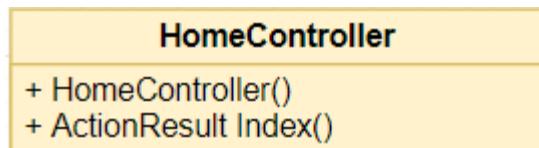


Figure 4.72 - Home Controller

Class specification

No	Method	Description
01	HomeController()	Default constructor
02	Index()	Return information of home

Table 4.39: Home Controller

8. *HrStaffController*

HrStaffController	
+ HrStaffController()	
+ Index(int page) : ActionResult	
+ ManageCV(int page) : ActionResult	
+ ManageApplyEmailError(int page) : ActionResult	
+ ReSendMail() : ActionResult	
+ SendQuizLink(int id) : ActionResult	
+ SendQuizLink(int cvId, int quizId, string email) : ActionResult	
+ DeleteCV(int id) : ActionResult	
+ ChangeStatusCV(int IdCV, string Status) : ActionResult	
+ ViewDetailCV(int IdCV) : ActionResult	
+ SearchJob(Jobs job, int page) : ActionResult	
+ CreateJob() : ActionResult	
+ CreateJob(Jobs job) : ActionResult	
+ EditJob(int id) : ActionResult	
+ EditJob(CreateJobViewModel model) : ActionResult	
+ DeleteJob(int id) : ActionResult	
+ SearchCV(CV cv, int page) : ActionResult	

Figure 4.73 - *HrStaff Controller*

Class specification

No	Method	Description
01	HrStaffController()	Default constructor
02	Index(int page)	Get list jobs are managed by login account and return job manage page
03	ManageCV(int page)	Get list CVs are managed by login account and return CV manage page
04	ManageEmailError(int page)	Get list email which send error return error email manage page
05	ReSendMail(int id, string from)	Resend one error email or all error emails

06	SendQuizLink(int id)	Handle and verify to redirect to send quiz page
07	SendQuizLink(int cvId, int quizId, string email)	Handle and verify to send quiz to candidate, if verify failed, redirect to send quiz page with information submitted
08	DeleteCV(int id)	Delete a CV in system
09	ChangeStatusCV(int IdCV, string Status)	Change status of a CV
10	ViewDetailCV(int IdCV)	Get detail information of a CV and return to view detail CV page
11	SearchJob(Jobs job, int page)	Get list jobs with information of input and return to manage jobs page
12	CreateJob()	Check permission and redirect to create job page
13	CreateJob(Jobs job)	Handle and verify to create a job in system, if verify failed, redirect to create job page with information submitted
14	EditJob(int id)	Check permission, get information of job and redirect to edit job page
15	EditJob(CreateJobViewModel model)	Handle and verify to edit a job in system, if verify failed, redirect to edit job page with information submitted
16	DeleteJob(int id)	Check permission and delete a job in system
17	SearchCV(CV cv, int page)	Get list CVs with condition of input and return to manage CV page

Table 4.40: HrStaff Controller

9. JobController

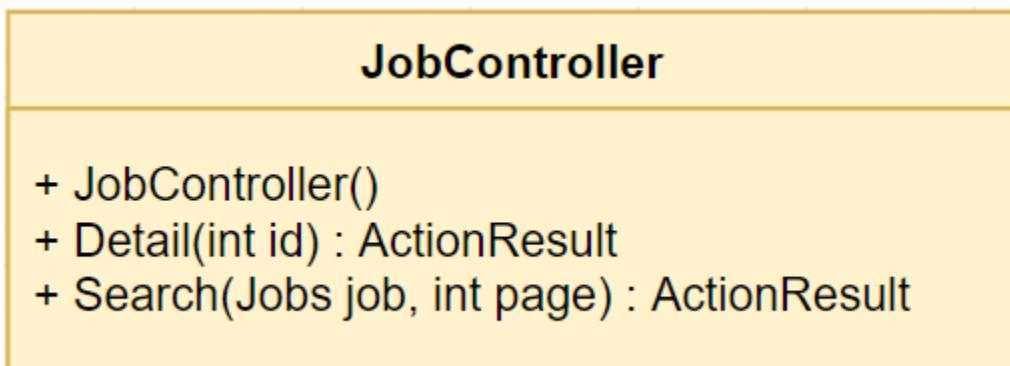


Figure 4.74 - Job Controller

Class specification

No	Method	Description
01	JobController()	Default constructor
02	Detail	Return information detail of a job and return to view detail job page
03	Search(Jobs job, int page)	Return list jobs with conditions search

Table 4.41: Job Controller

10. QuizController

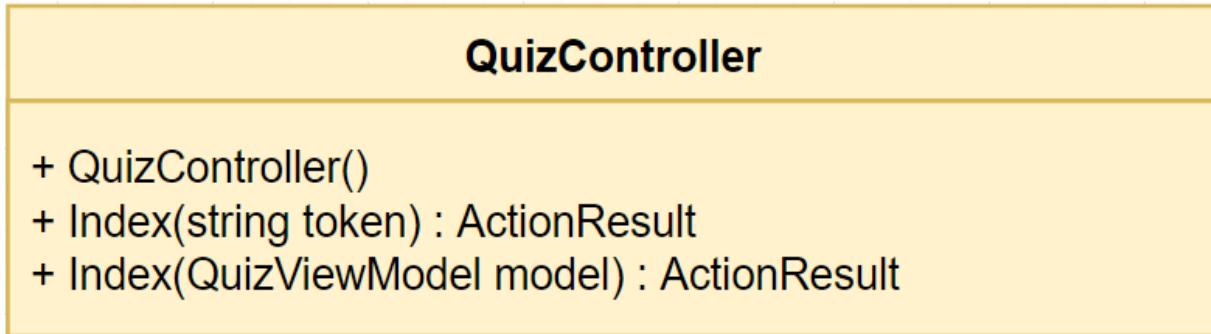


Figure 4.75 - Quiz Controller

Class specification

No	Method	Description
01	QuizController()	Default constructor

02	Index(string token)	Check if the quiz has been done or not. If not, start to do a quiz, if has been done, show message to candidate
03	Index(QuizViewModel model)	Handle to finish the quiz, get mark and show to candidate

Table 4.42: Quiz Controller

11. RecruitmentProcessController

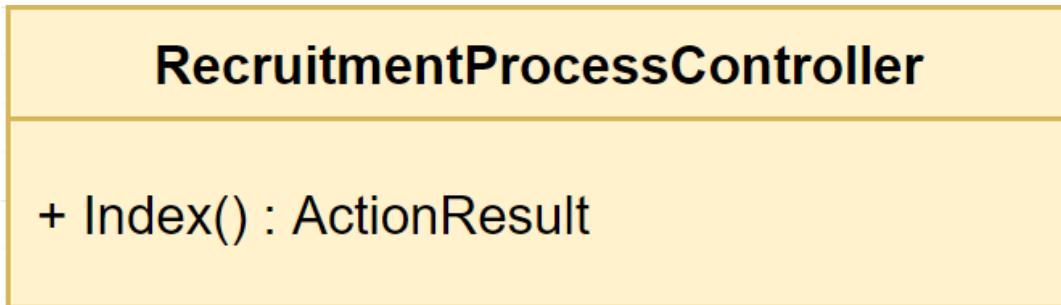


Figure 4.76 - RecruitmentProcess Controller

Class specification

No	Method	Description
01	Index()	Redirect to recruitment process page

Table 4.42: RecruitmentProcess Controller

4.6. Sequence Diagram

4.6.1. UC-01 View recruitment process

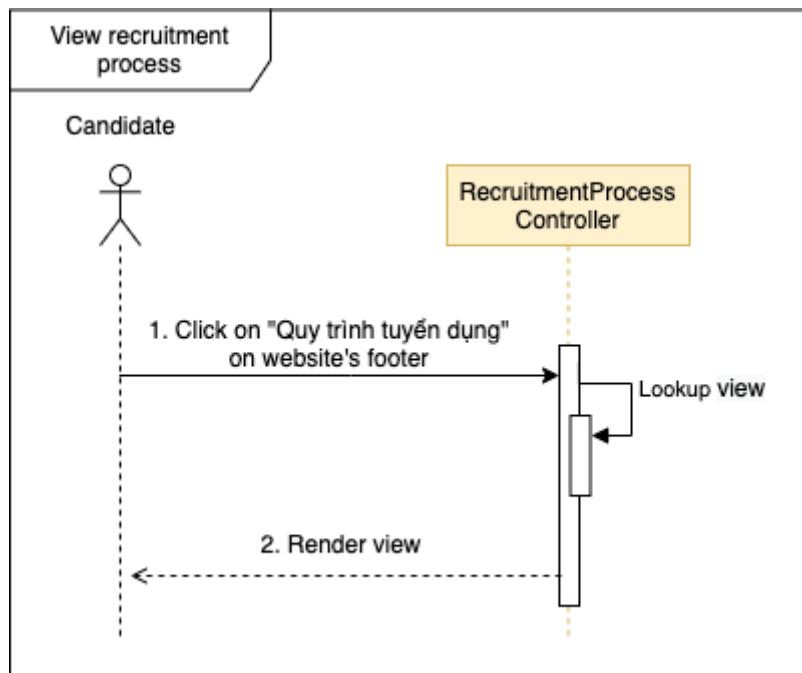


Figure 4.77 - Sequence diagram for UC-01

4.6.2. UC-02 View home

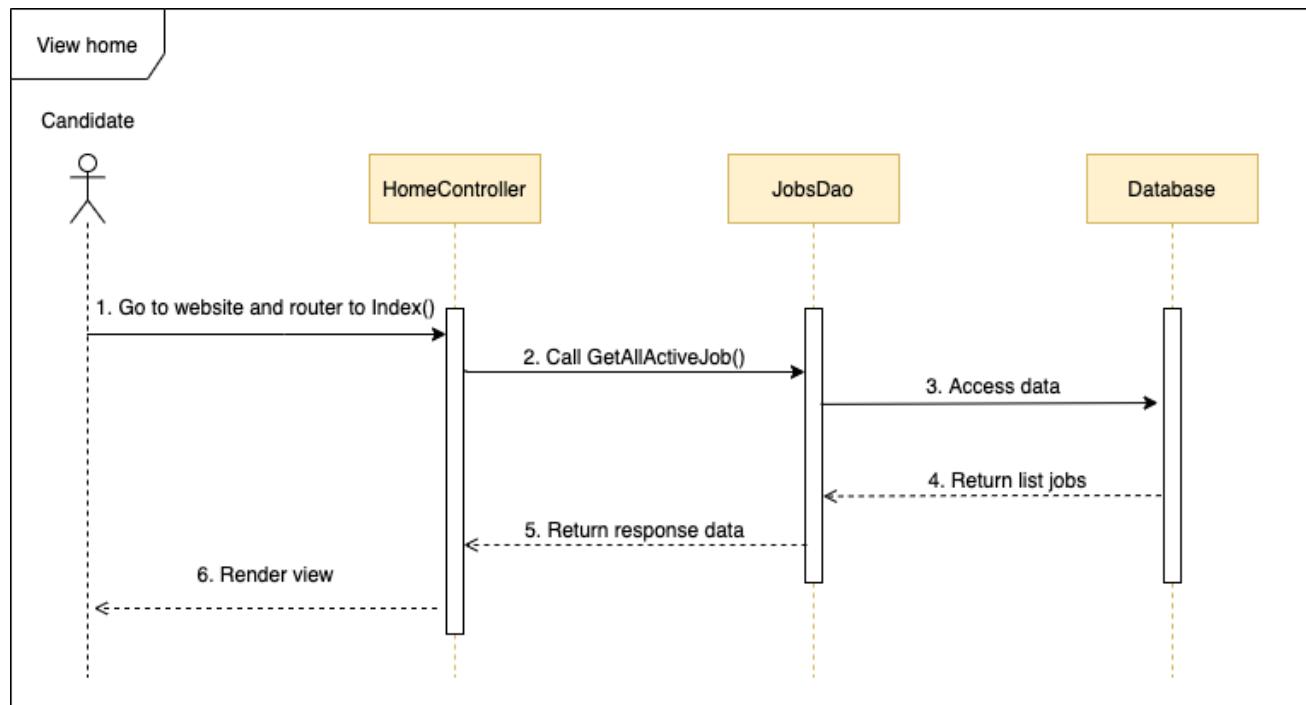


Figure 4.78 - Sequence diagram for UC-02

4.6.3. UC-03 View all jobs

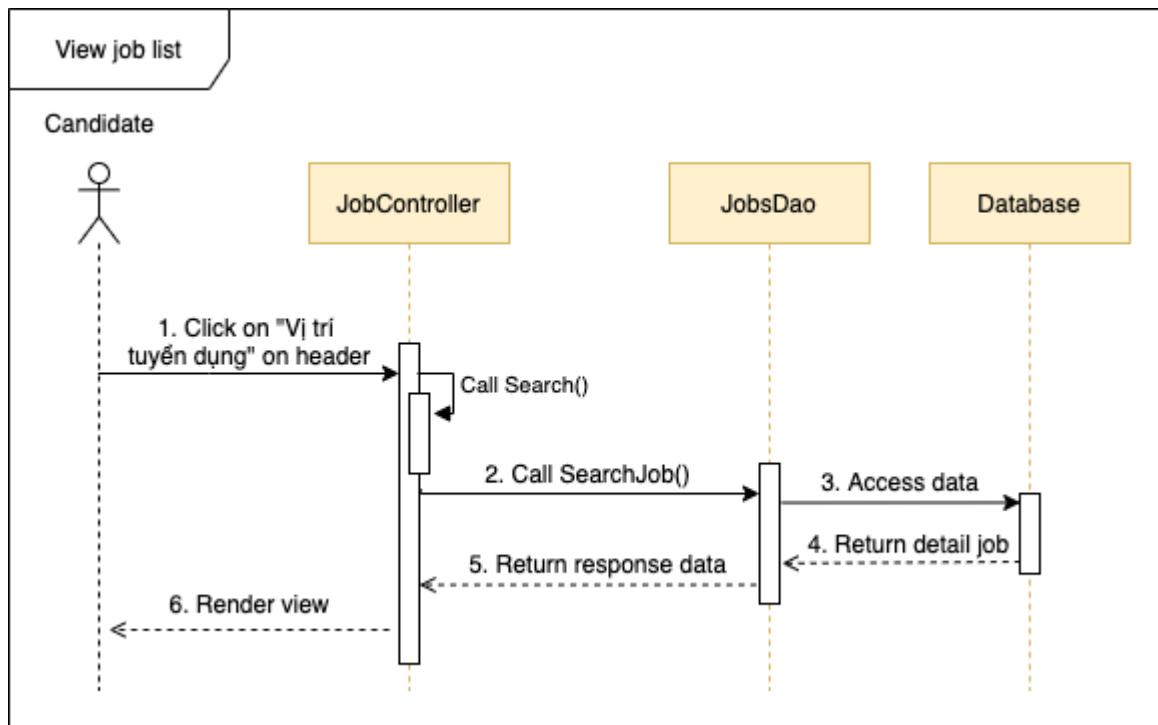


Figure 4.79 - Sequence diagram for UC-03

4.6.4. UC-04 View list jobs by region

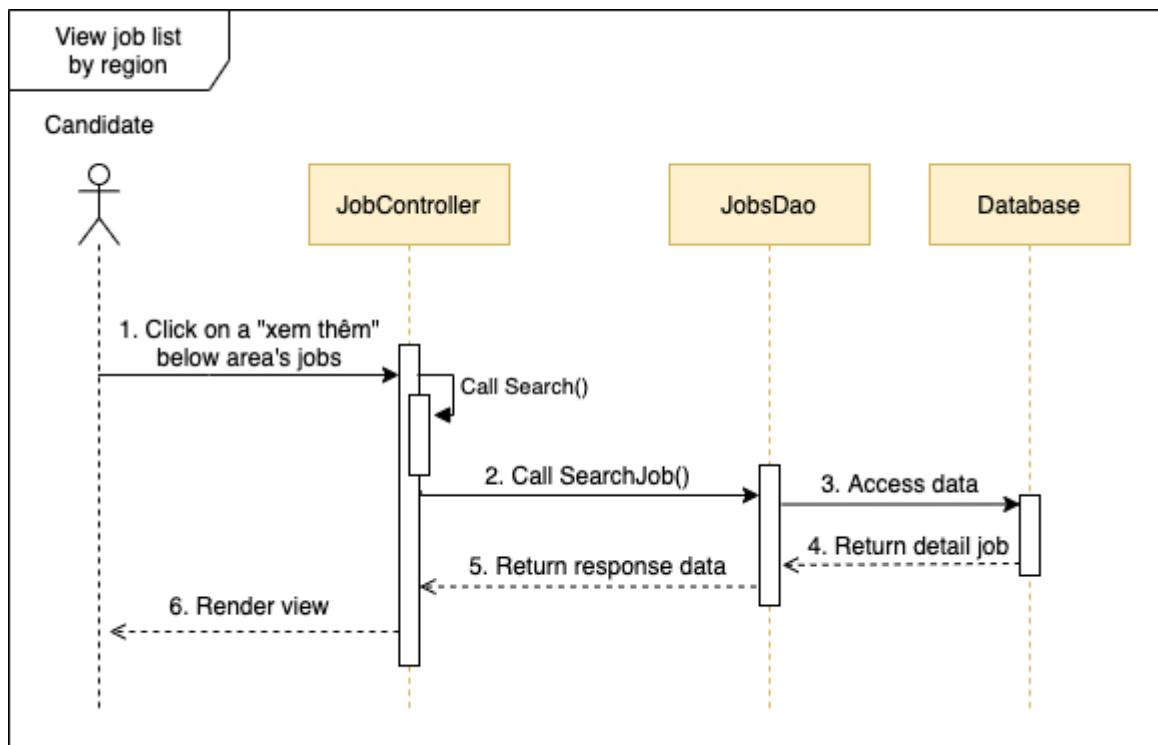


Figure 4.80 - Sequence diagram for UC-04

4.6.5. UC-05 View list jobs by unit

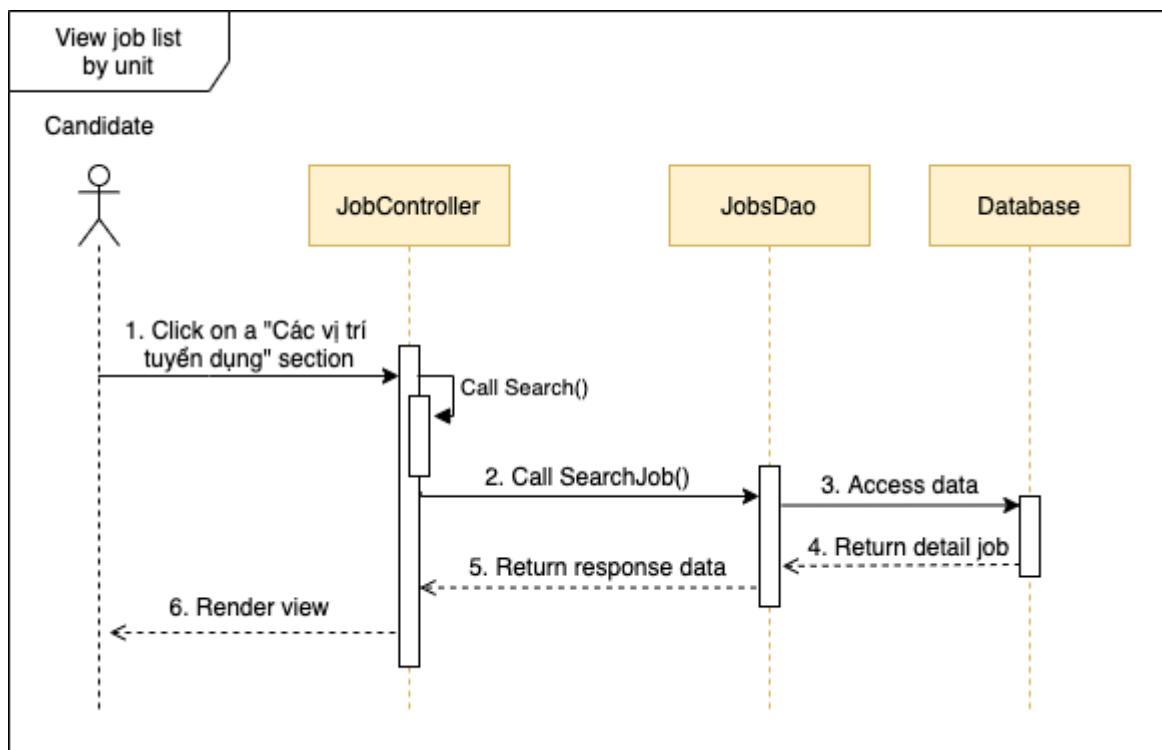


Figure 4.81 - Sequence diagram for UC-05

4.6.6. UC-06 View job detail

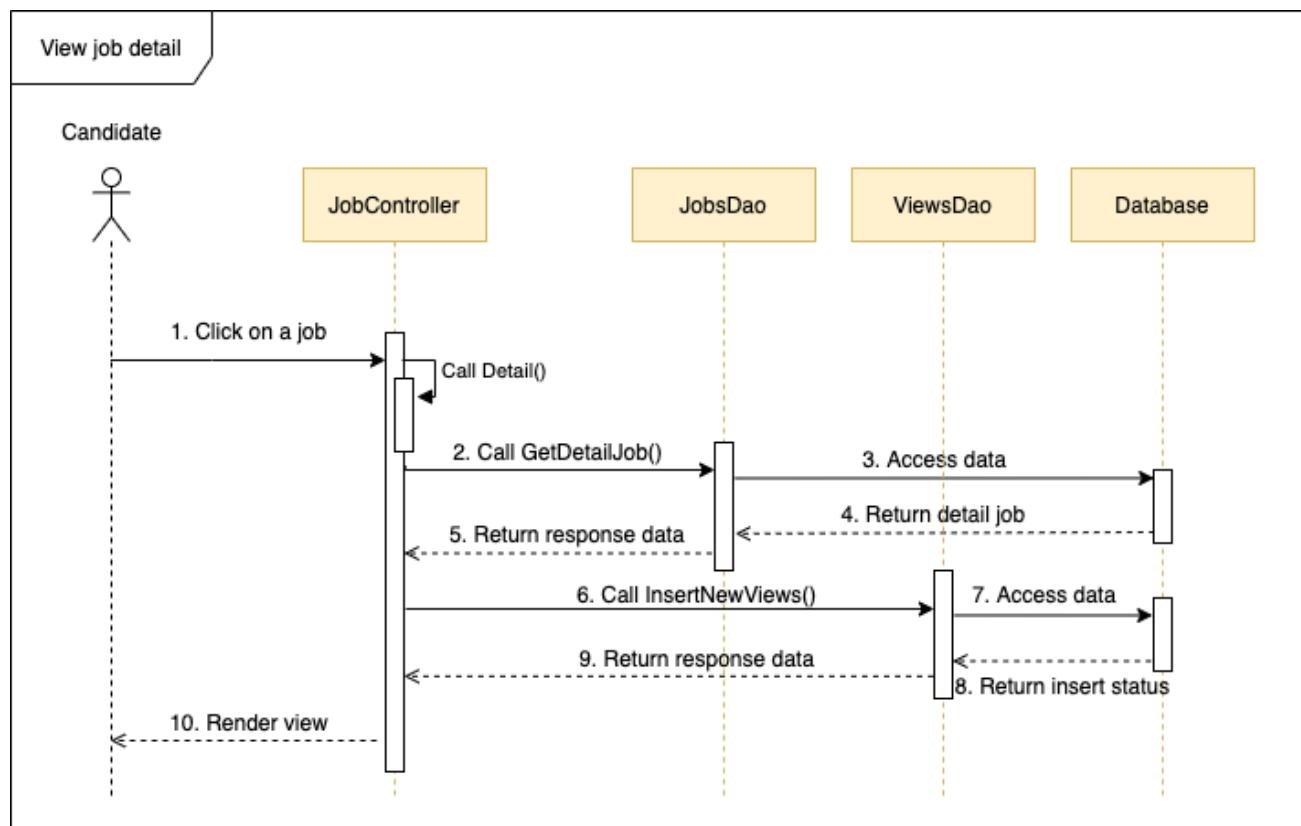


Figure 4.82 - Sequence diagram for UC-06

4.6.7. UC-07 Search job

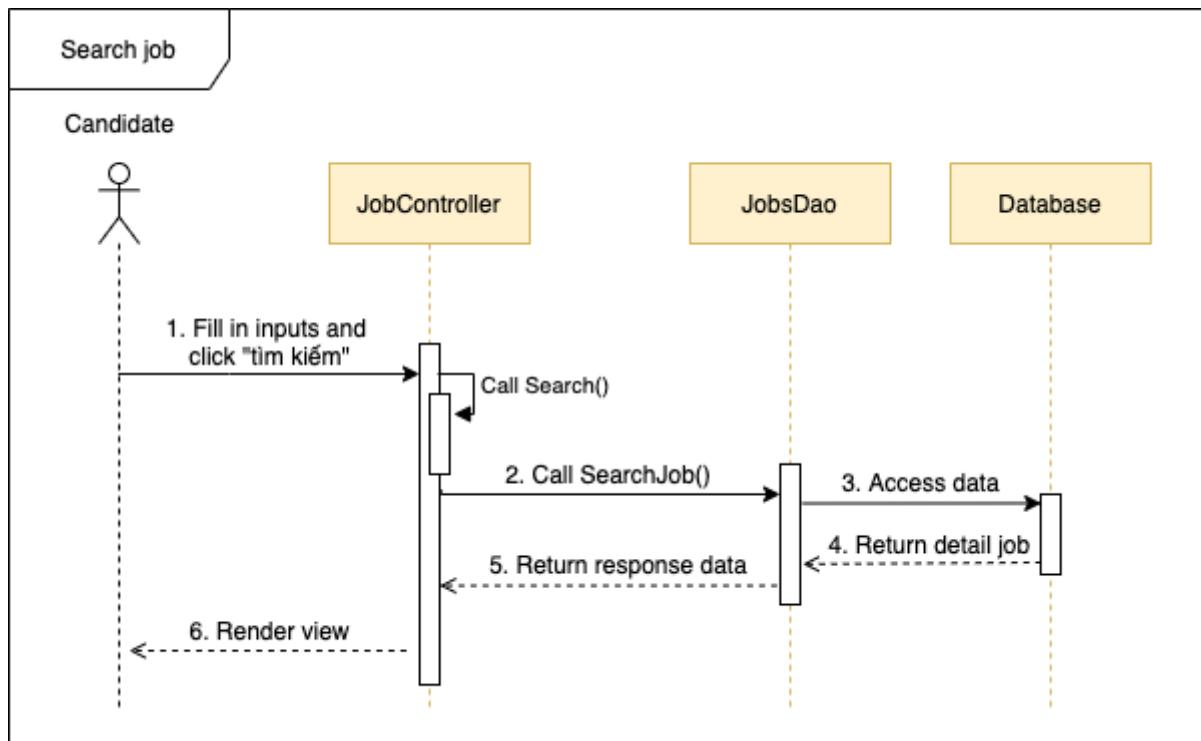


Figure 4.83 - Sequence diagram for UC-07

4.6.8. UC-08 Create CV

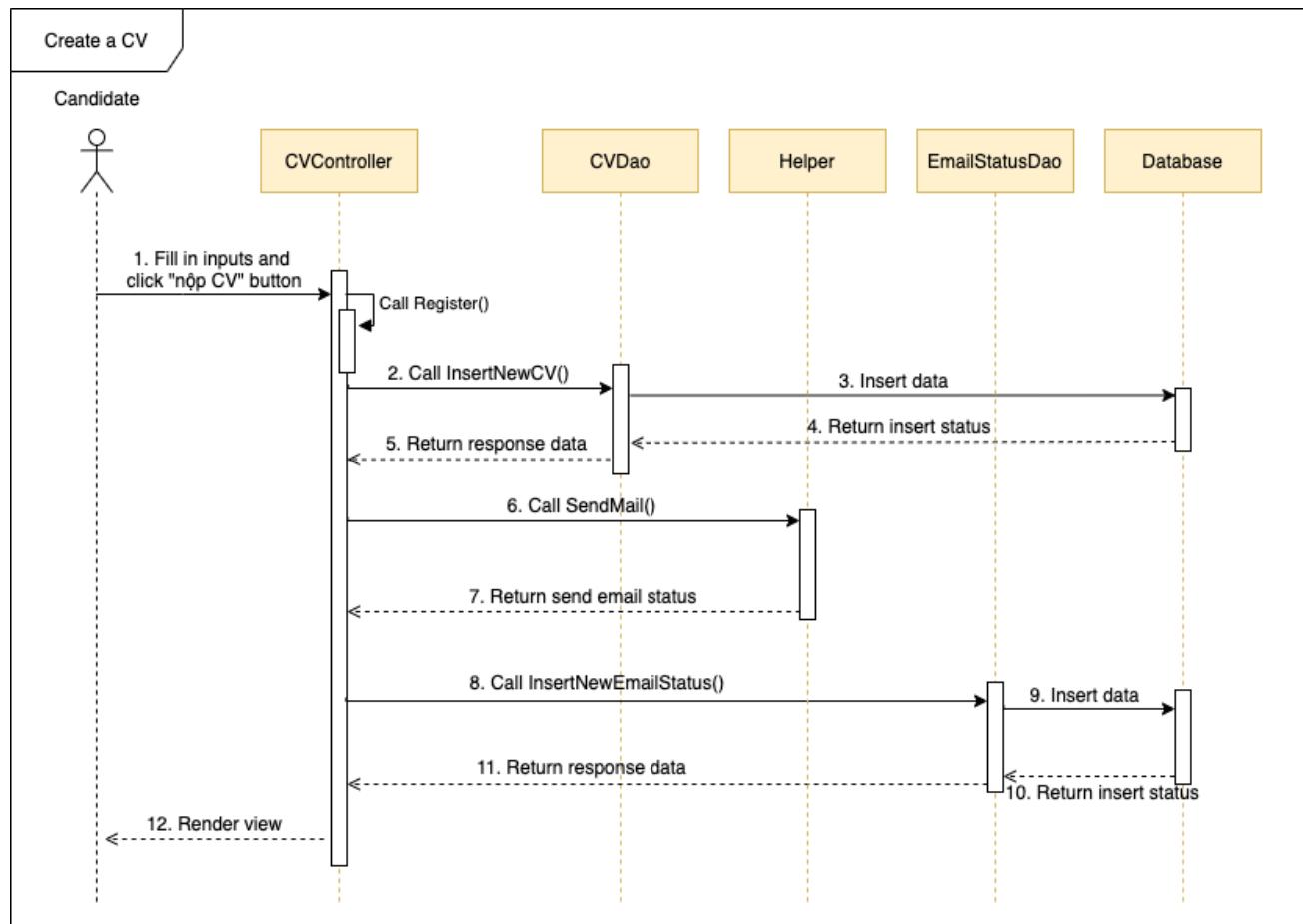


Figure 4.84 - Sequence diagram for UC-08

4.6.9. UC-09 Upload CV

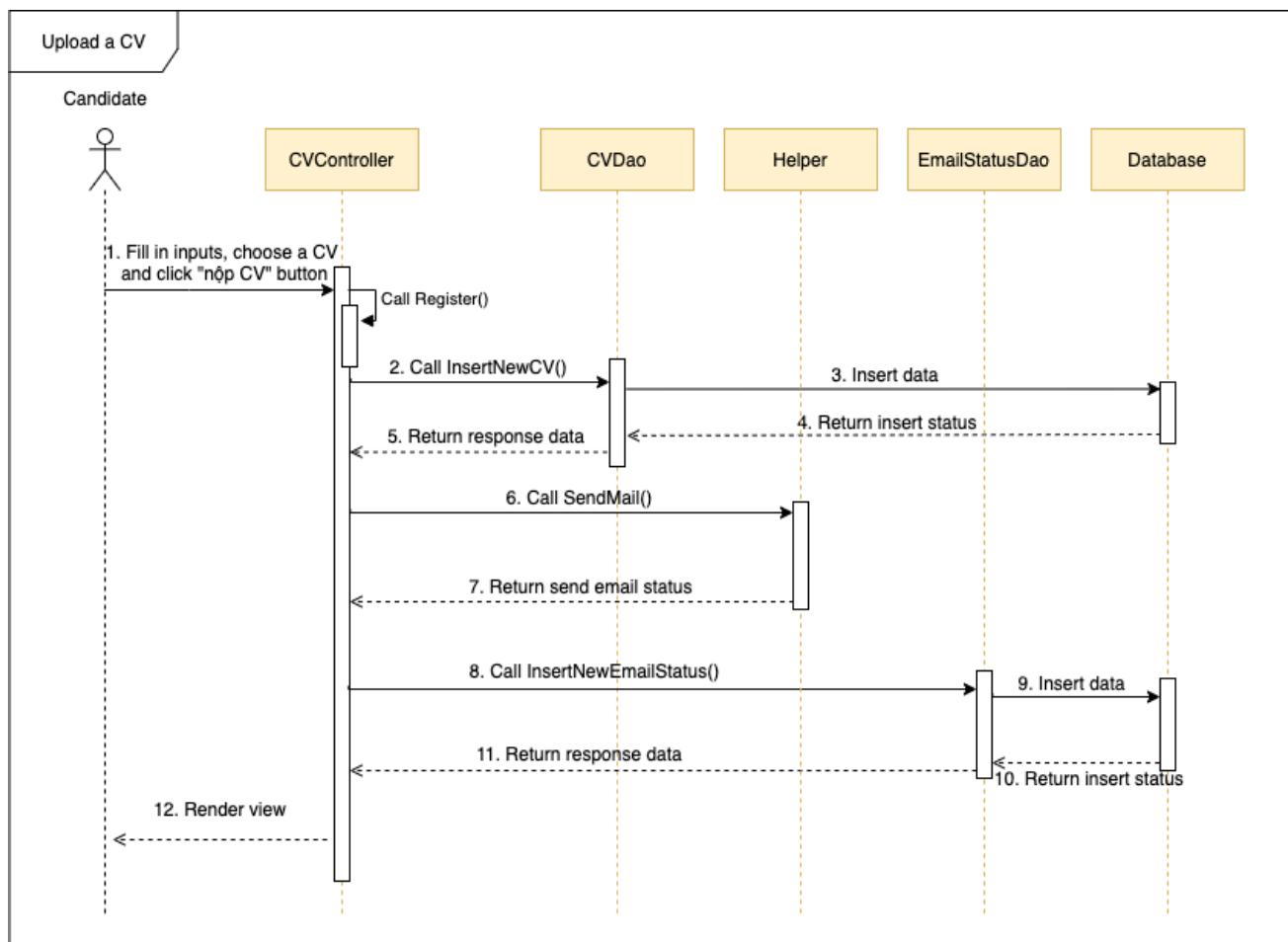


Figure 4.85 - Sequence diagram for UC-09

4.6.10. UC-10 Register potential candidate

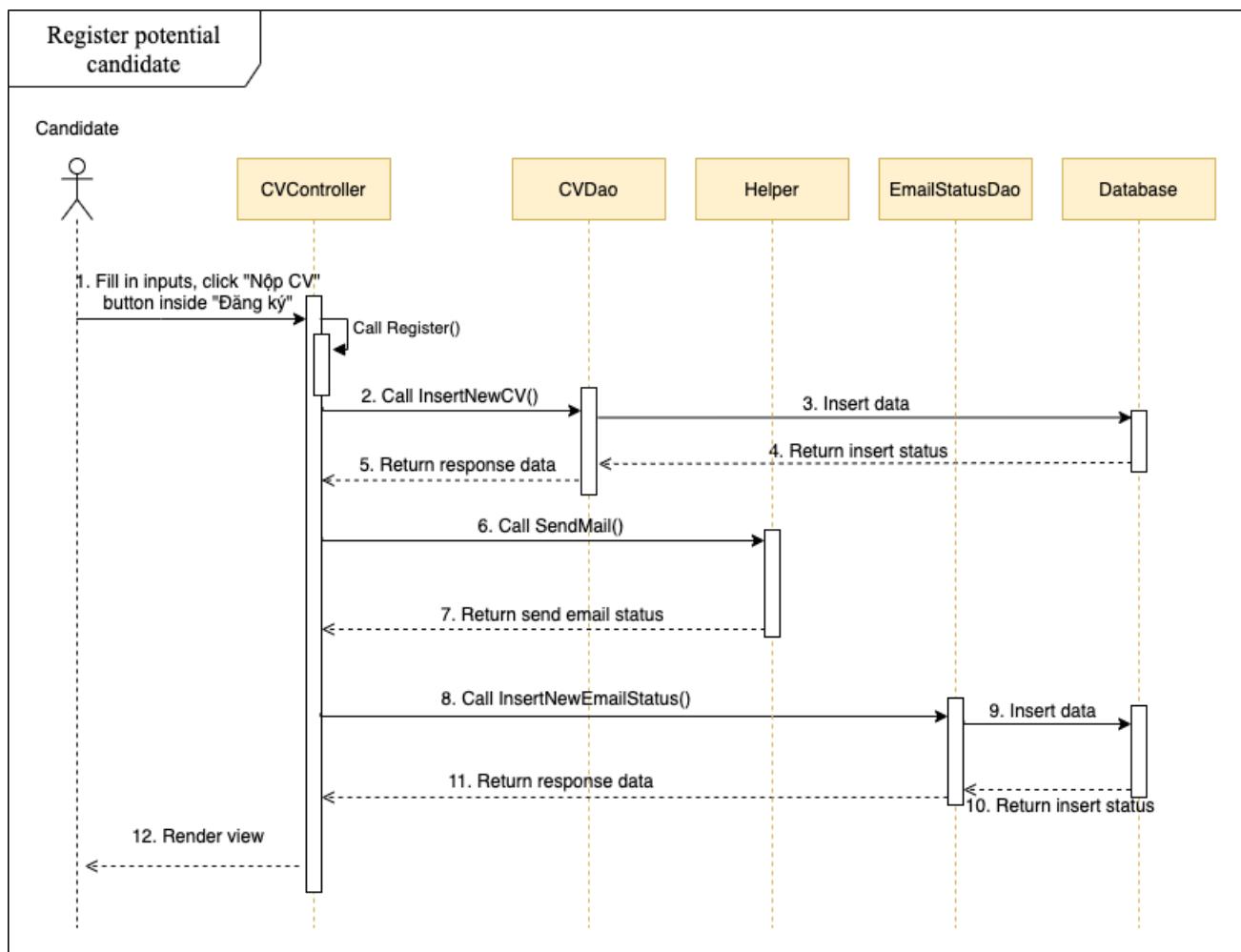


Figure 4.86 - Sequence diagram for UC-10

4.6.11. UC-11 Edit CV

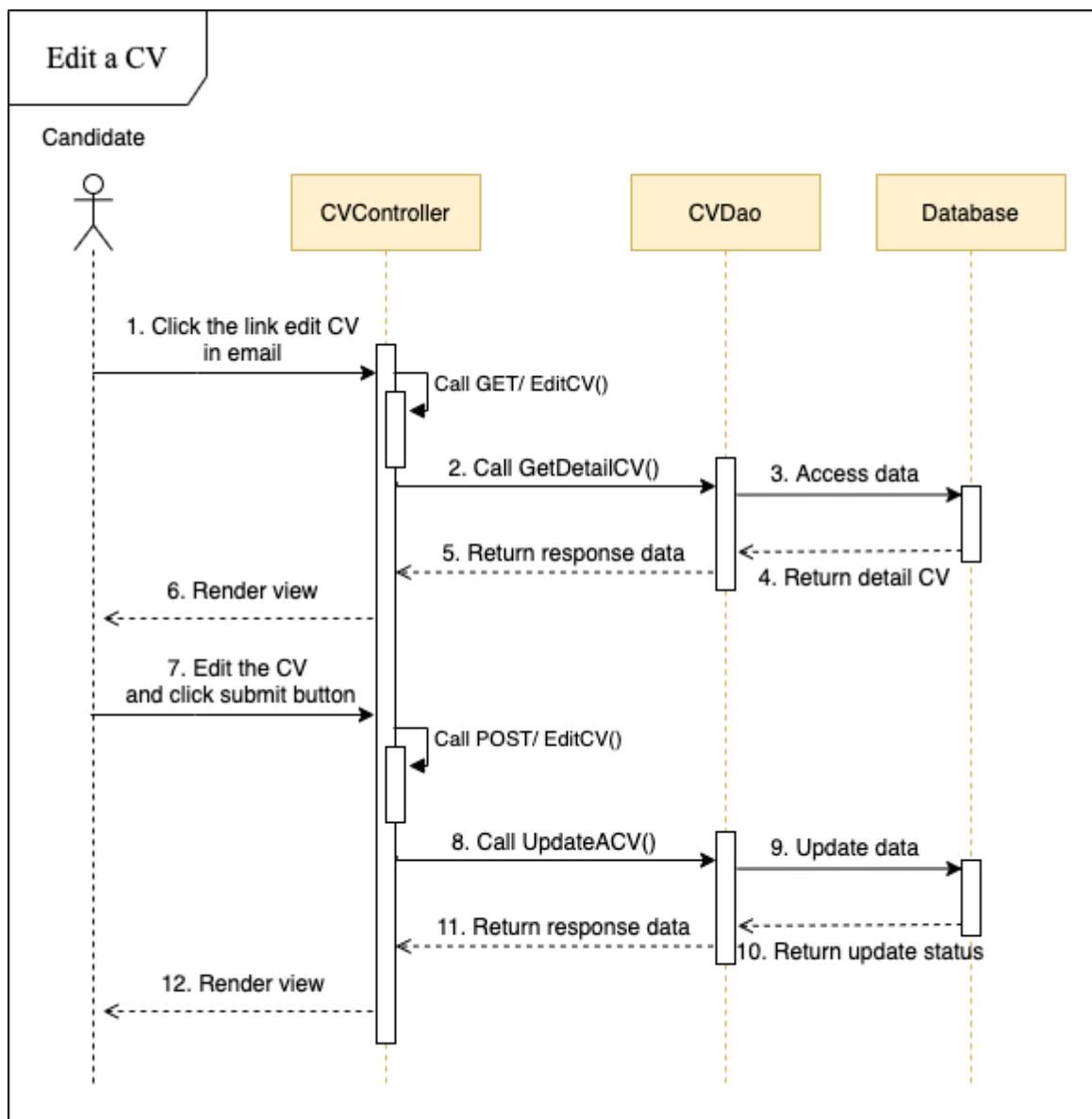


Figure 4.87 - Sequence diagram for UC-11

4.6.12. UC-12 Take quiz

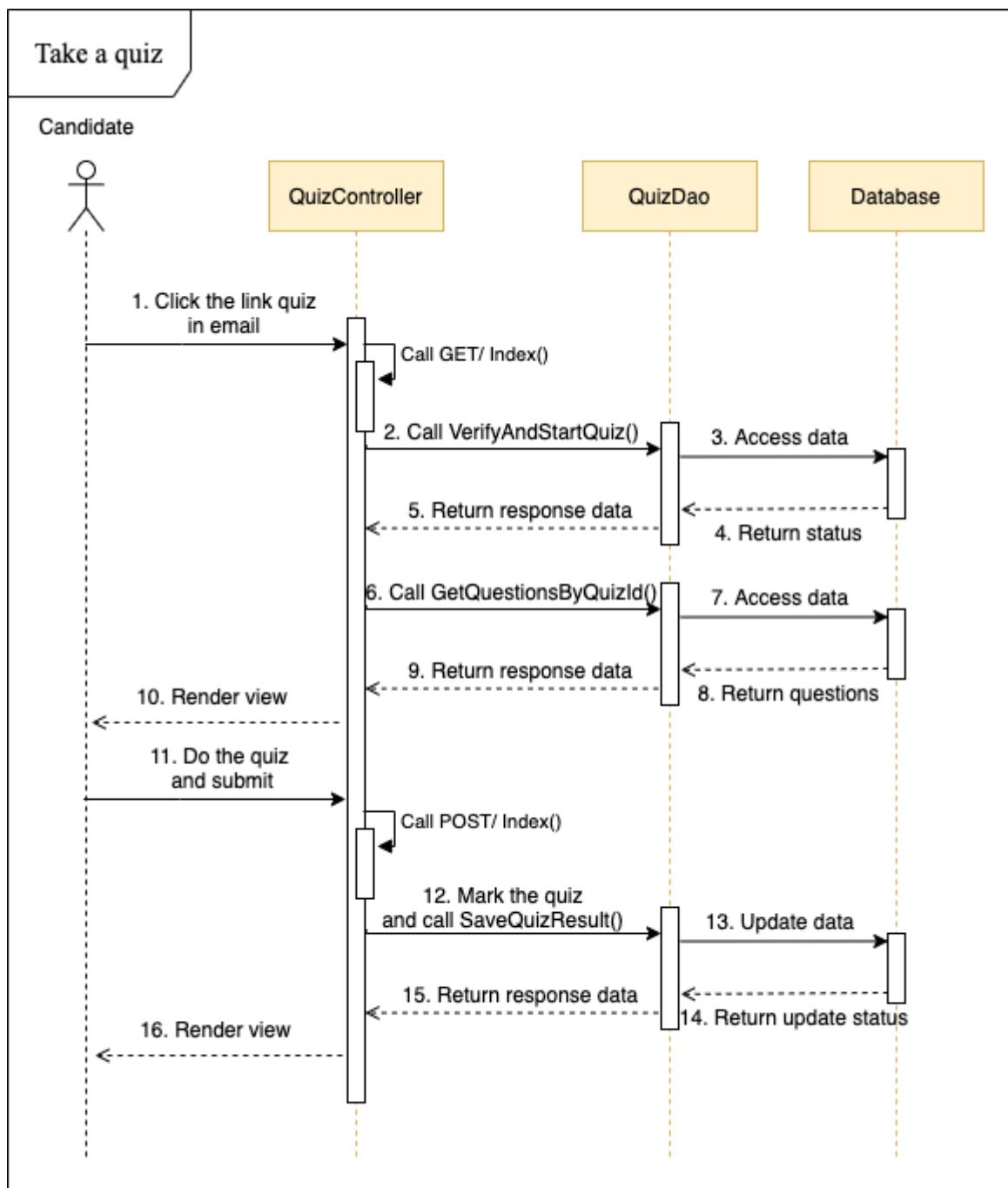


Figure 4.88 - Sequence diagram for UC-12

4.6.13. UC-13 View all accounts

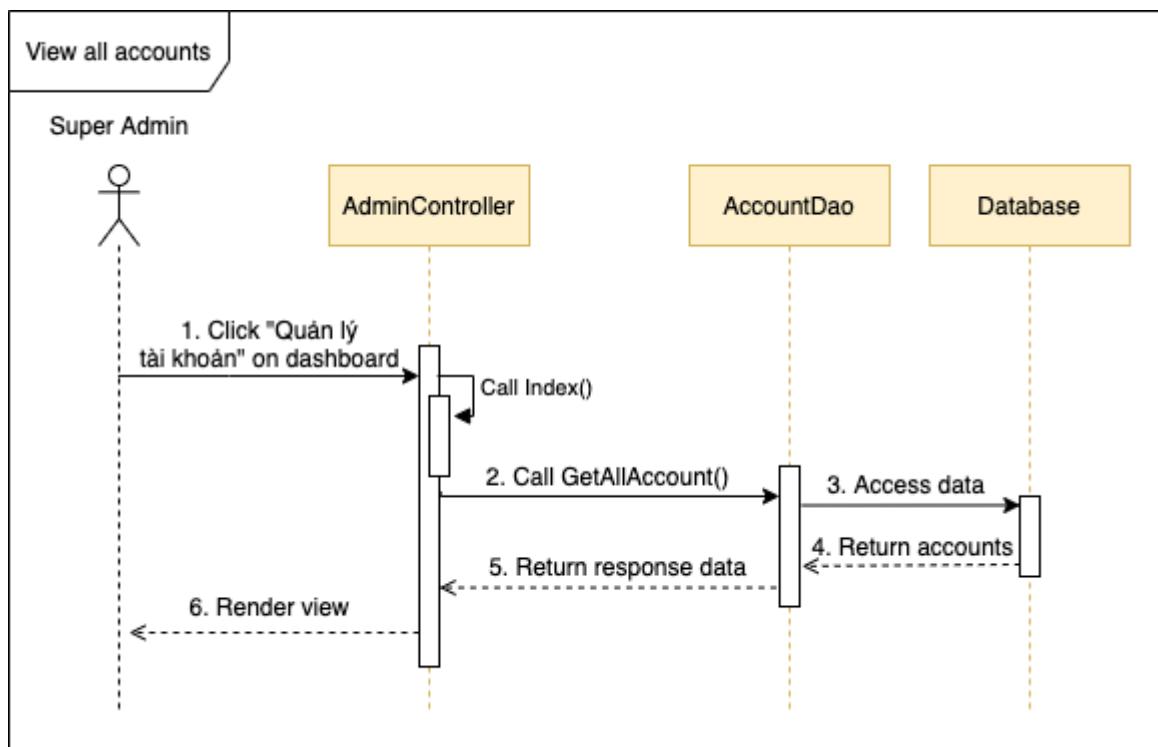


Figure 4.89 - Sequence diagram for UC-13

4.6.14. UC-14 Add account

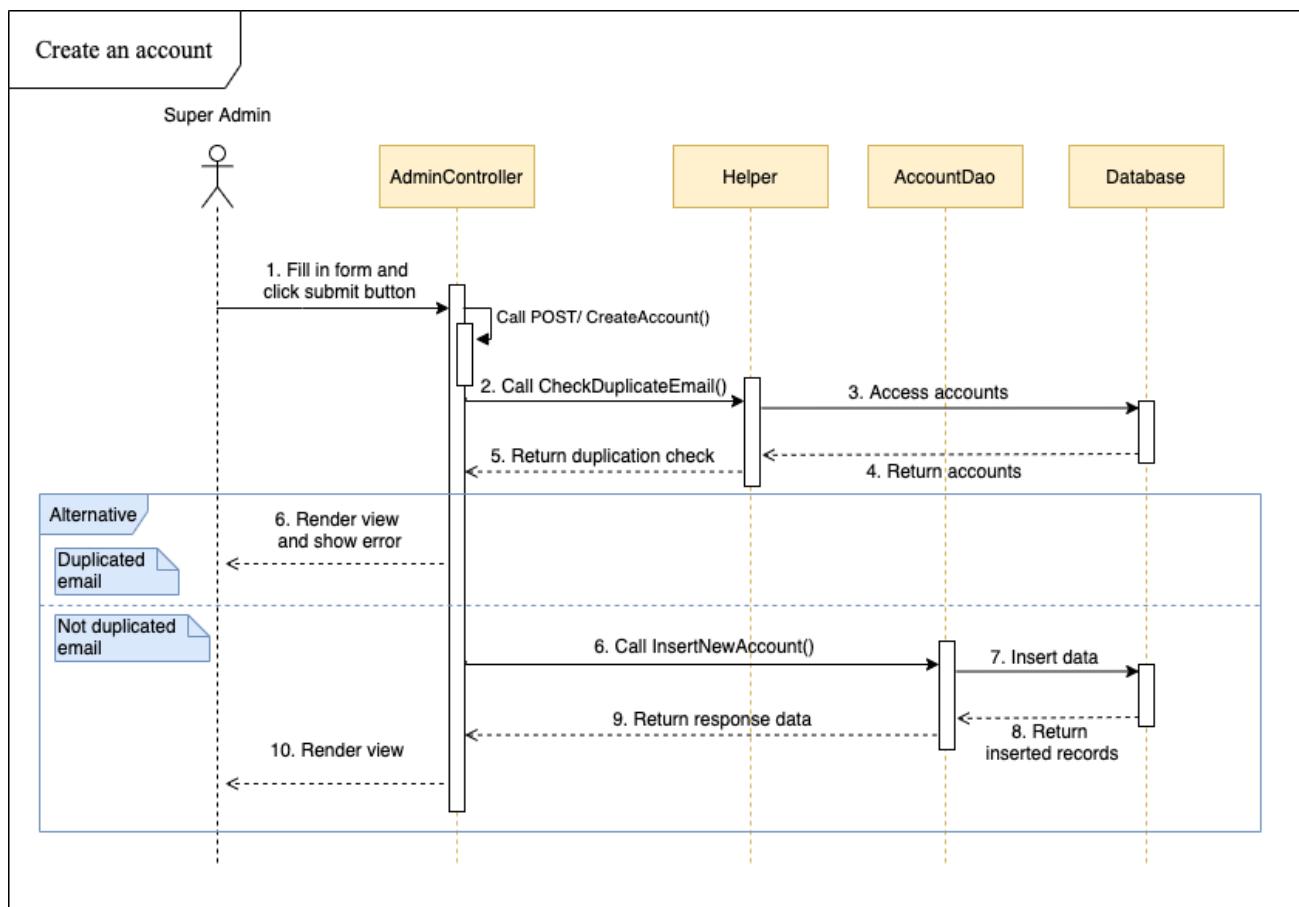


Figure 4.90 - Sequence diagram for UC-14

4.6.15. UC-15 Edit account

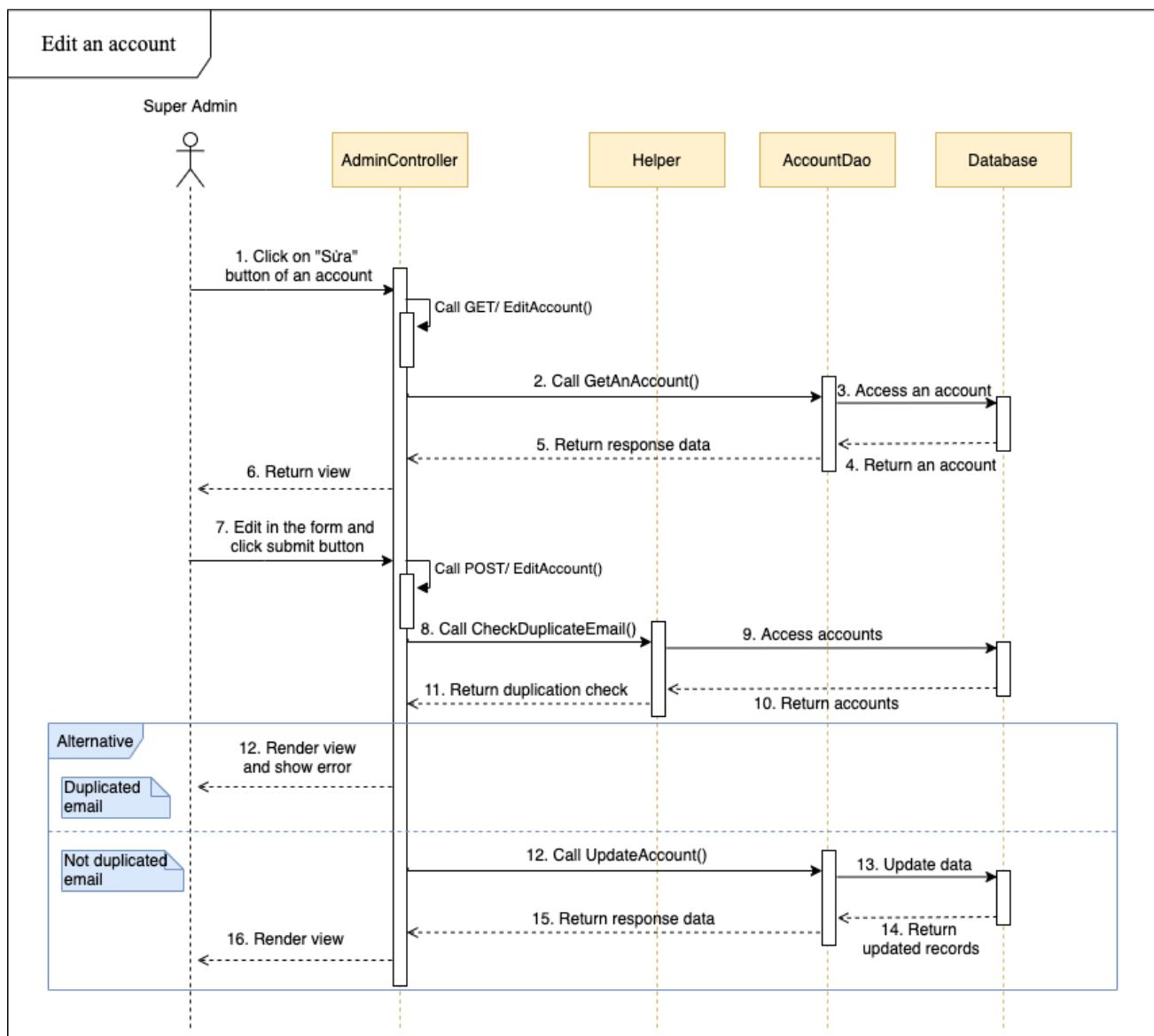


Figure 4.91 - Sequence diagram for UC-15

4.6.16. UC-16 Delete account

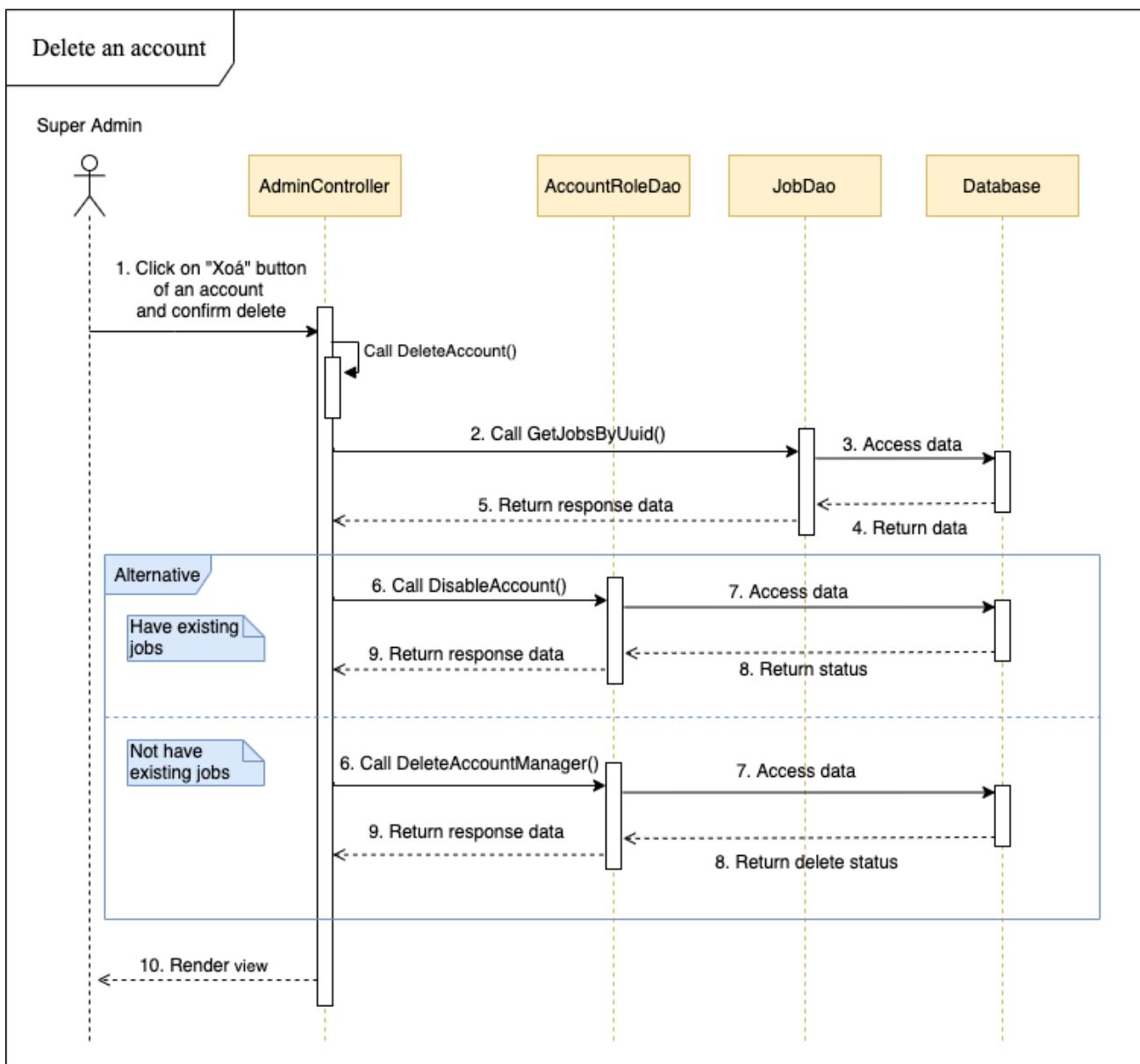


Figure 4.92 - Sequence diagram for UC-16

4.6.17. UC-17 View all units

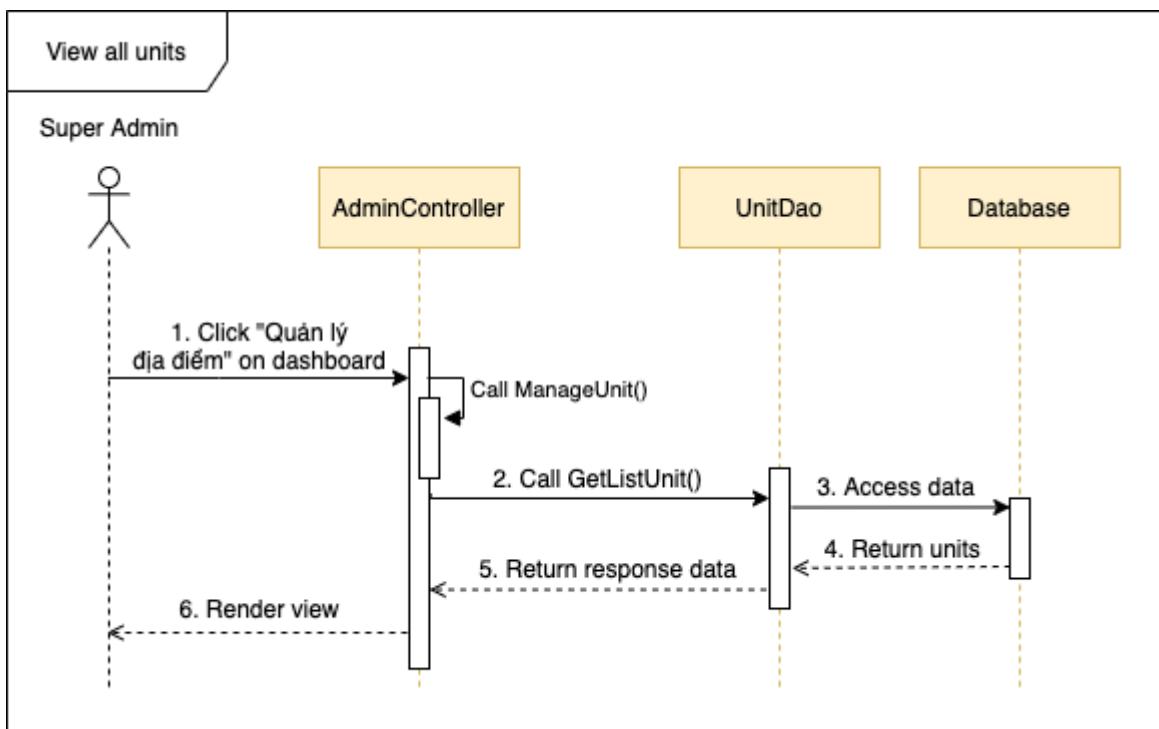


Figure 4.93 - Sequence diagram for UC-17

4.6.18. UC-18 Add unit

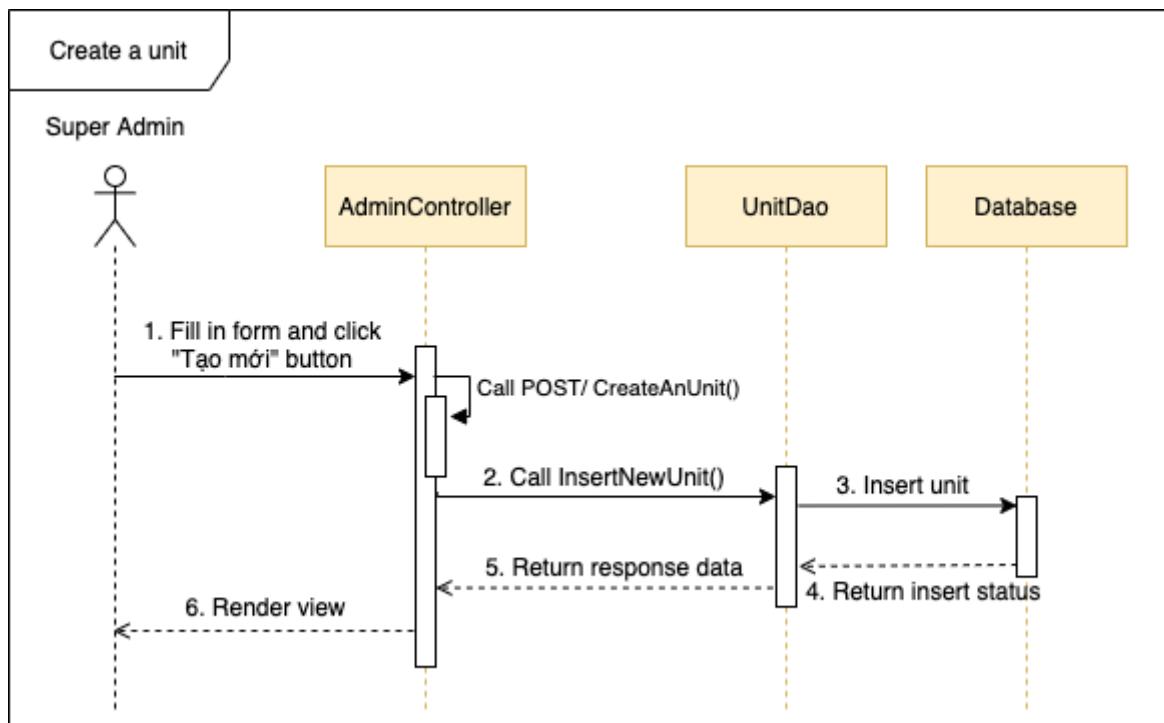


Figure 4.94 - Sequence diagram for UC-18

4.6.19. UC-19 Edit unit

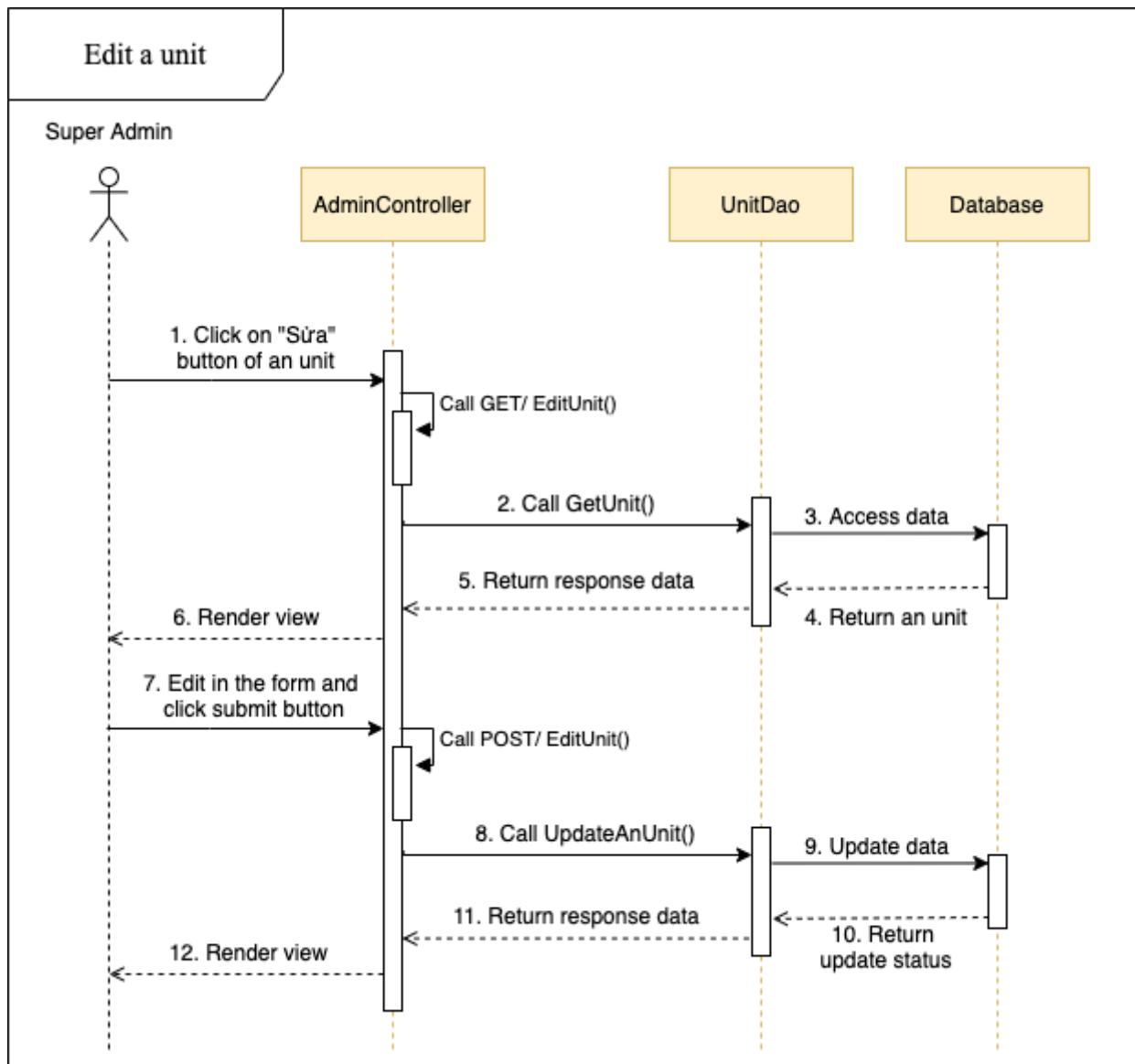


Figure 4.95 - Sequence diagram for UC-19

4.6.20. UC-20 Delete unit

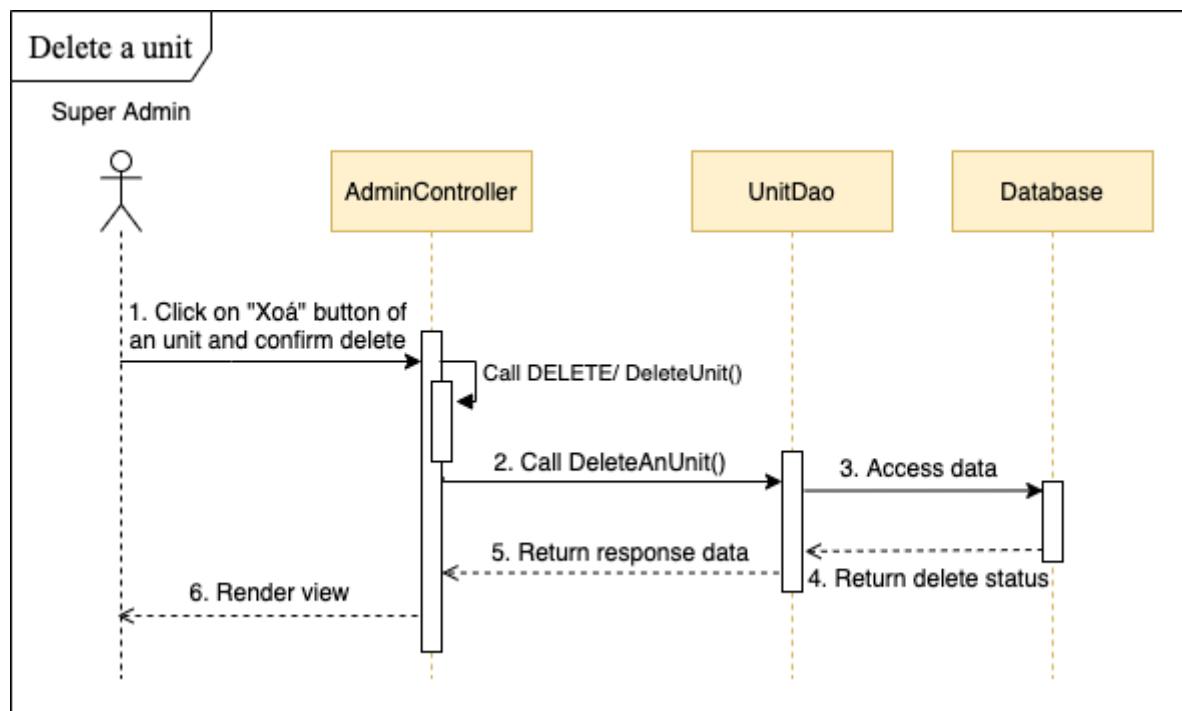


Figure 4.96 - Sequence diagram for UC-20

4.6.21. UC-21 View all locations

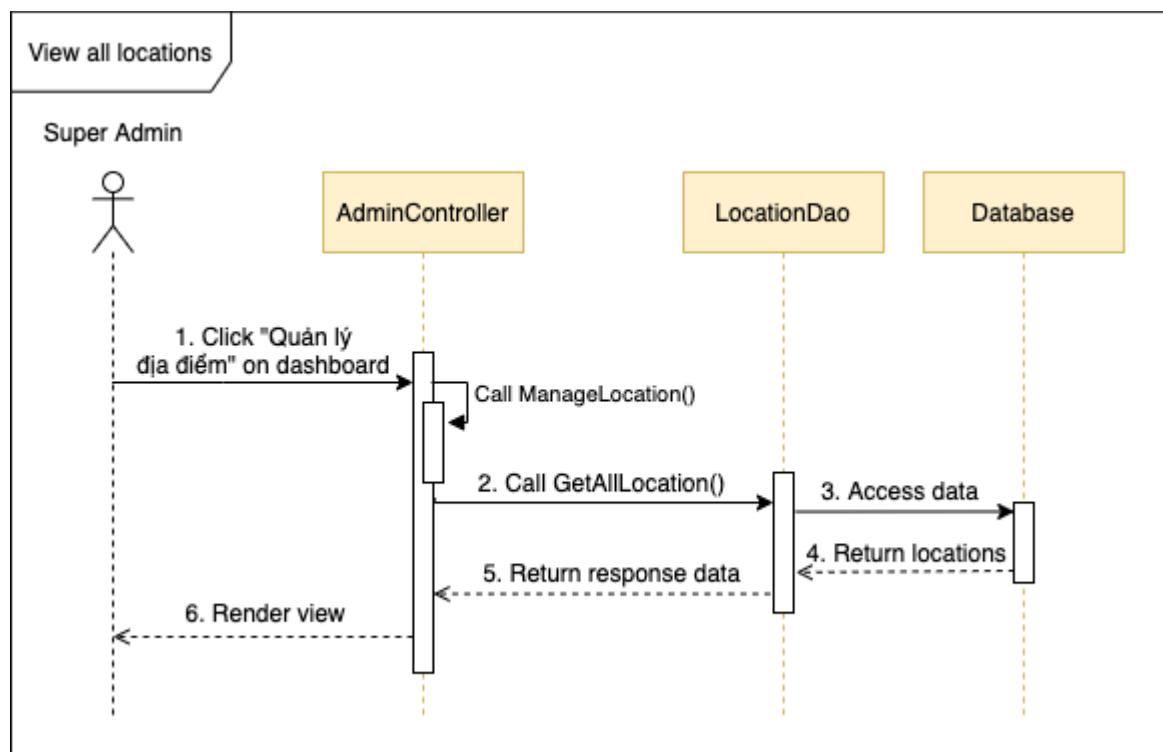


Figure 4.97 - Sequence diagram for UC-21

4.6.22. UC-22 Add location

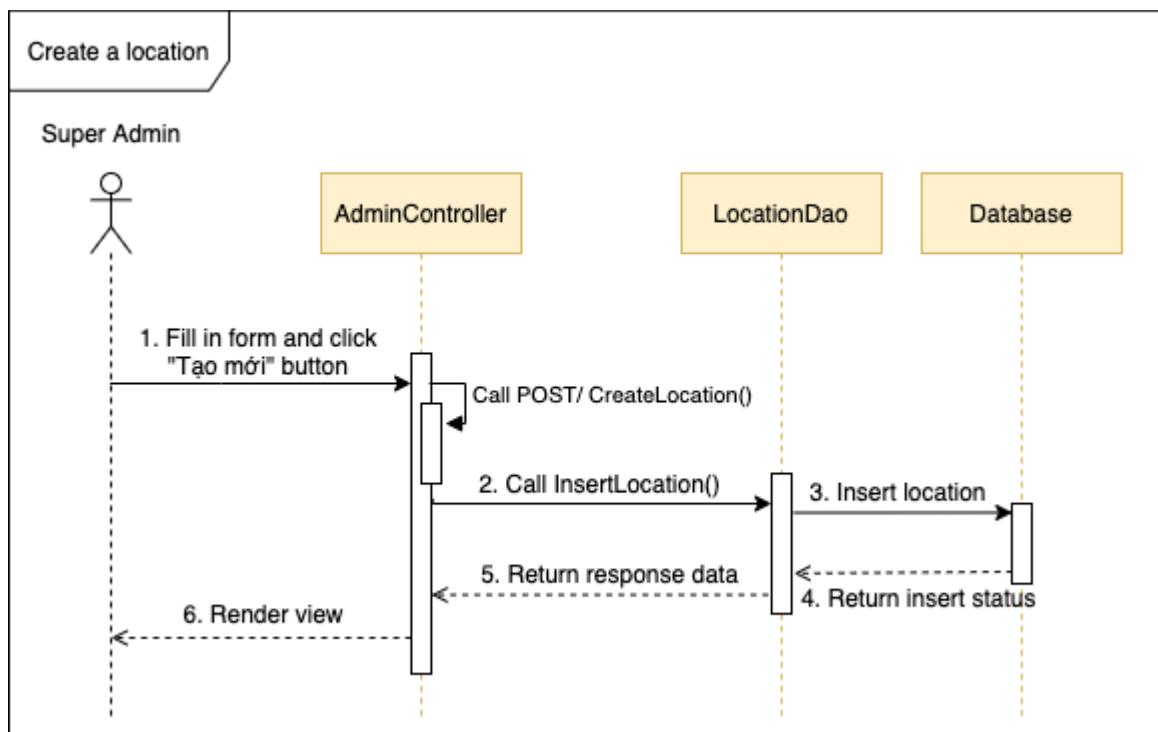


Figure 4.98 - Sequence diagram for UC-22

4.6.23. UC-23 Edit location

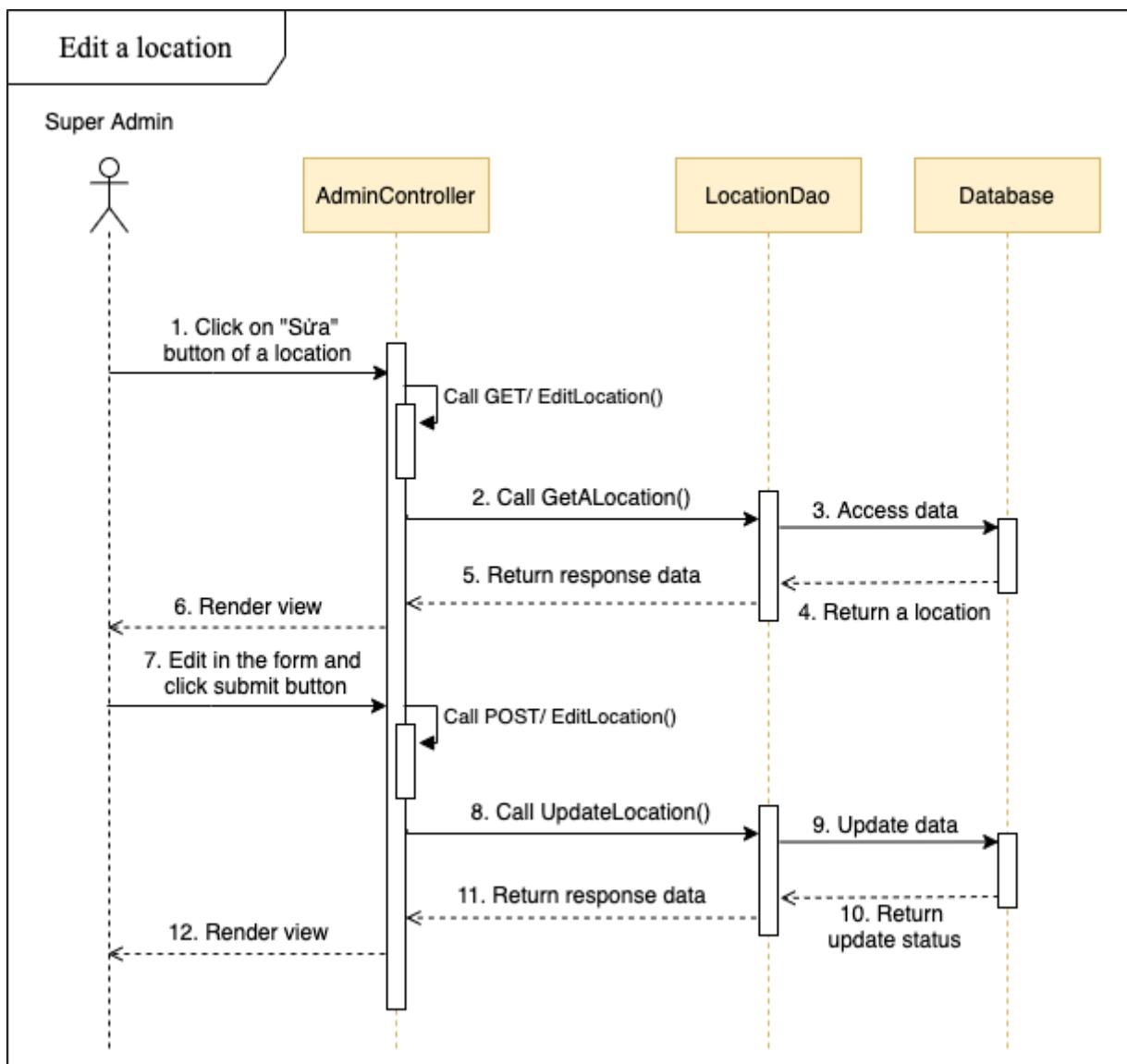


Figure 4.99 - Sequence diagram for UC-23

4.6.24. UC-24 Delete location

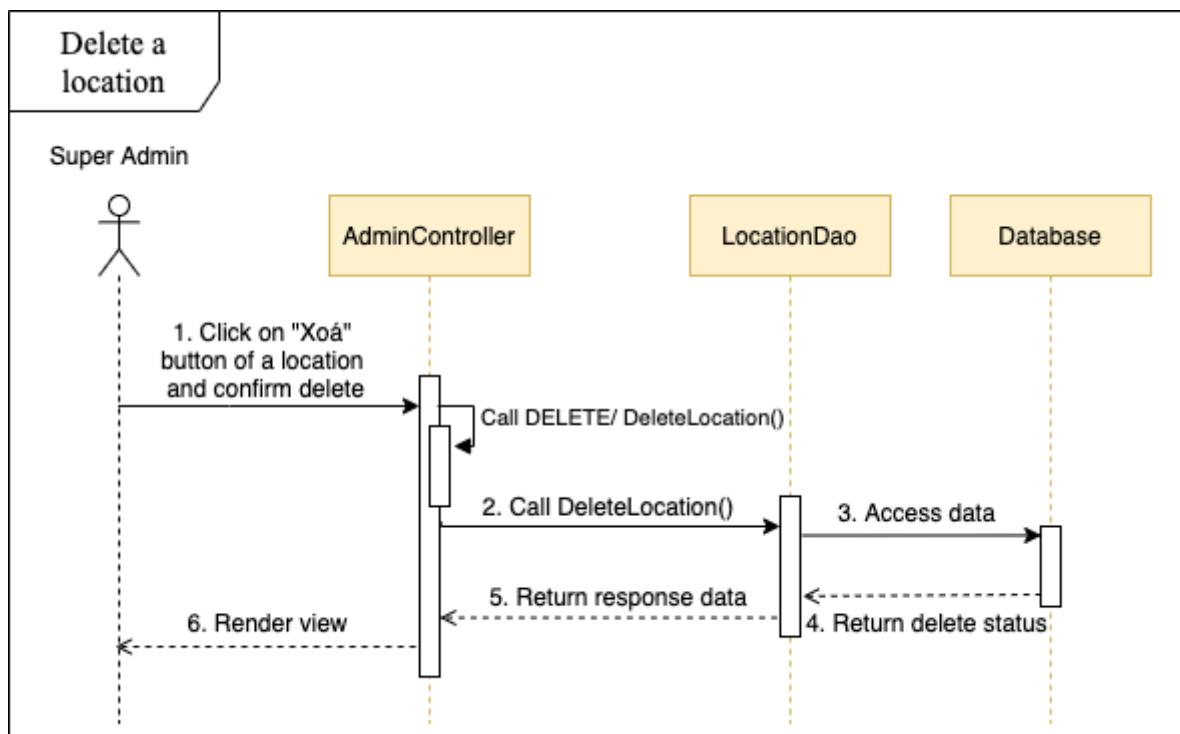


Figure 4.100 - Sequence diagram for UC-24

4.6.25. UC-25 View all question groups

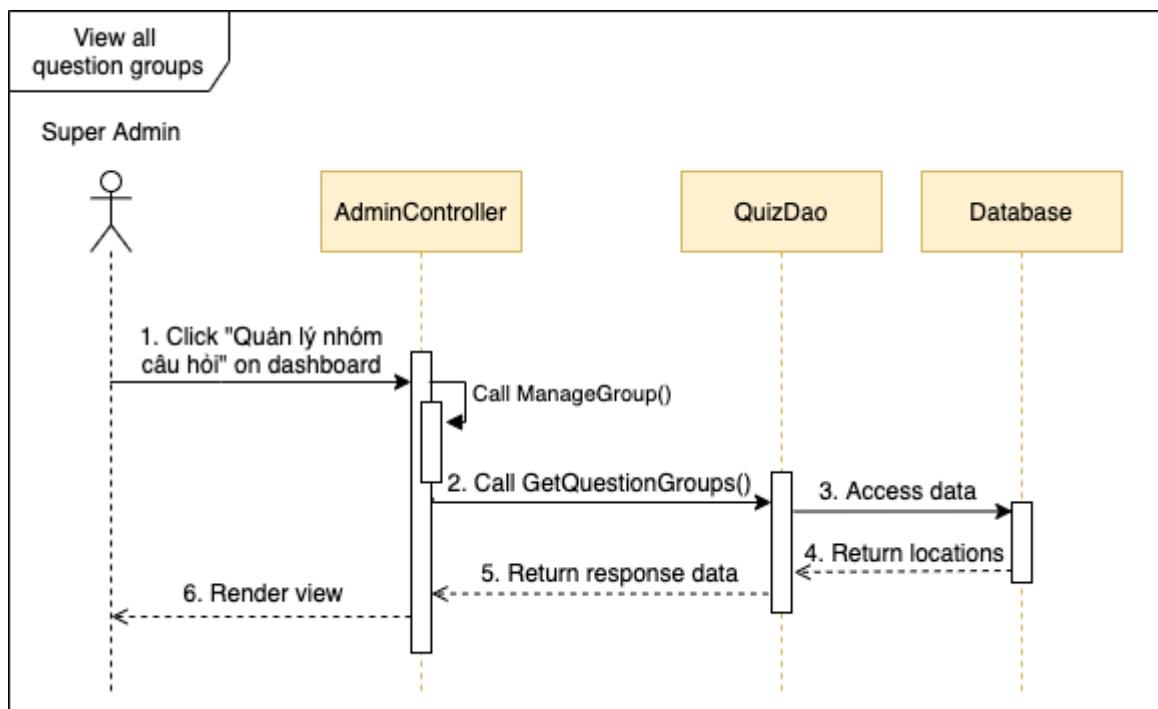


Figure 4.101 - Sequence diagram for UC-25

4.6.26. UC-26 Add question groups

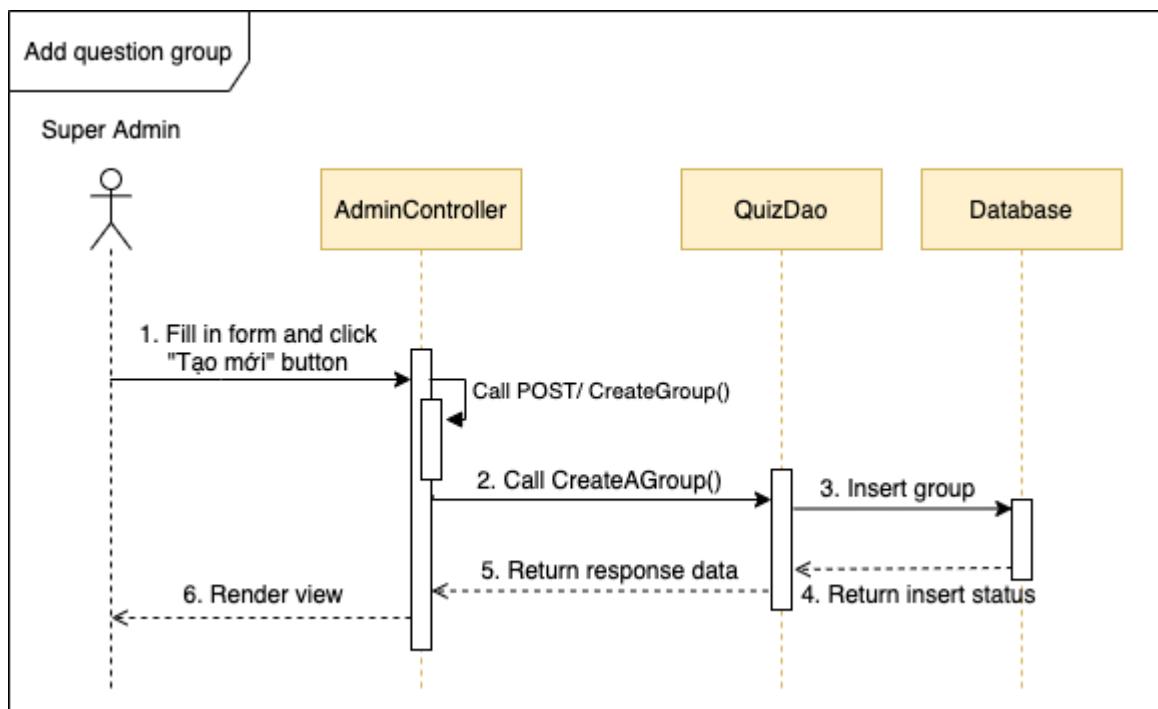


Figure 4.102 - Sequence diagram for UC-26

4.6.27. UC-27 Edit question groups

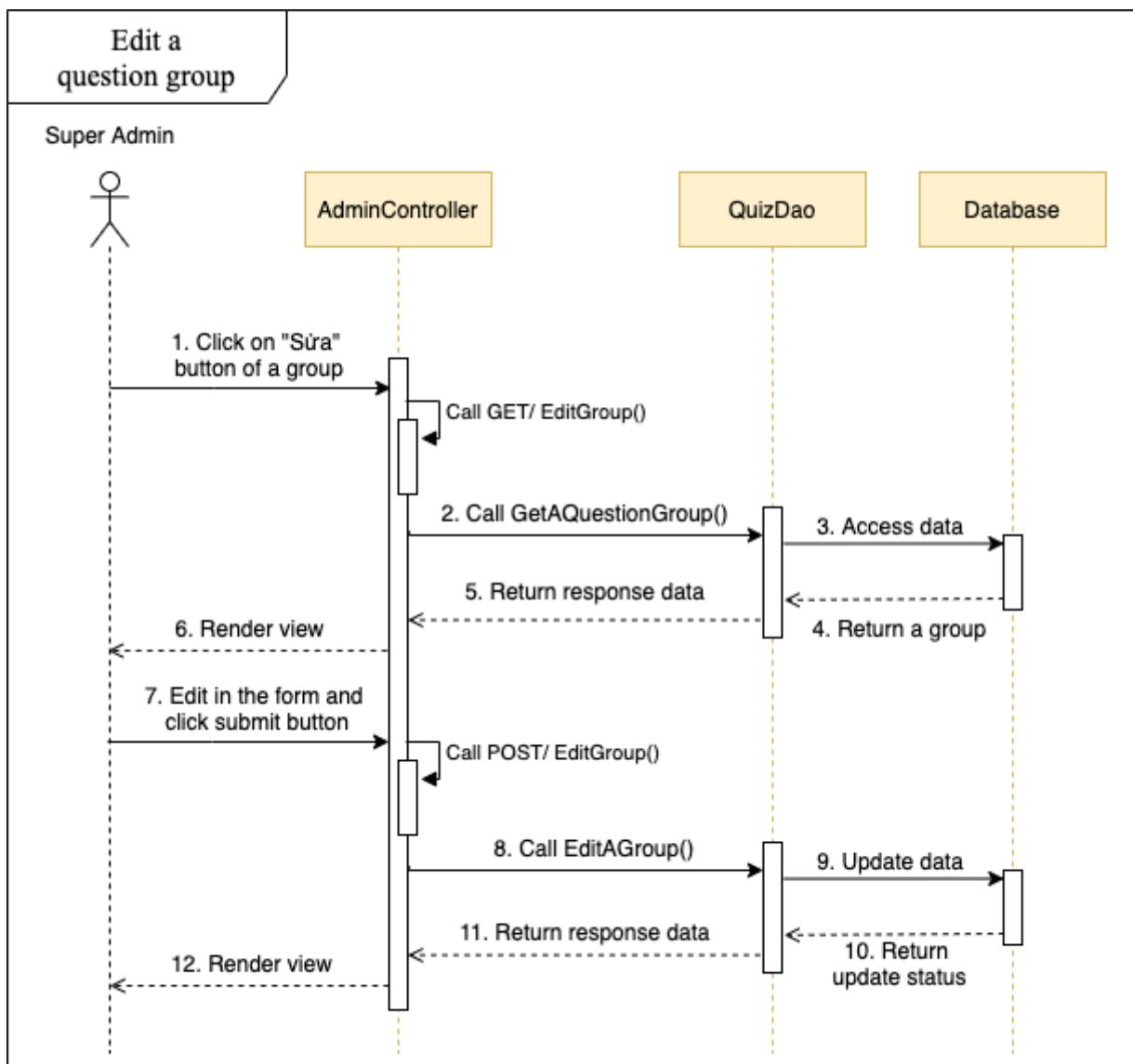


Figure 4.103 - Sequence diagram for UC-27

4.6.28. UC-28 Delete question groups

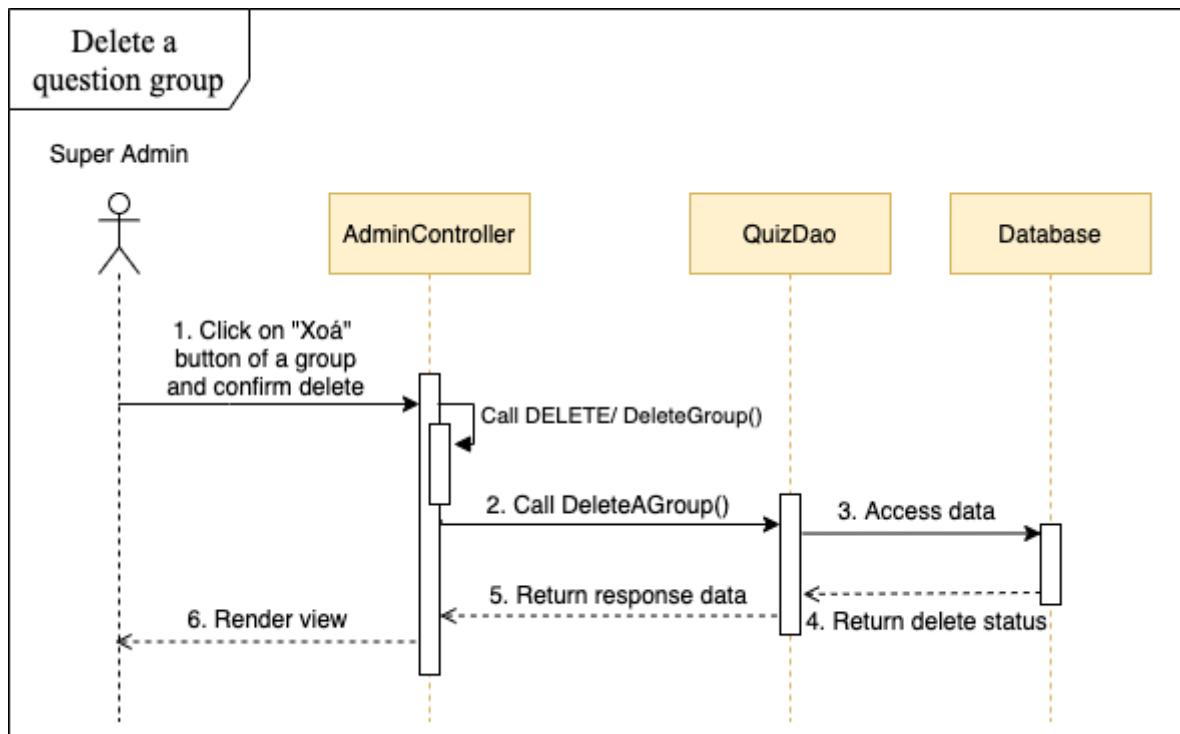


Figure 4.104 - Sequence diagram for UC-28

4.6.29. UC-29 View all questions

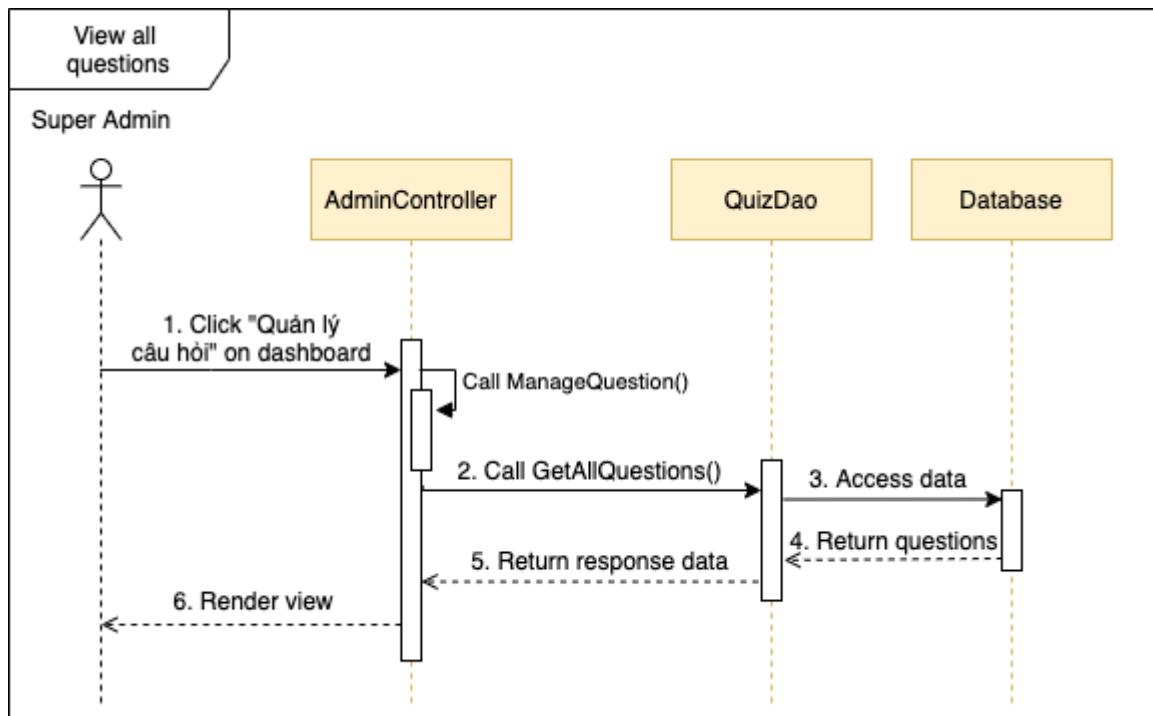


Figure 4.105 - Sequence diagram for UC-29

4.6.30. UC-30 Add question

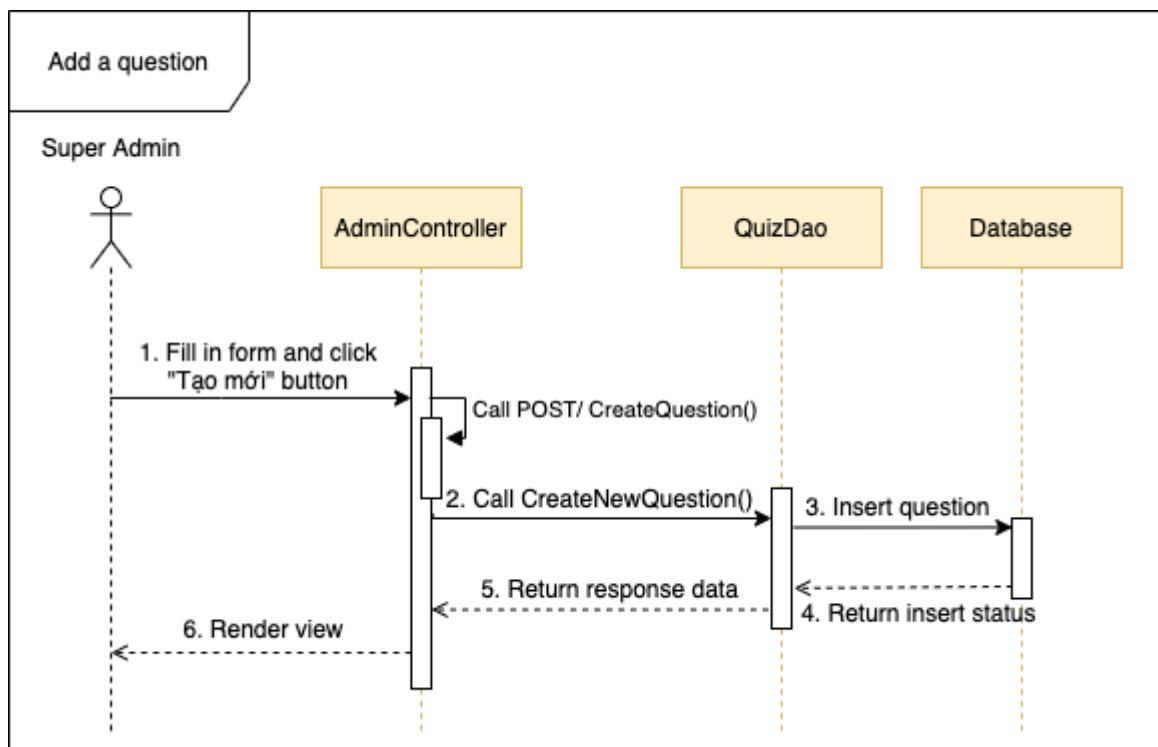


Figure 4.106 - Sequence diagram for UC-30

4.6.31. UC-31 Edit question

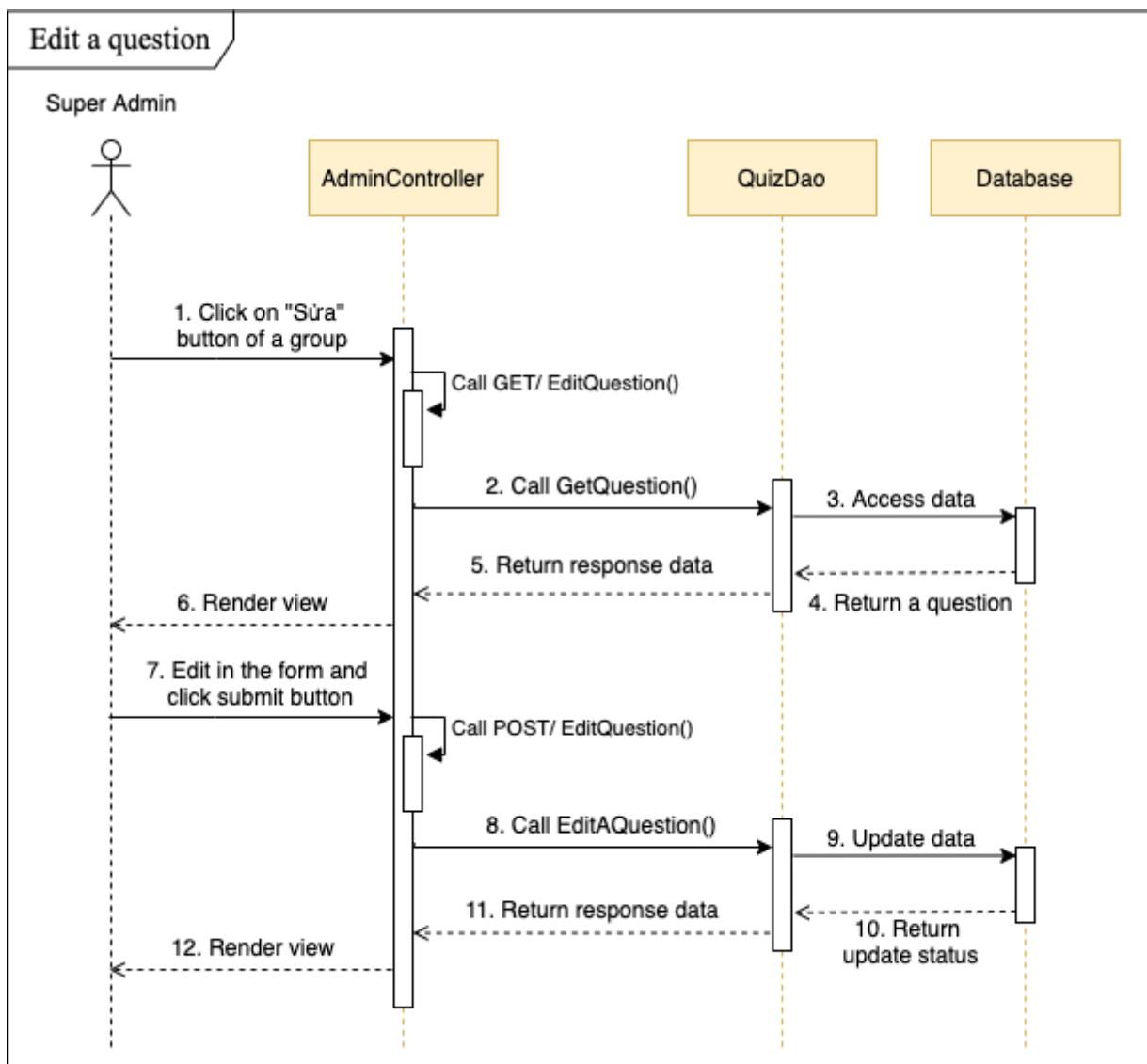


Figure 4.107 - Sequence diagram for UC-31

4.6.32. UC-32 Delete question

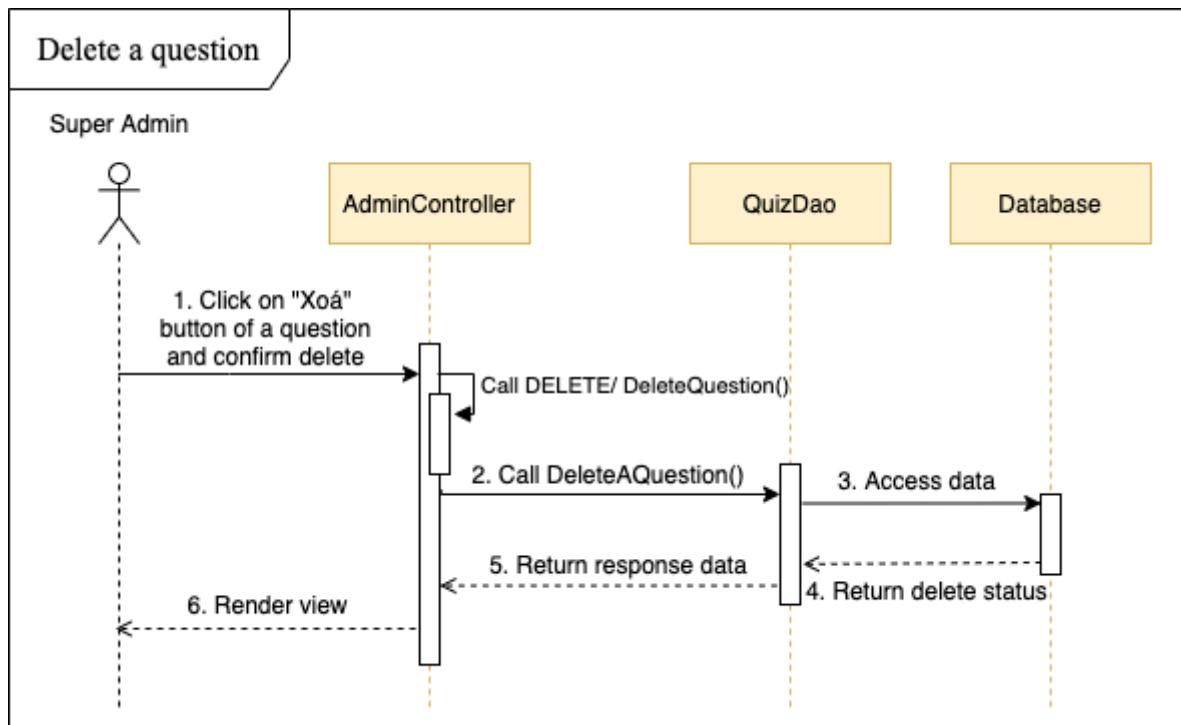


Figure 4.108 - Sequence diagram for UC-32

4.6.33. UC-33 Search question

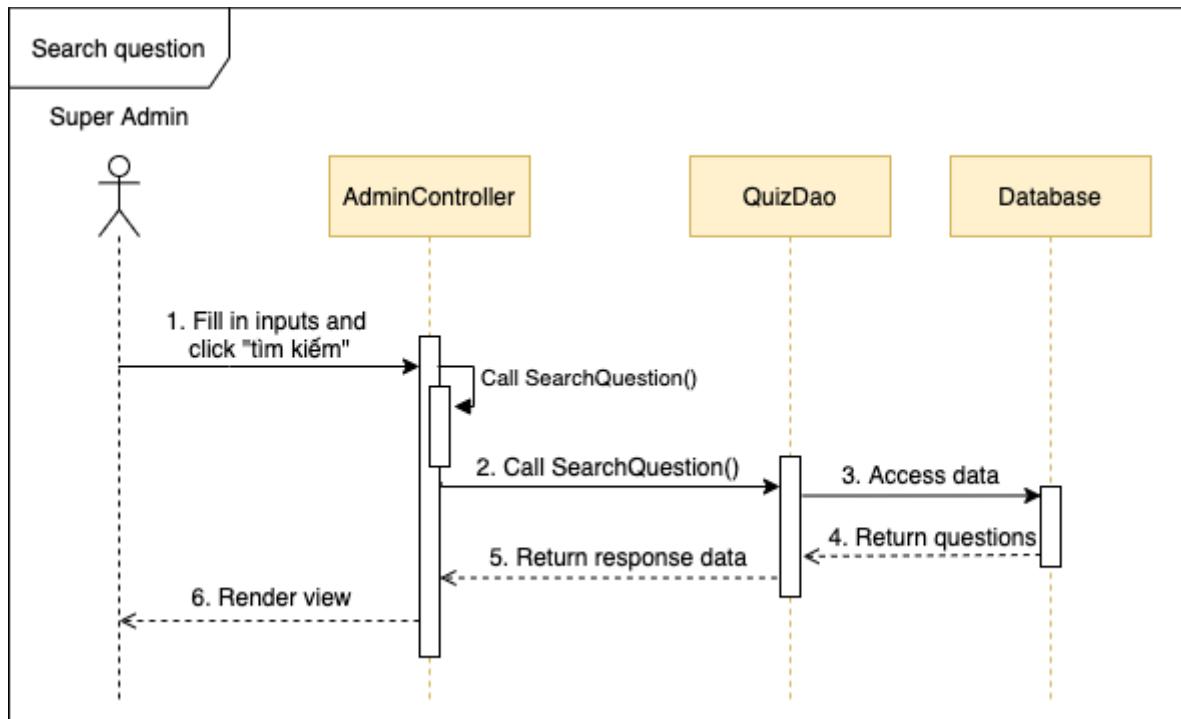


Figure 4.109 - Sequence diagram for UC-33

4.6.34. UC-34 View all quizzes

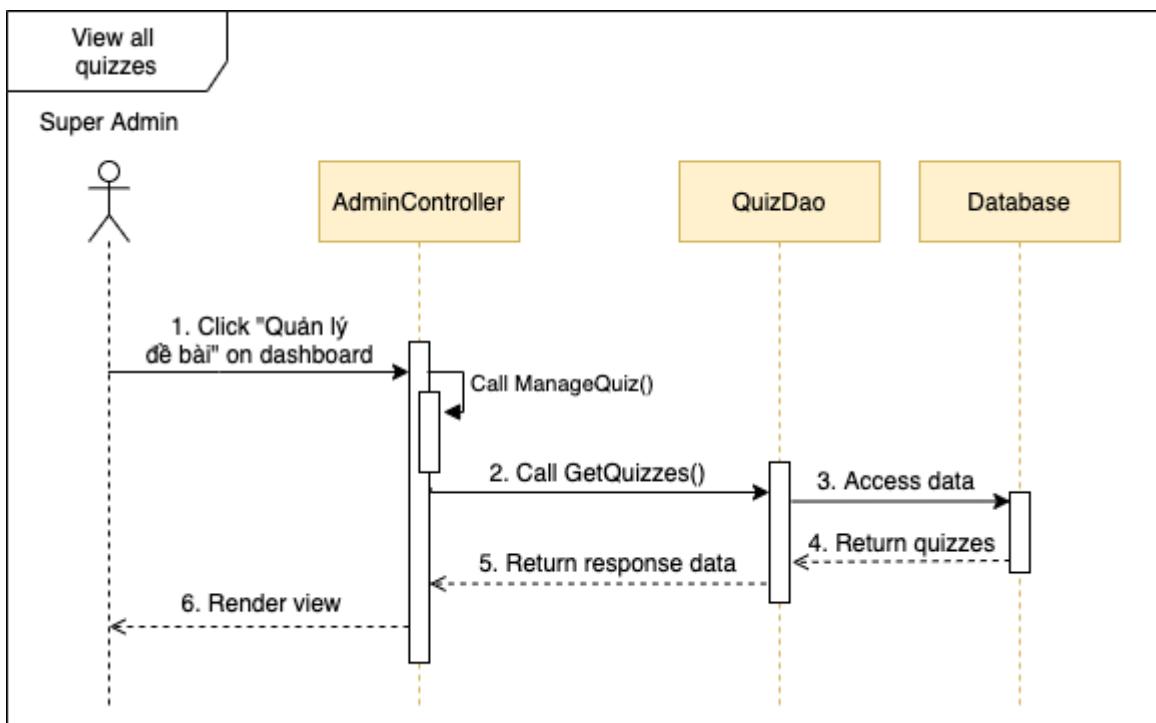


Figure 4.110 - Sequence diagram for UC-34

4.6.35. UC-35 Add quiz

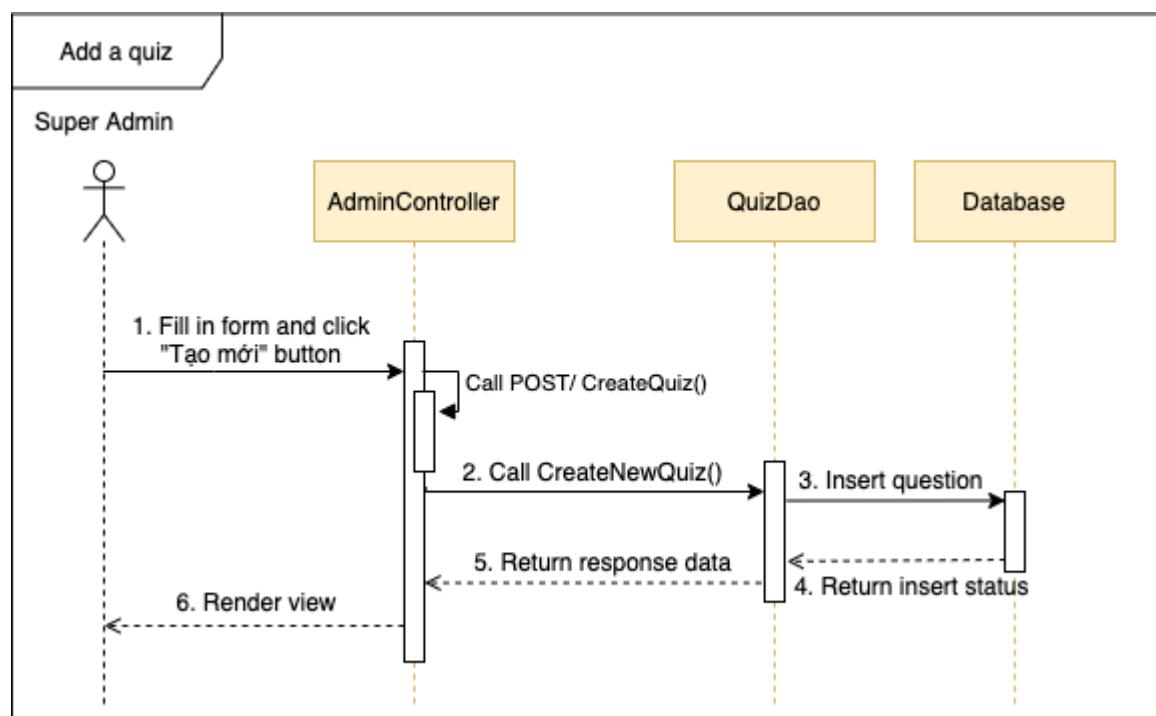


Figure 4.111 - Sequence diagram for UC-35

4.6.36. UC-36 Edit quiz

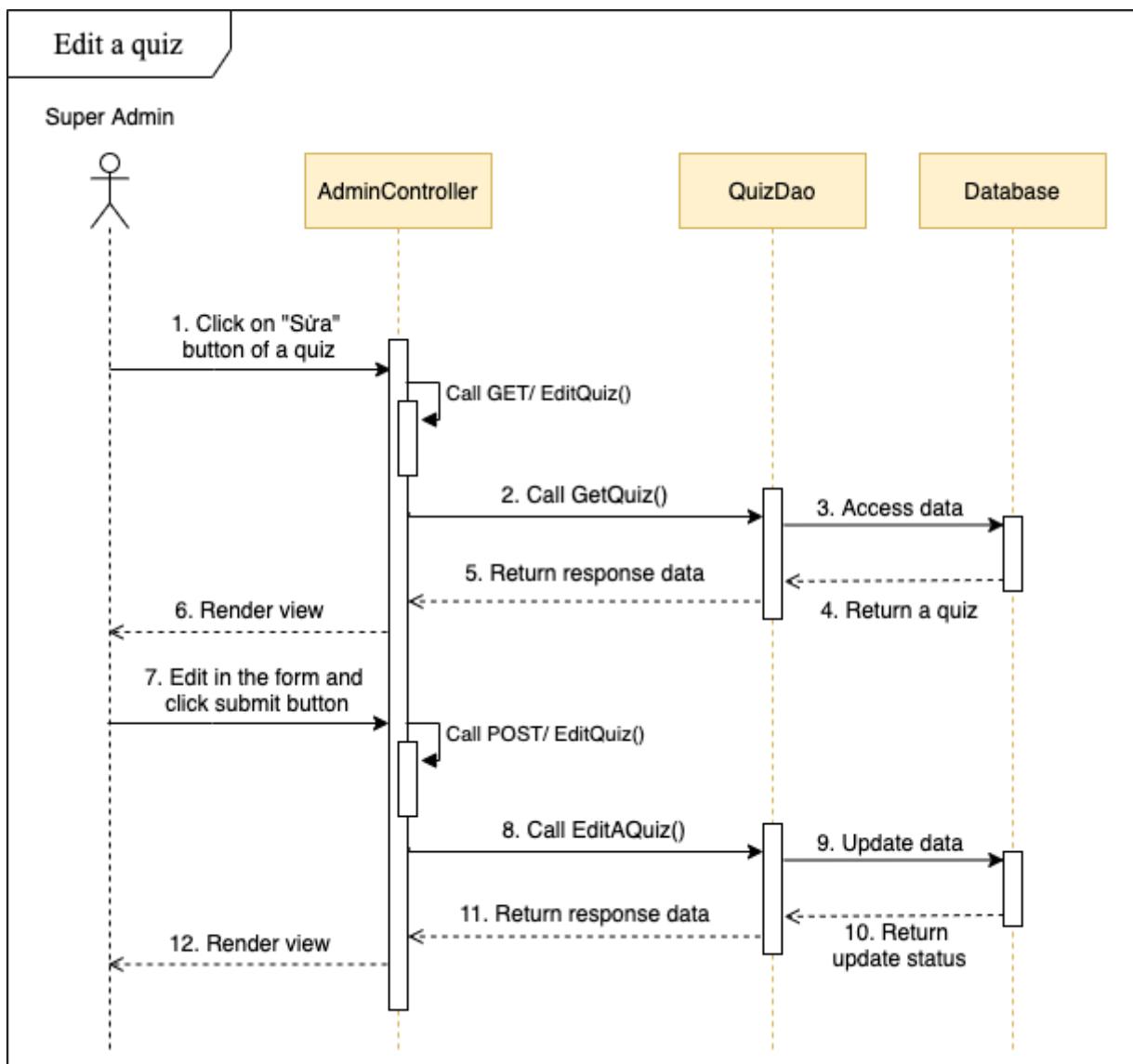


Figure 4.112 - Sequence diagram for UC-36

4.6.37. UC-37 Delete quiz

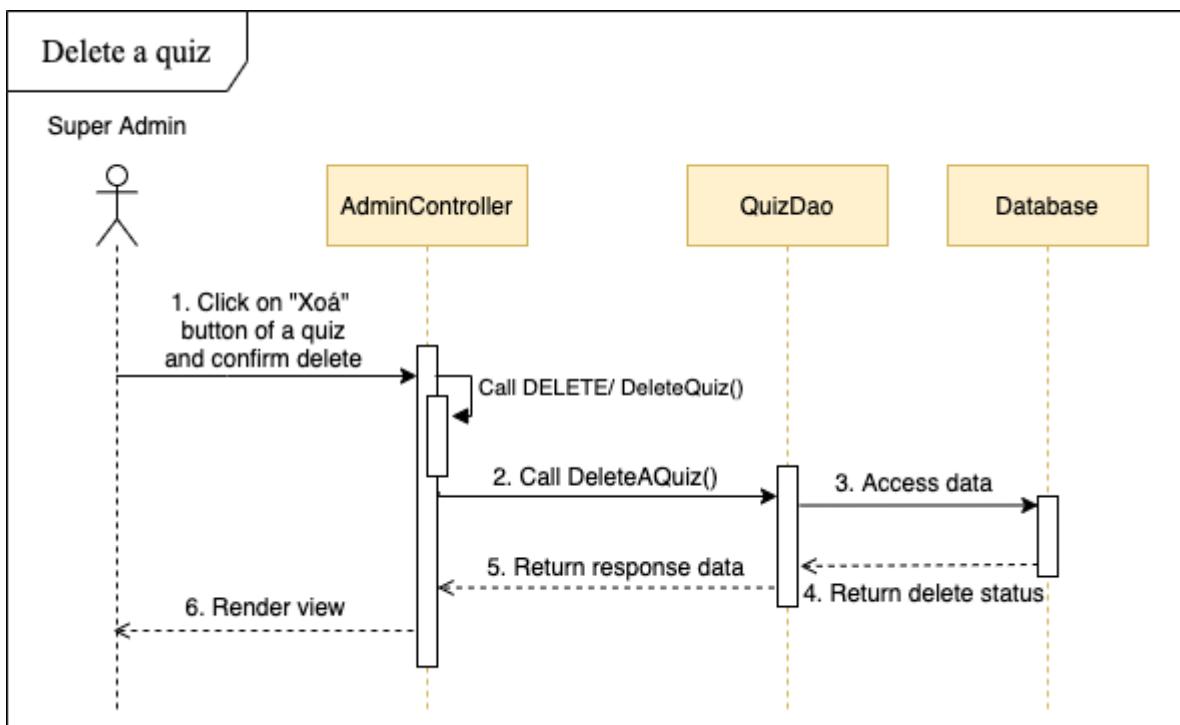


Figure 4.113 - Sequence diagram for UC-37

4.6.38. UC-38 View all careers

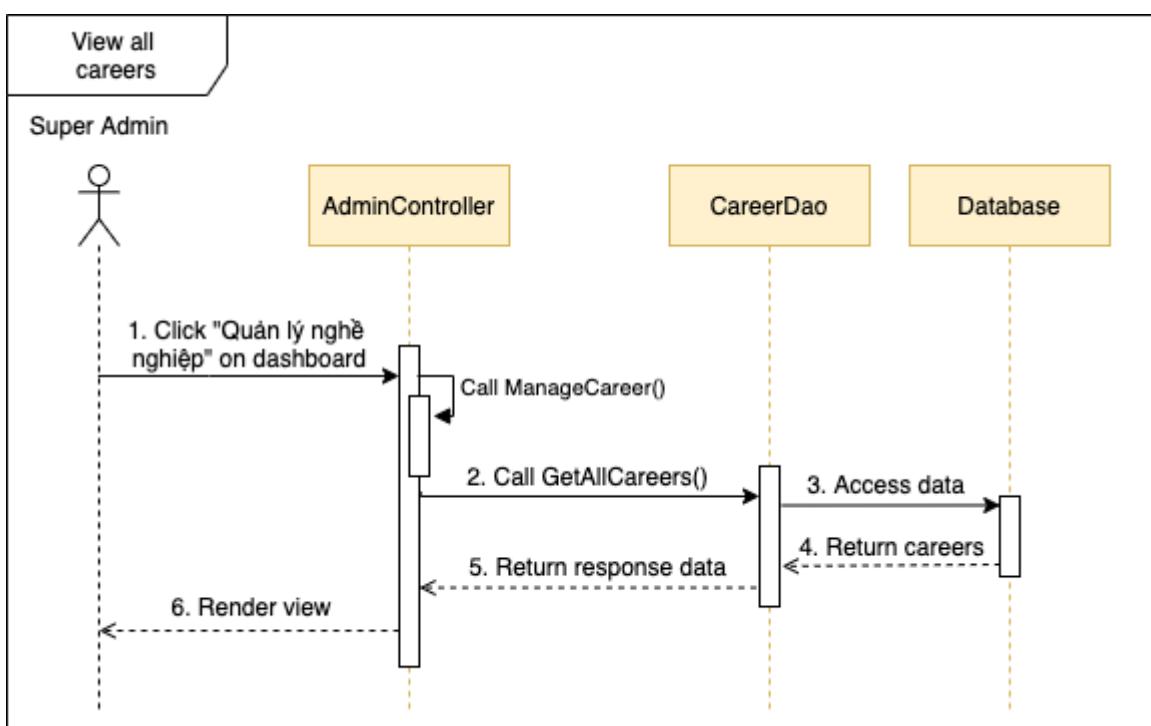


Figure 4.114 - Sequence diagram for UC-38

4.6.39. UC-39 Add career

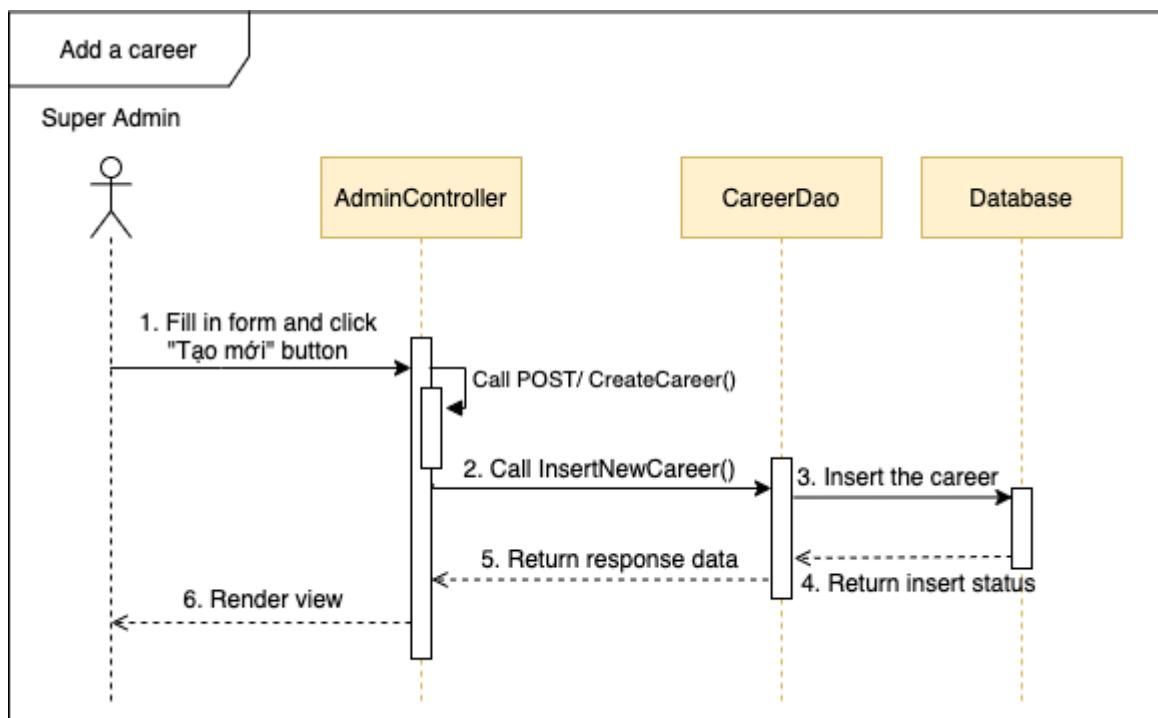


Figure 4.115 - Sequence diagram for UC-39

4.6.40. UC-40 Edit career

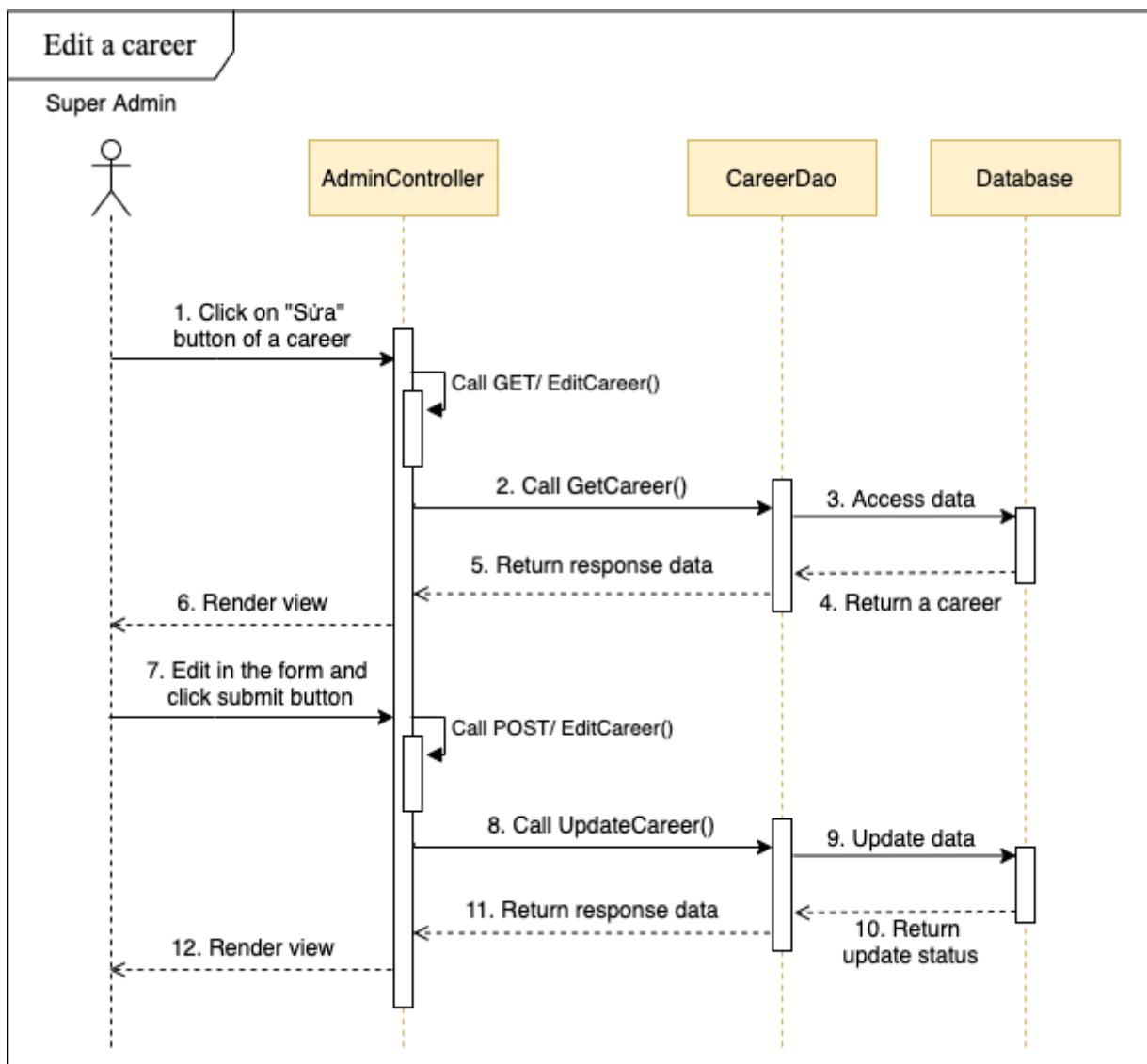


Figure 4.116 - Sequence diagram for UC-40

4.6.41. UC-41 Delete career

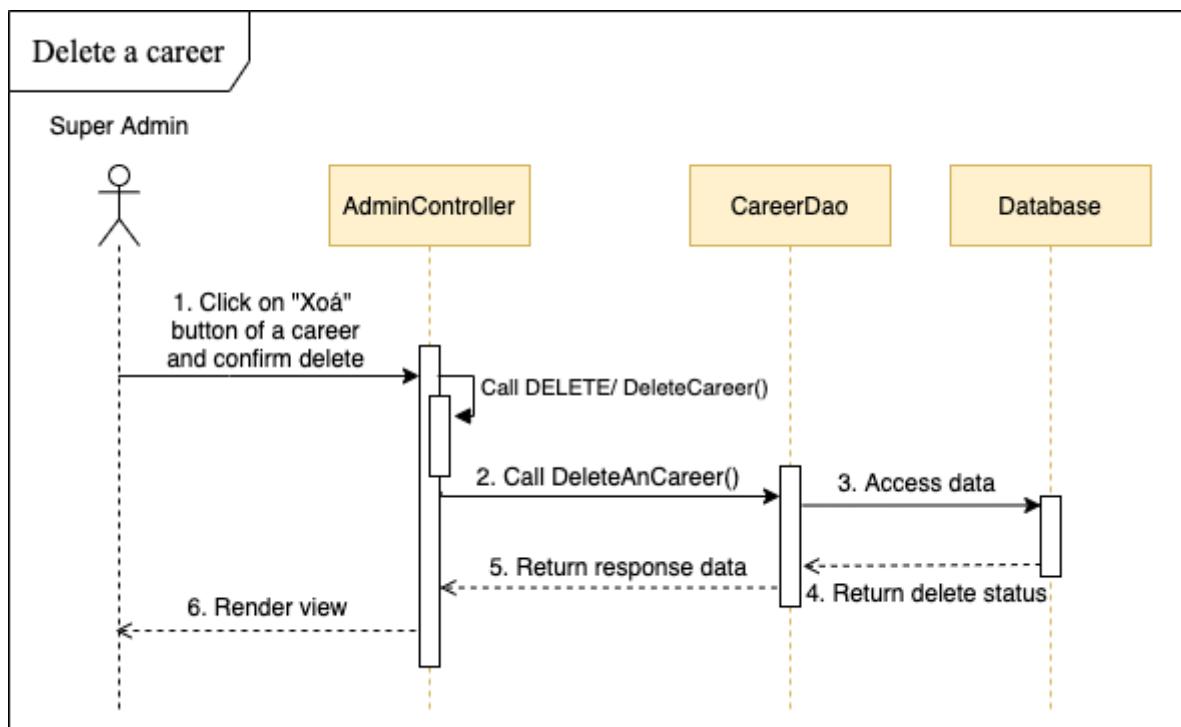


Figure 4.117 - Sequence diagram for UC-41

4.6.42. UC-42 View all config emails

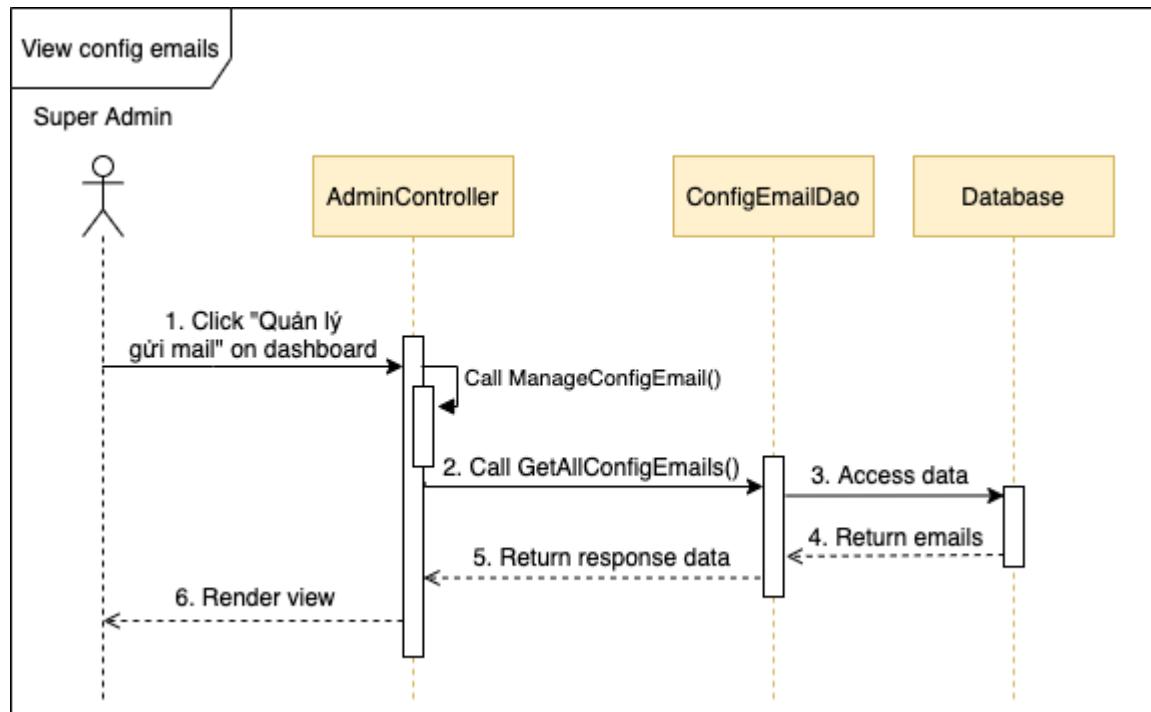


Figure 4.118 - Sequence diagram for UC-42

4.6.43. UC-43 Add config email

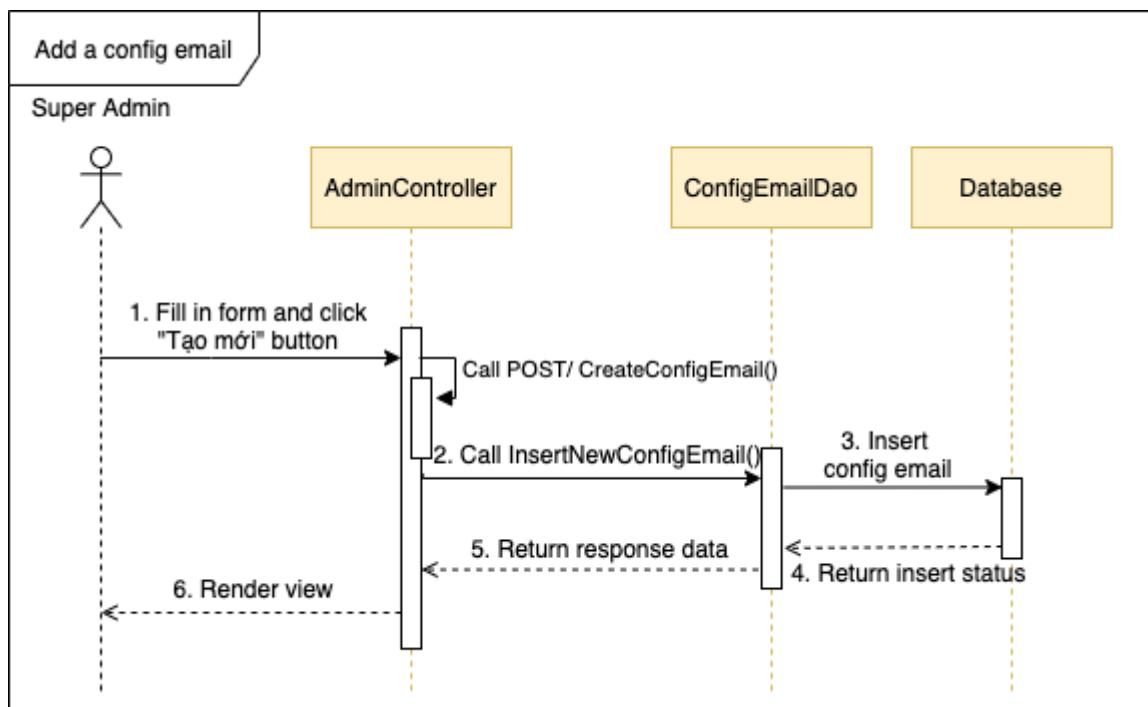


Figure 4.119 - Sequence diagram for UC-43

4.6.44. UC-44 Edit config email

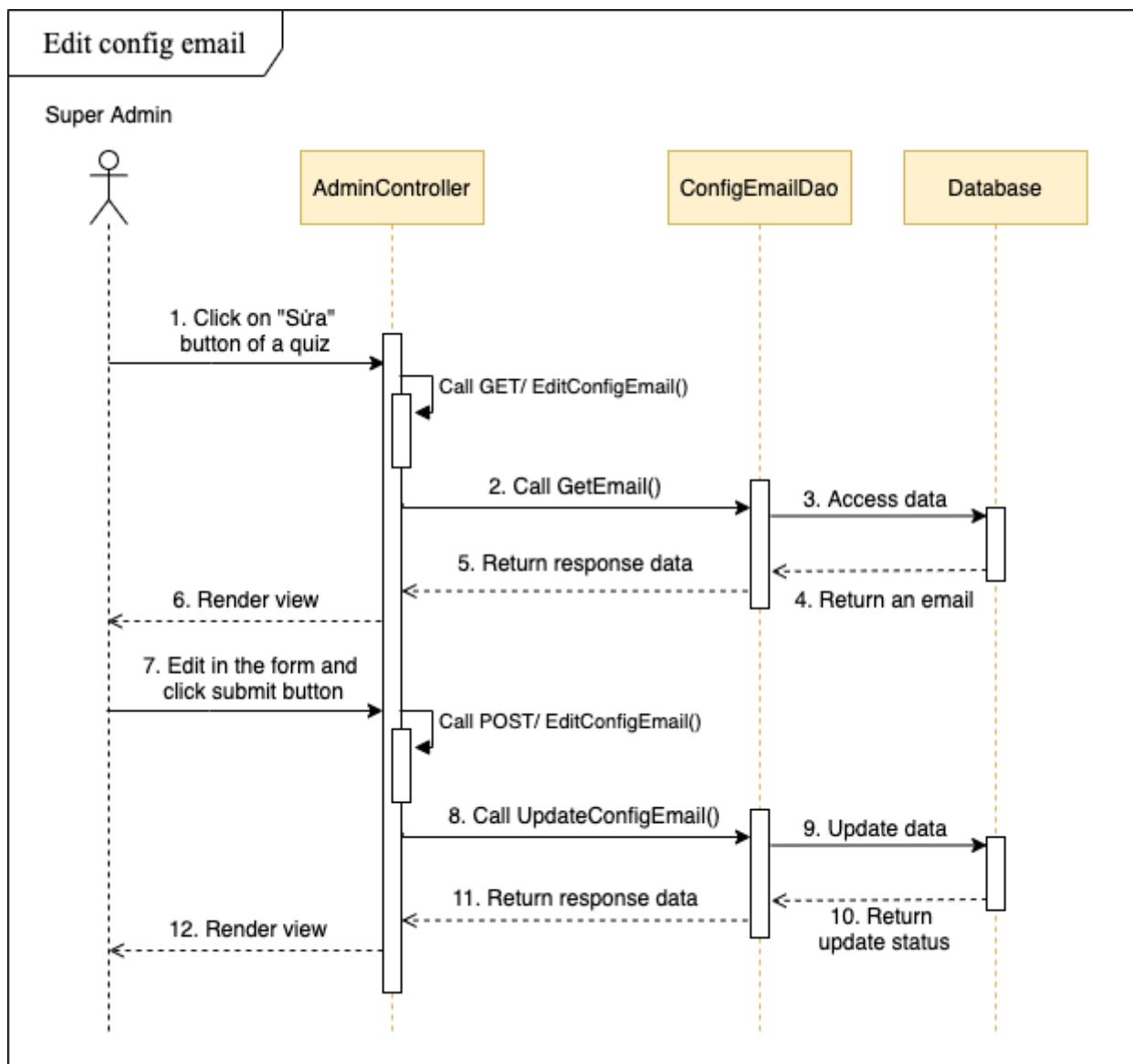


Figure 4.120 - Sequence diagram for UC-44

4.6.45. UC-45 Delete config email

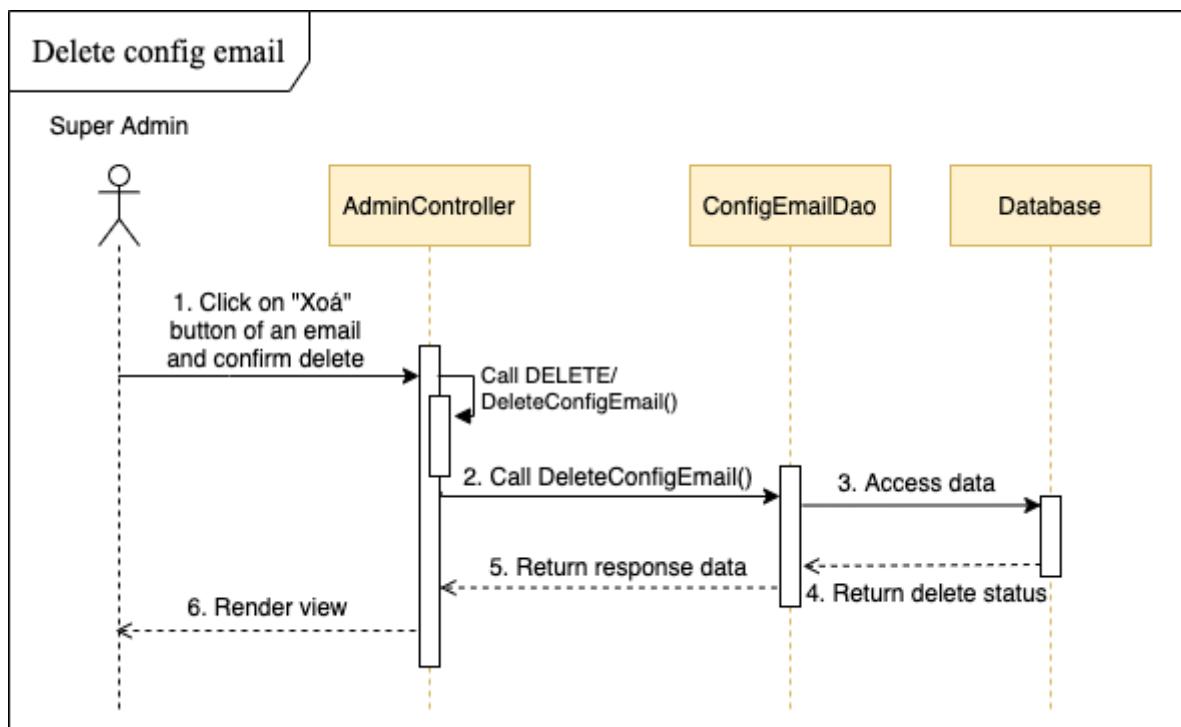


Figure 4.121 - Sequence diagram for UC-45

4.6.46. UC-46 View log

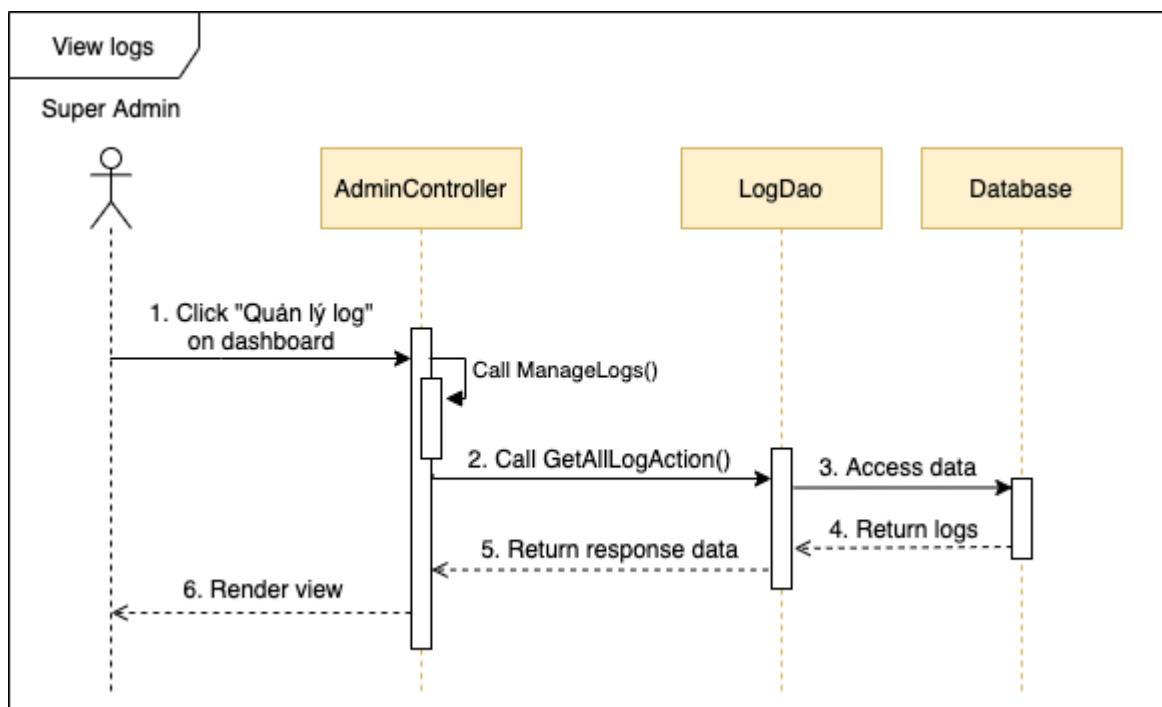


Figure 4.122 - Sequence diagram for UC-46

4.6.47. UC-47 Login

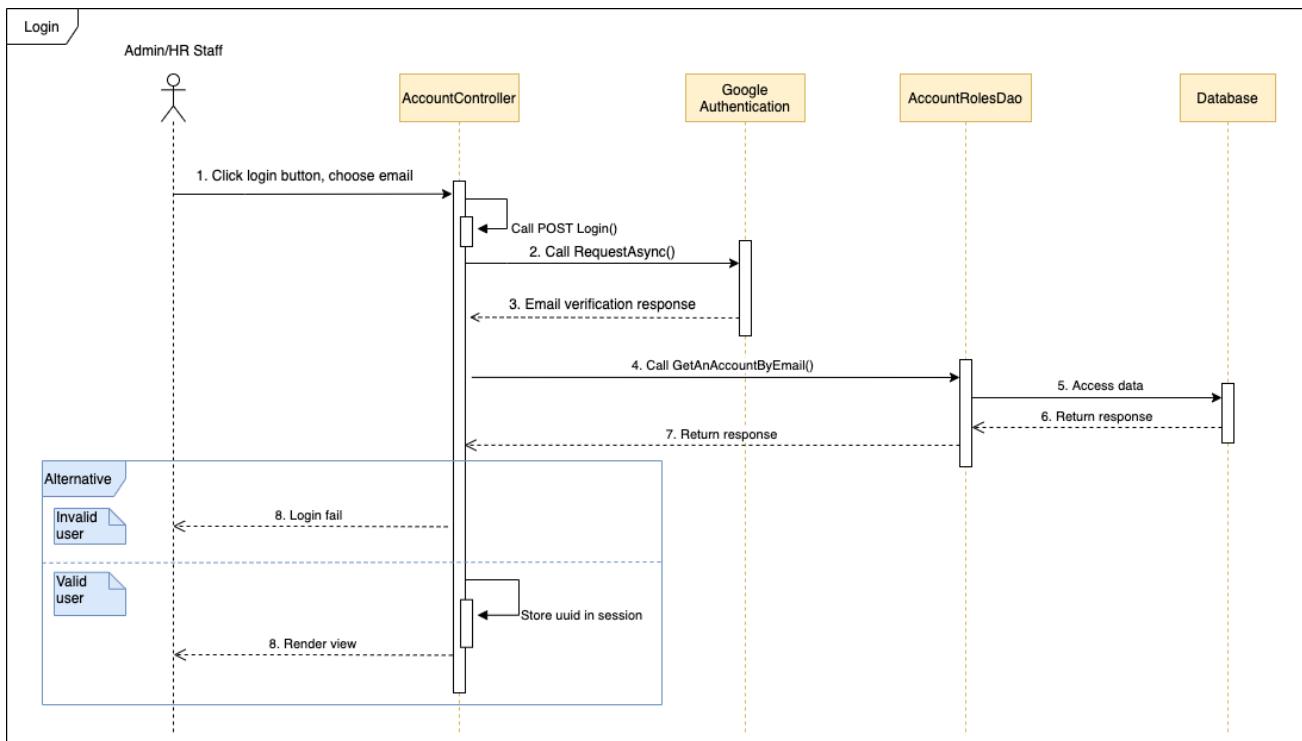


Figure 4.123 - Sequence diagram for UC-47

4.6.48. UC-48 Logout

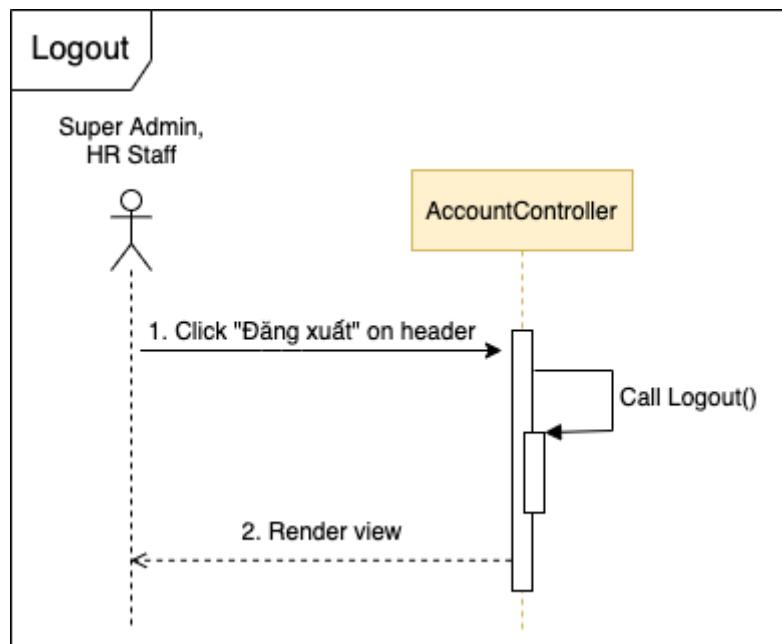


Figure 4.124 - Sequence diagram for UC-48

4.6.49. UC-49 View all CVs

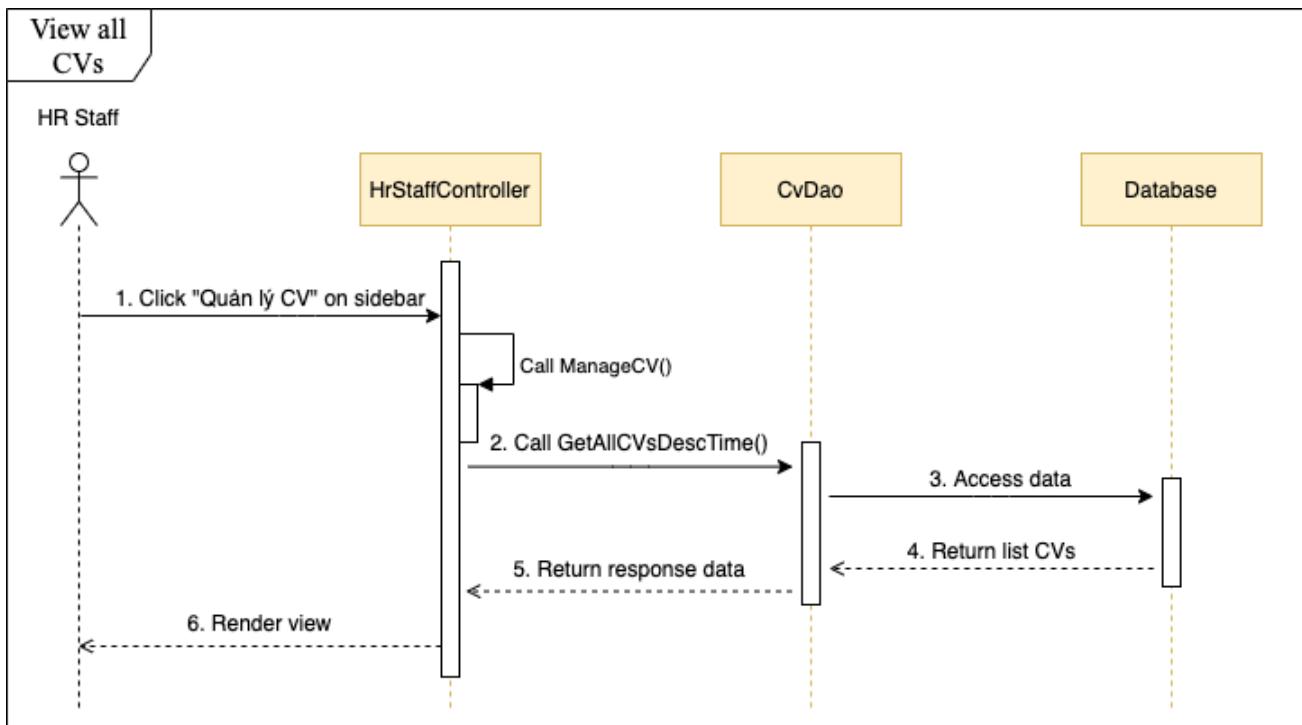


Figure 4.125 - Sequence diagram for UC-49

4.6.50. UC-50 View detail CV

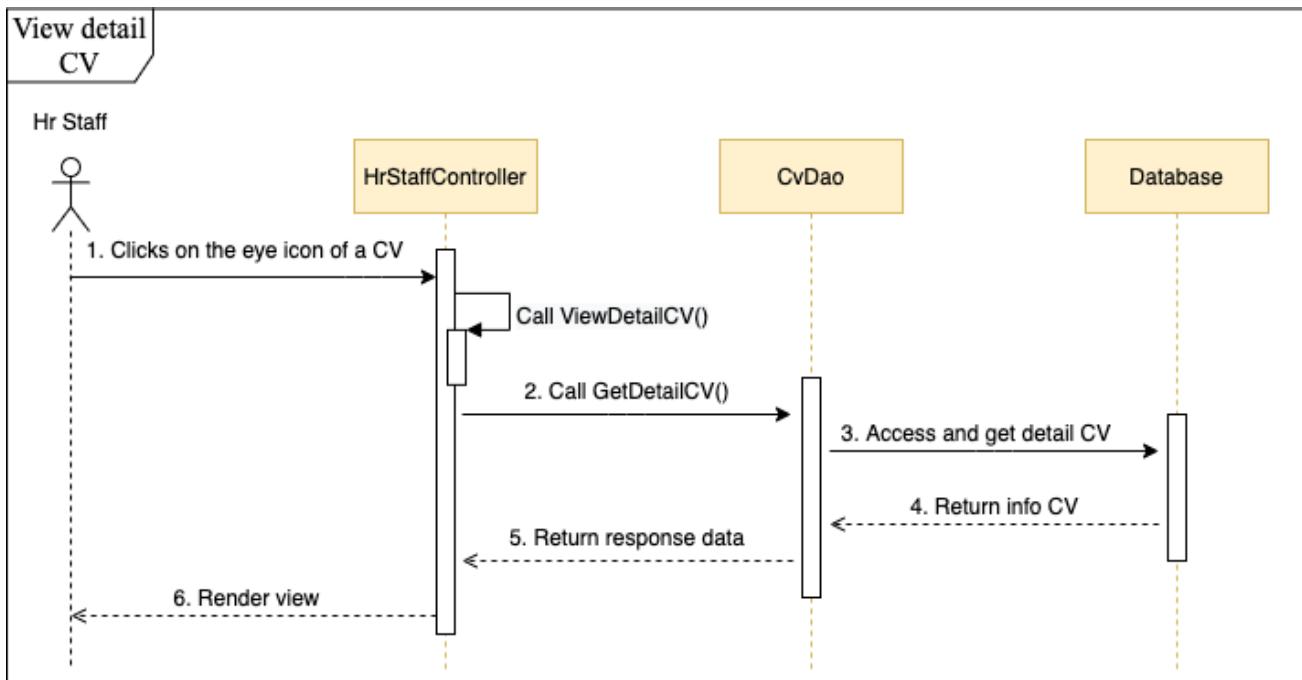


Figure 4.126 - Sequence diagram for UC-50

4.6.51. UC-51 Change CV status

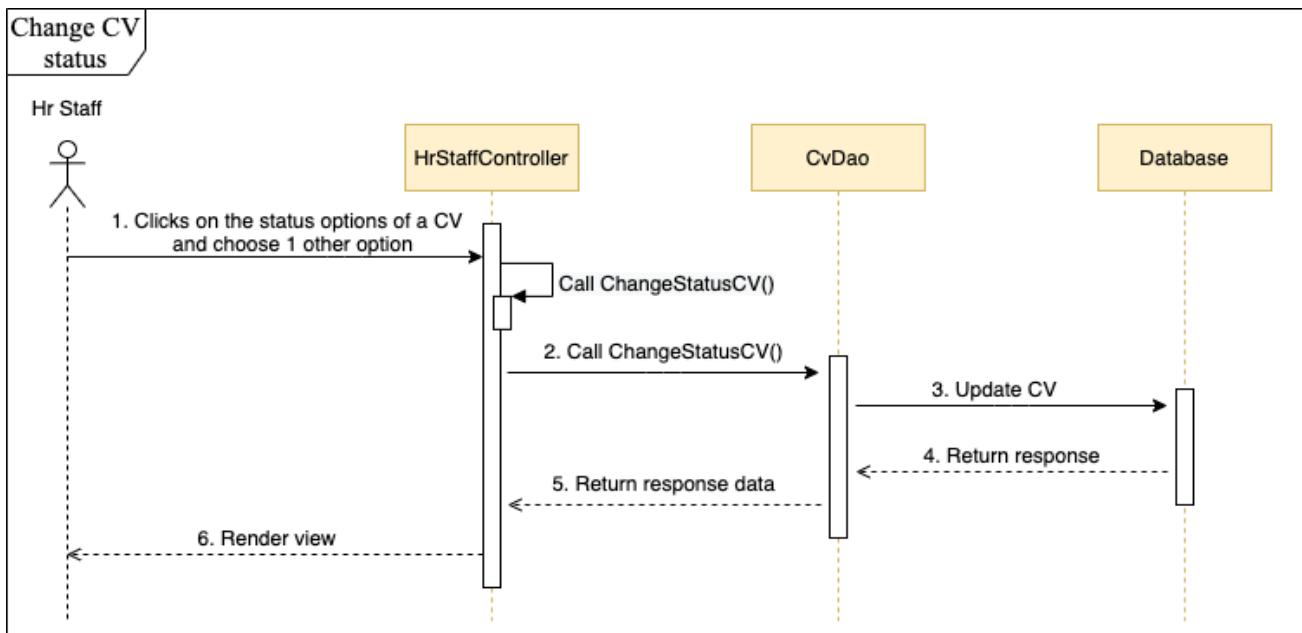


Figure 4.127 - Sequence diagram for UC-51

4.6.52. UC-52 Search CV

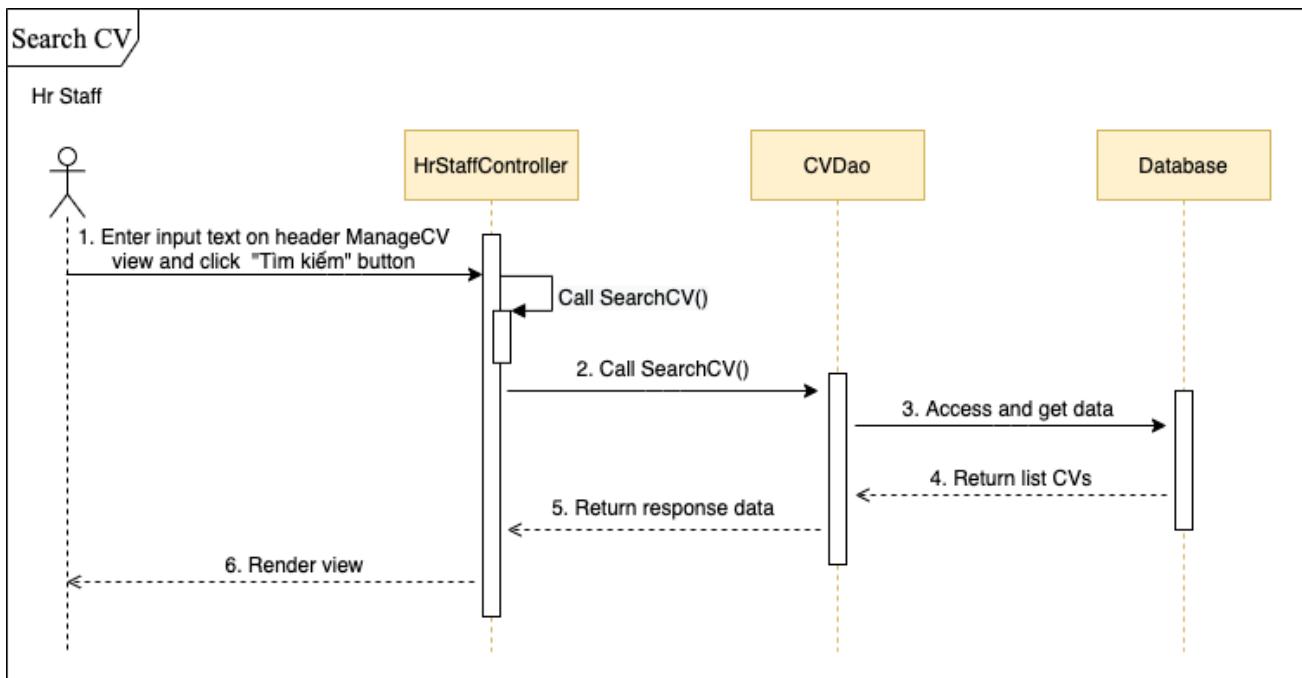


Figure 4.128 - Sequence diagram for UC-52

4.6.53. UC-53 Delete CV

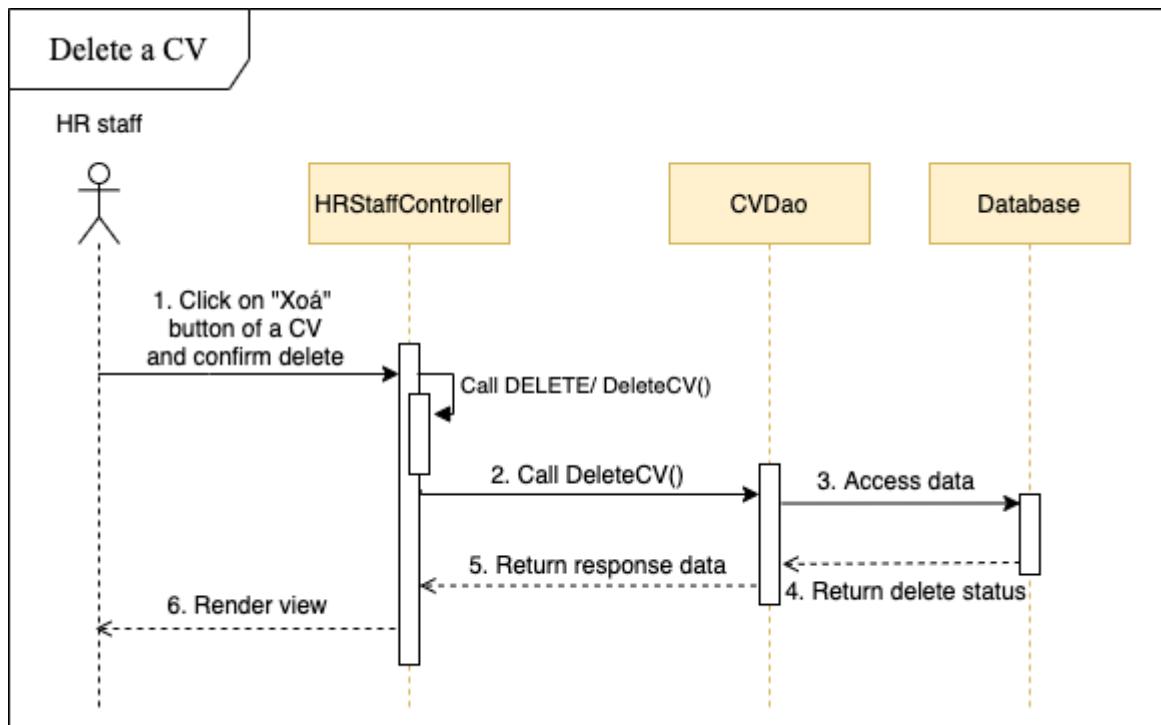


Figure 4.129 - Sequence diagram for UC-53

4.6.54. UC-54 Send email quiz

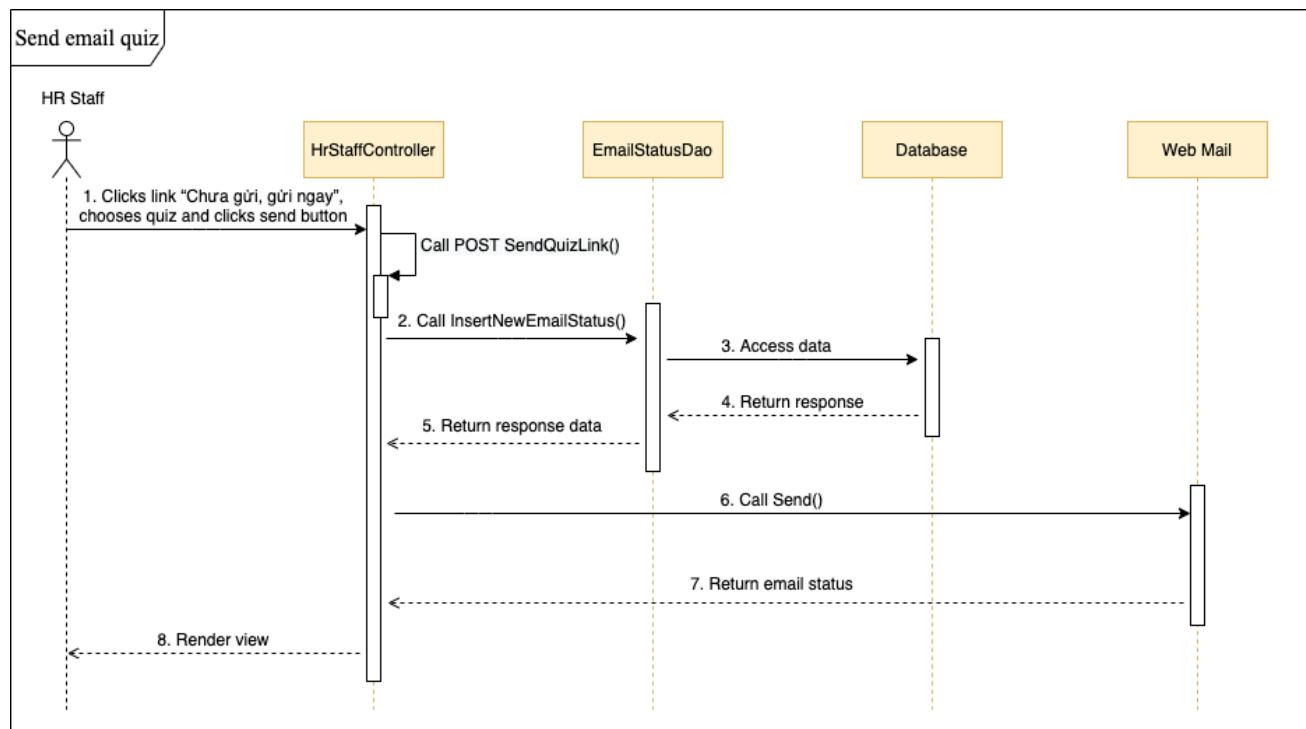


Figure 4.130 - Sequence diagram for UC-54

4.6.55. UC-55 Export CV

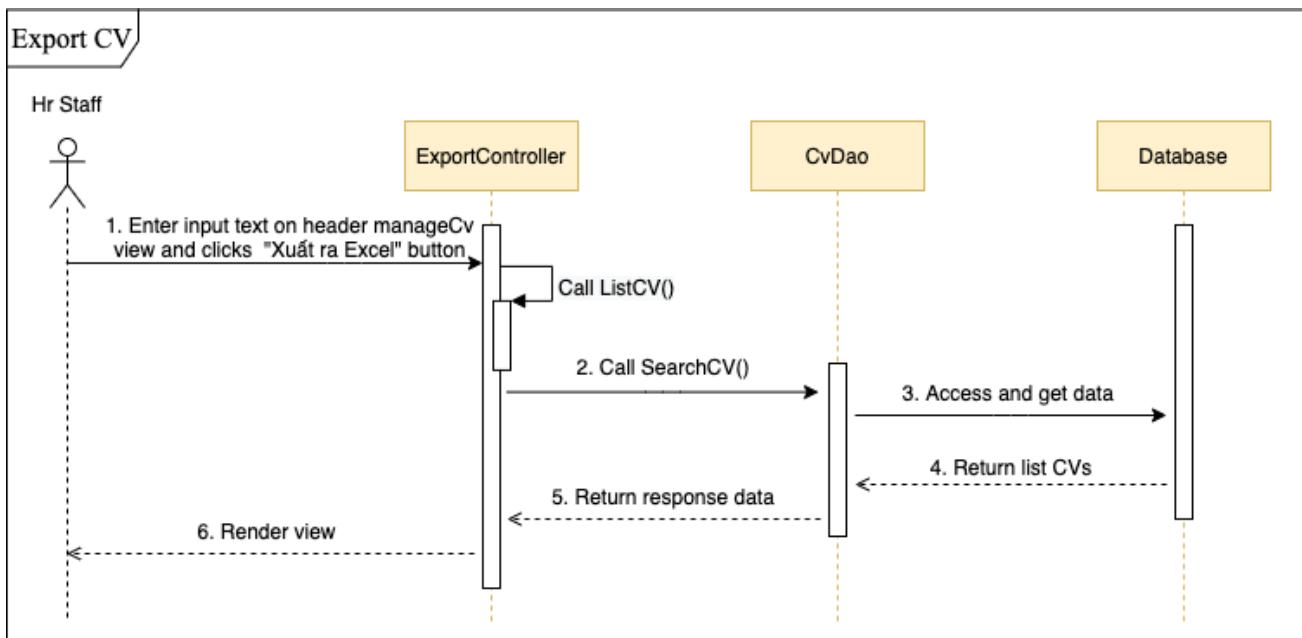


Figure 4.131 - Sequence diagram for UC-55

4.6.56. UC-56 View all jobs

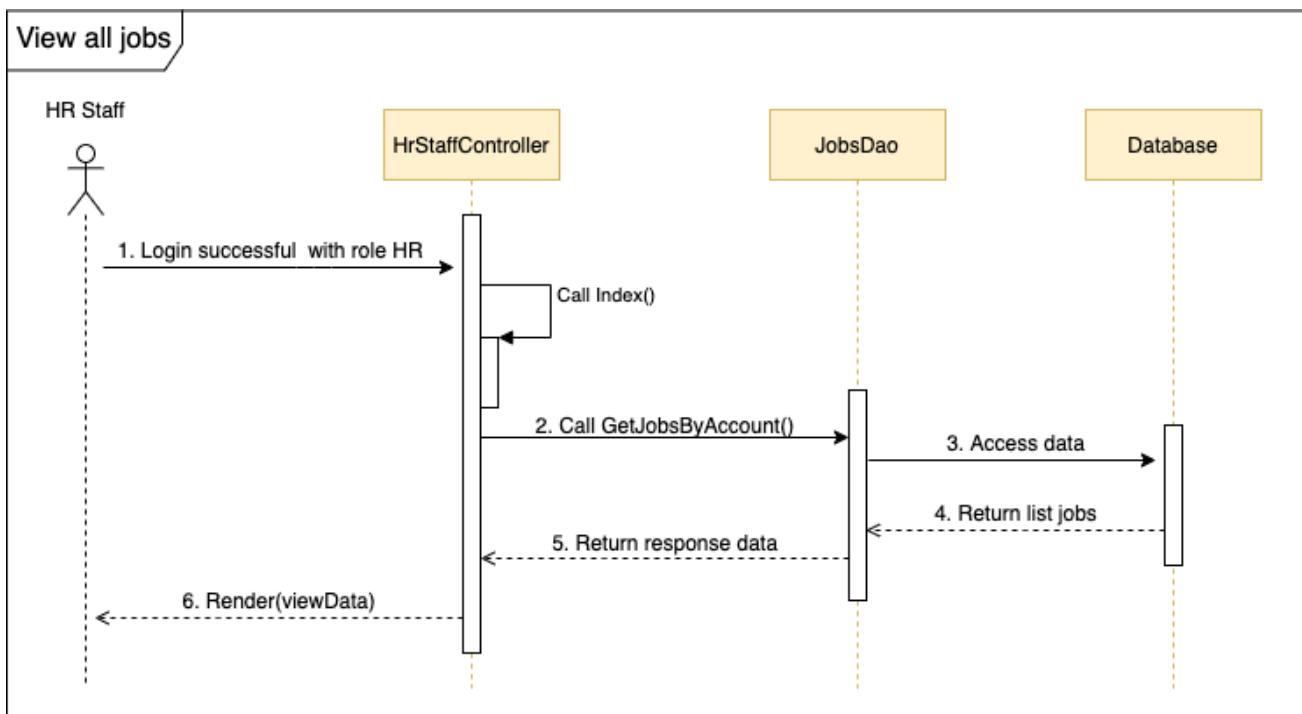


Figure 4.132 - Sequence diagram for UC-56

4.6.57. UC-57 Add job

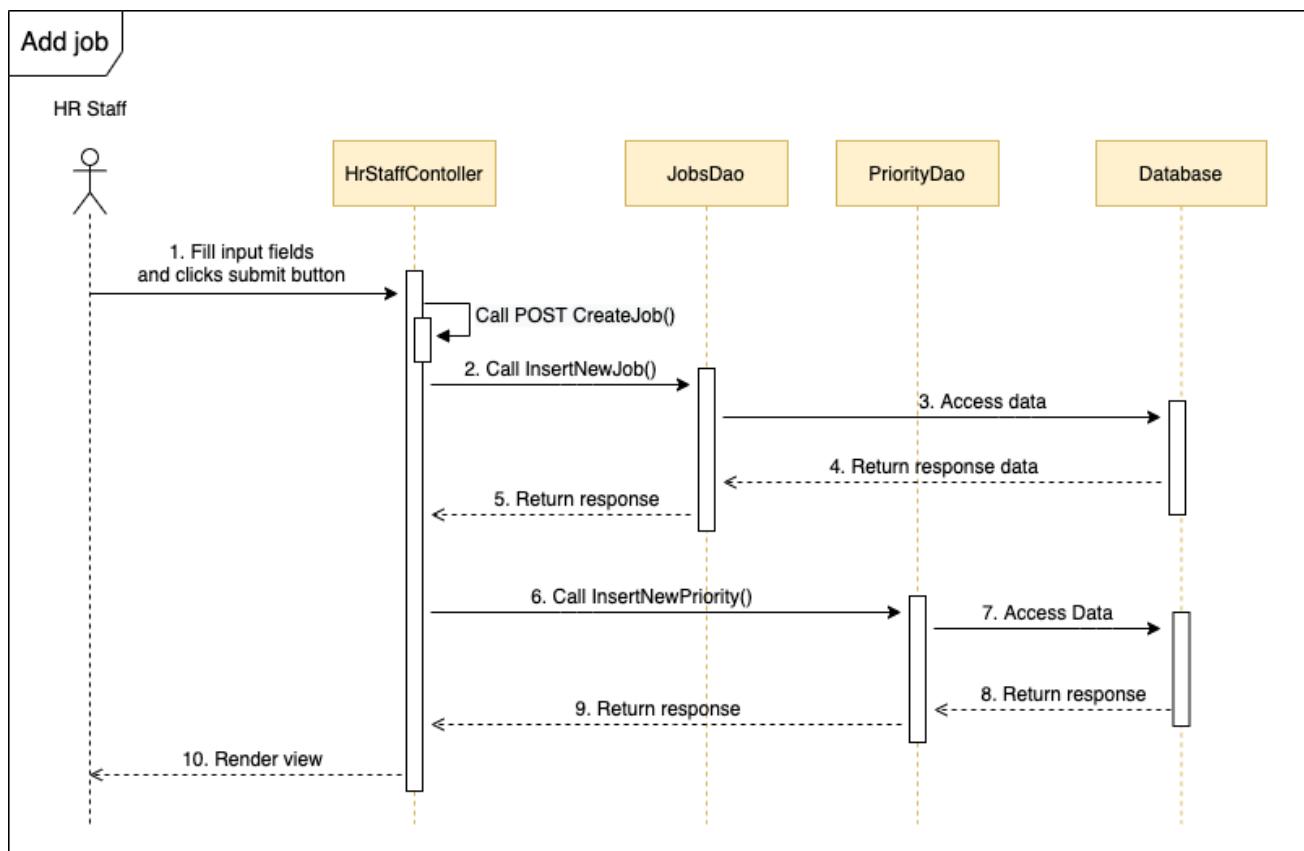


Figure 4.133 - Sequence diagram for UC-57

4.6.58. UC-58 Edit job

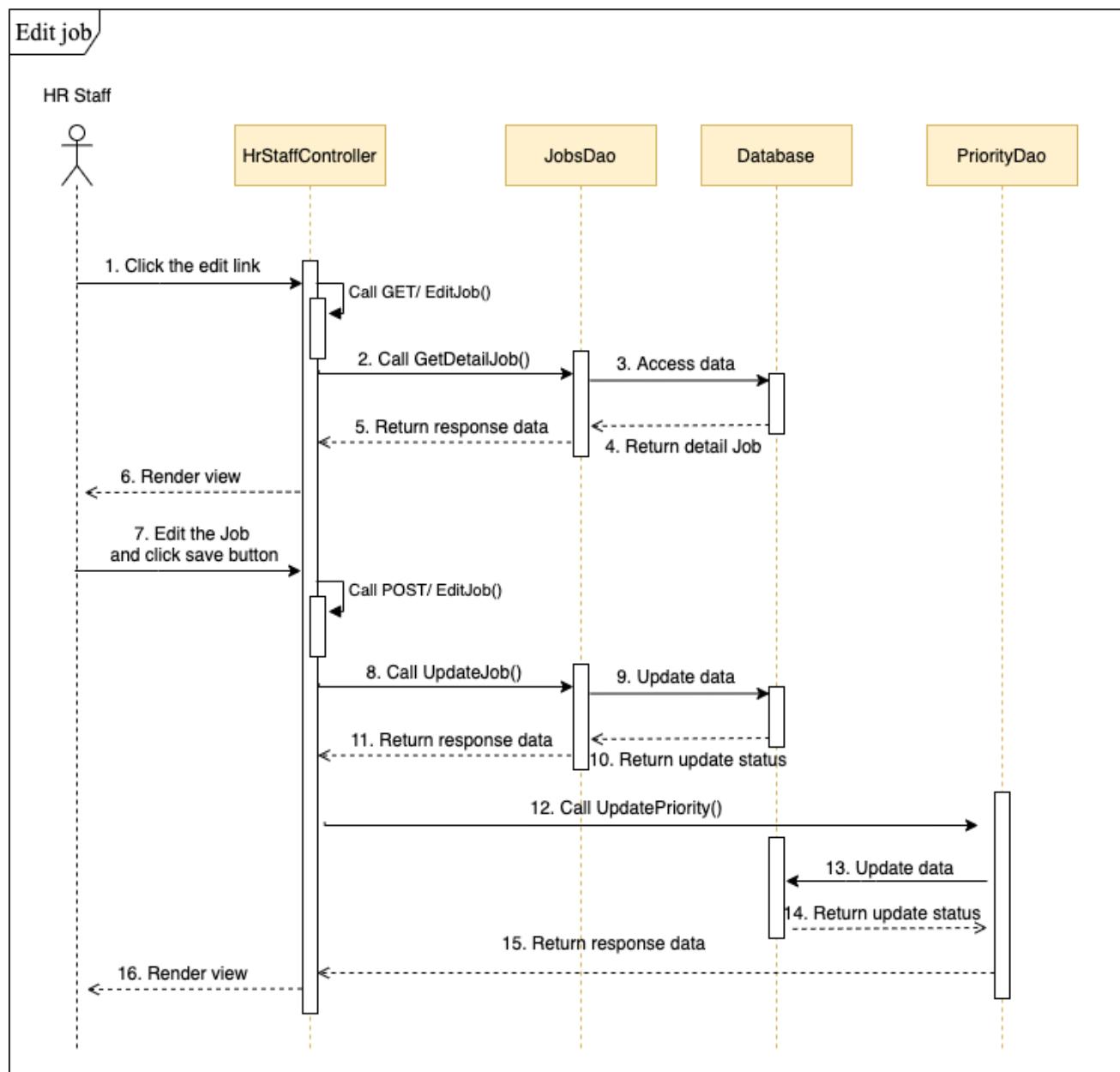


Figure 4.134 - Sequence diagram for UC-58

4.6.59. UC-59 Delete job

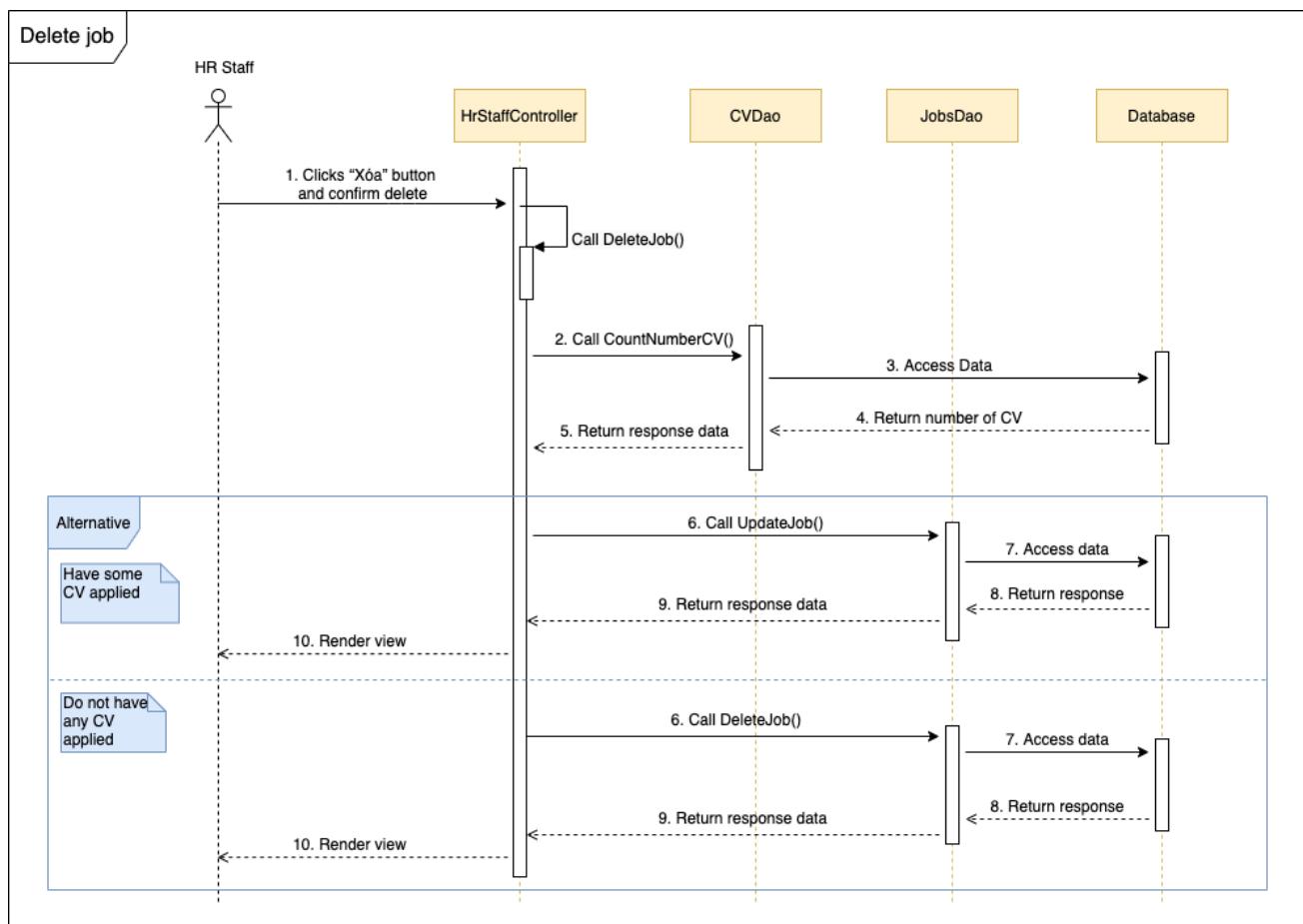


Figure 4.135 - Sequence diagram for UC-59

4.6.60. UC-60 Search job in HR

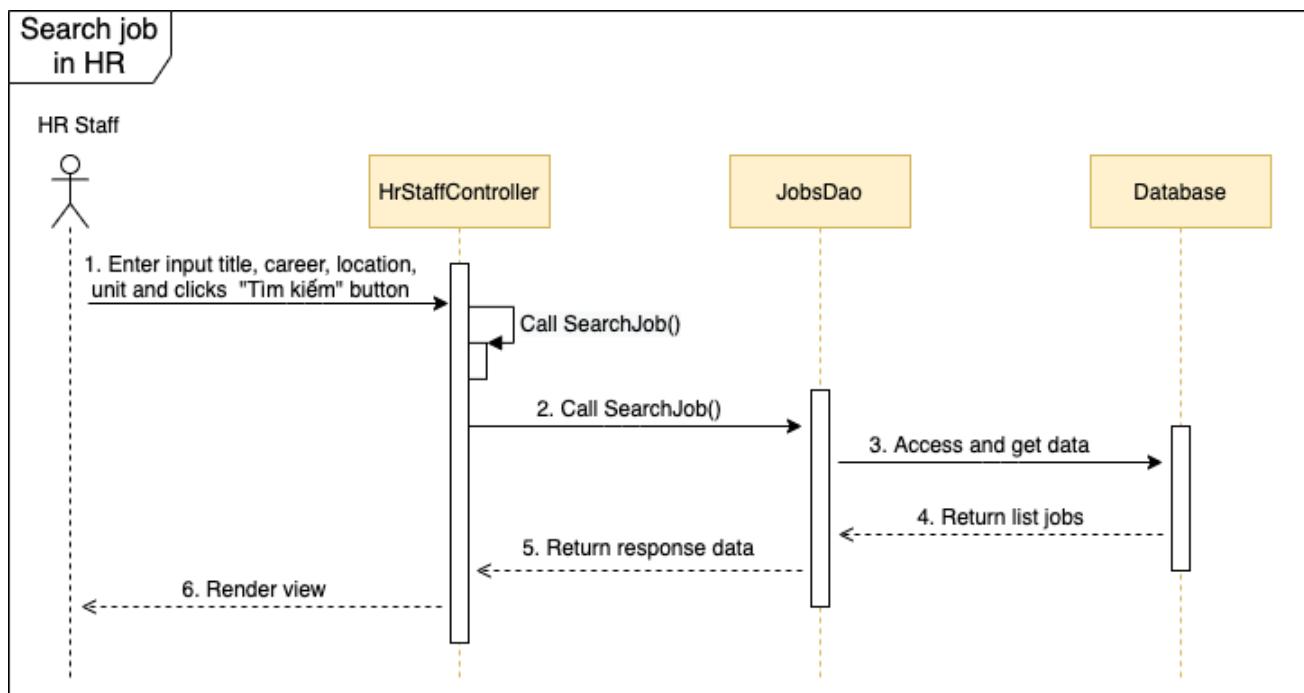


Figure 4.136 - Sequence diagram for UC-60

4.6.61. UC-61 View list CVs applied for a job

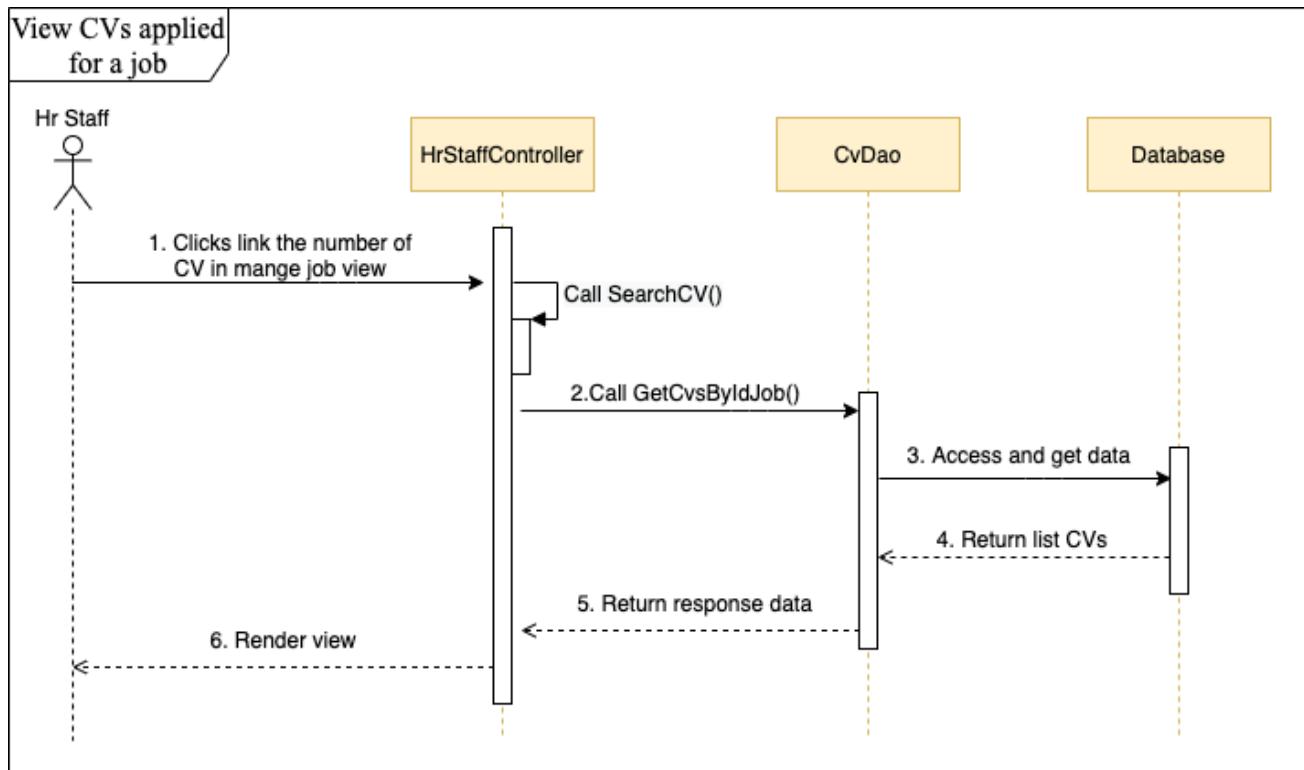


Figure 4.137 - Sequence diagram for UC-61

4.6.62. UC-62 View all error emails

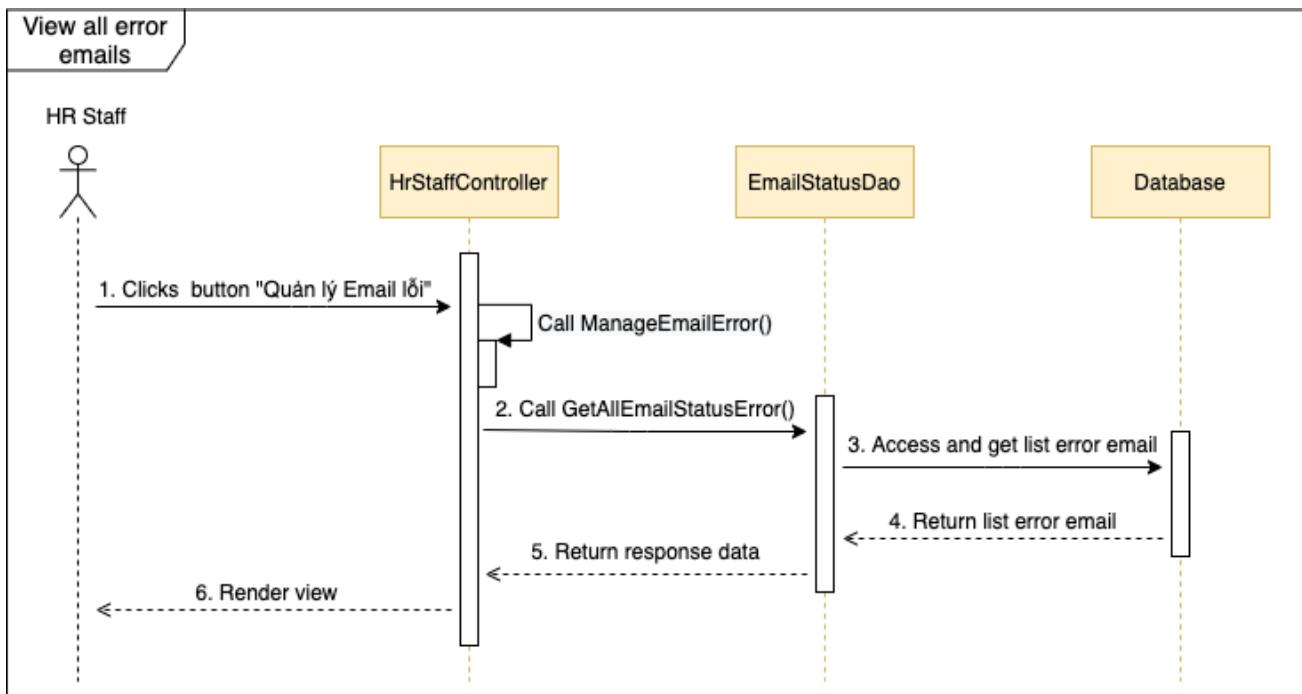


Figure 4.138 - Sequence diagram for UC-62

4.6.63. UC-63 Resend all error email

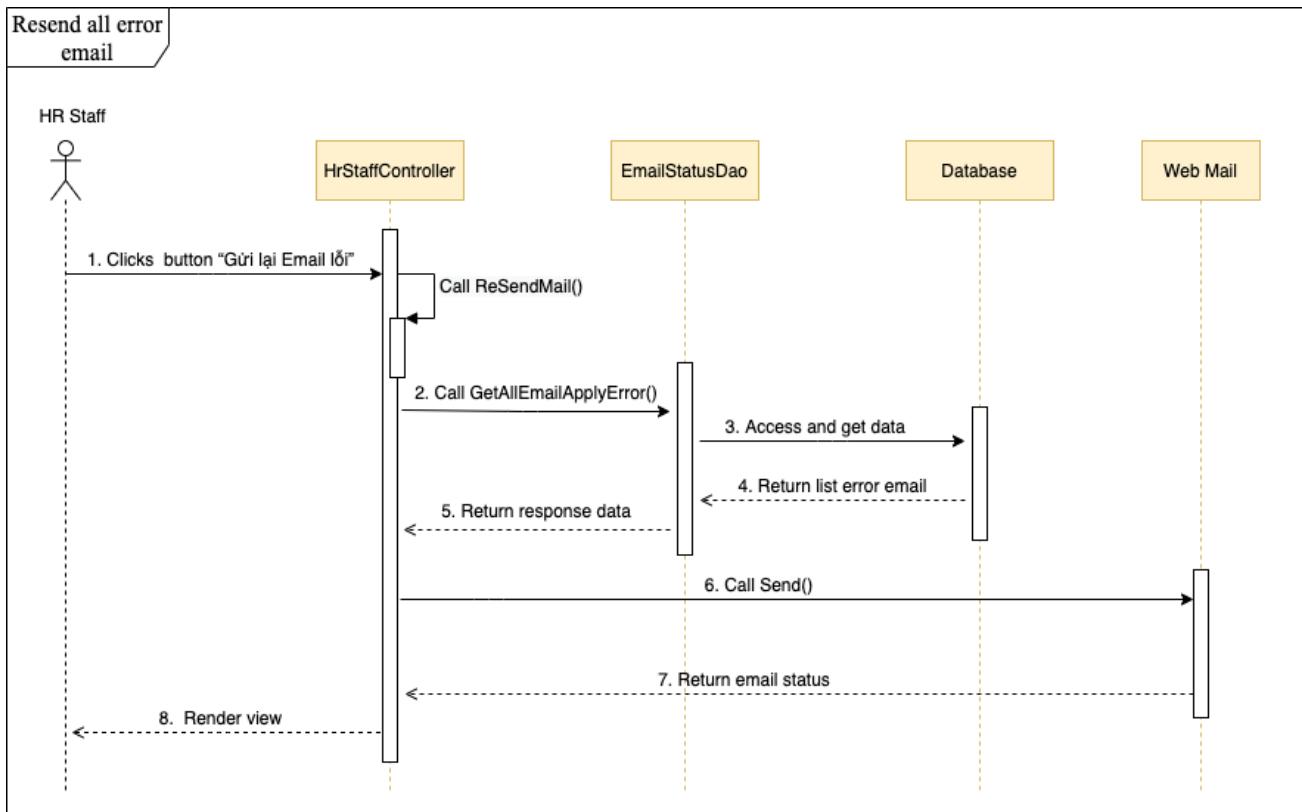


Figure 4.139 - Sequence diagram for UC-63

4.6.64. UC-64 Resend each error email

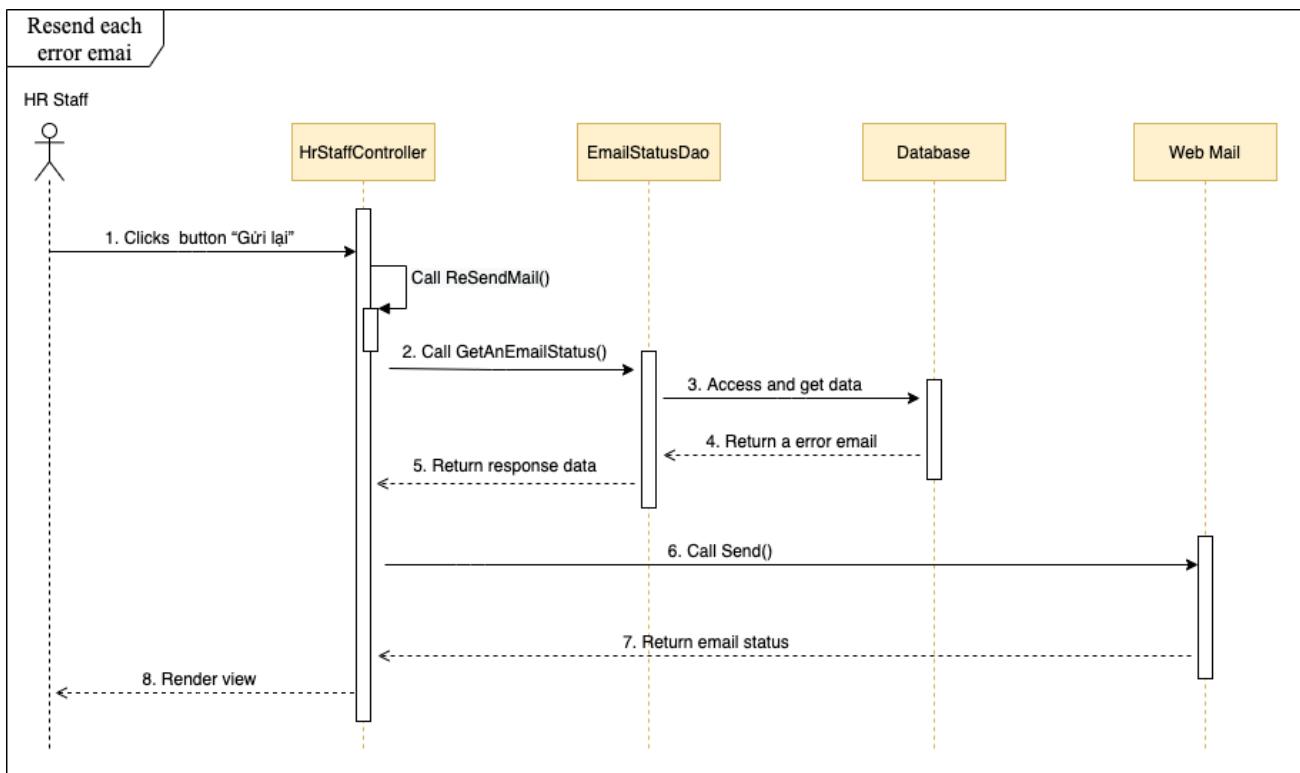


Figure 4.140 - Sequence diagram for UC-64

4.7. User Interface Design

4.7.1. Screen Images

1. Candidate

- Homepage



Figure 4.141 - FERS's banner

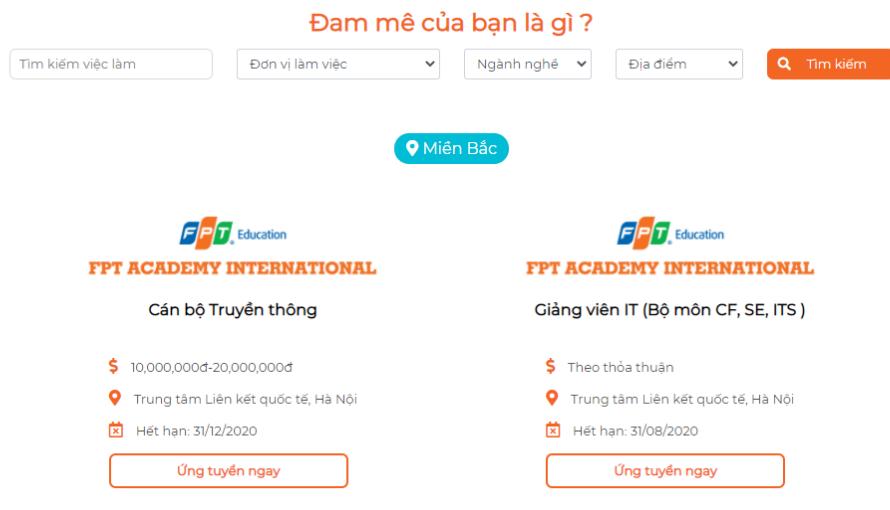


Figure 4.142 - Search menu and recruitment jobs

Các vị trí tuyển dụng

Thực tập sinh Vị trí khác

Nội dung về vị trí Thực tập sinh tại FPT

- Trung tâm Liên kết quốc tế

Figure 4.143 - Recruitment positions

Môi trường làm việc

- Môi trường làm việc tốt nhất châu Á (do HR Asia Magazine bình chọn)
- Các quyền lợi khác: thường ngày 20/11, thường ngày thành lập Tập đoàn 13/09, phụ cấp đa dạng, tham gia các hoạt động vui chơi giải trí...
- Hưởng chế độ chăm sóc sức khỏe đặc biệt cho bản thân và gia đình (FPT care)
- Được đóng BHXH, BHYT, BHTN, ... theo quy định của nhà nước
- Người nhà được hưởng chế độ ưu đãi học phí khi học tập tại Tổ chức giáo dục FPT
- Các quyền lợi khác: thường ngày 20/11, thường ngày thành lập Tập đoàn 13/09, phụ cấp đa dạng, tham gia các hoạt động vui chơi giải trí...
- Môi trường giáo dục với nhiều cơ hội được học tập, trải nghiệm và phát triển bản thân

Figure 4.144 - Working environment



Figure 4.145 - What FPT Education people say?

- Job list

STT	Vị trí	Ngành nghề	Đơn vị tuyển dụng	Địa điểm	SL	Ngày đăng	Hết hạn
1	Cán Bộ Quan hệ doanh nghiệp	Quan hệ doanh nghiệp	Trung tâm Liên kết quốc tế	Hồ Chí Minh	1	25/08/2020	31/12/2020
2	Cán bộ Truyền thông	Marketing Online/Offline	Trung tâm Liên kết quốc tế	Hà Nội	1	25/08/2020	31/12/2020
3	Giảng viên IT (Bộ môn CF, SE, ITS)	Giảng viên/Giáo viên	Trung tâm Liên kết quốc tế	Hà Nội	10	25/08/2020	31/08/2020
4	Giáo viên STEM - công nghệ 4.0 (Cơ điện tử; Tự động hóa; Công nghệ thông tin; Tin học; Vật lý)	Giảng viên/Giáo viên	Trường TH & THCS FPT Cầu Giấy	Cần Thơ	4	25/07/2020	31/08/2020
5	Giảng viên Hóa cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	25/08/2020	31/10/2020
6	Giảng viên Toán cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	25/08/2020	30/10/2020
7	Lập trình viên	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	25/08/2020	31/12/2020

Figure 4.146 - Job list

- Job detail

The screenshot shows a search interface for job opportunities. The search bar contains the placeholder "Tìm kiếm việc làm". Below it are dropdown menus for "Đơn vị làm việc" (Job location) and "Ngành nghề" (Industry). A third dropdown menu for "Địa điểm" (Location) is partially visible. At the bottom right of the search bar is a blue "Tìm kiếm" (Search) button with a magnifying glass icon.

TÌM KIẾM NHANH

Tìm kiếm việc làm

Đơn vị làm việc ▾ Ngành nghề ▾

Địa điểm ▾

Tìm kiếm

THÔNG TIN ĐƠN VỊ



FPT ACADEMY INTERNATIONAL

Trung tâm Liên kết quốc tế

Trung tâm Liên kết quốc tế

Khối liên kết quốc tế (FAI – FPT Academy International) thuộc ĐH FPT được cấu thành từ bốn đơn vị: FPT Aptech (Trung tâm Đào tạo Lập trình viên Quốc tế), FPT Arena (Trung tâm đào tạo Mỹ thuật đa phương tiện), FPT Greenwich (chương trình cử nhân quốc tế FPT Greenwich) và FPT Jetking (Học viện đào tạo Phần cứng máy tính và Mạng). FAI gồm hai mảng chính là Đào tạo hướng nghiệp và Đào tạo Đại học.

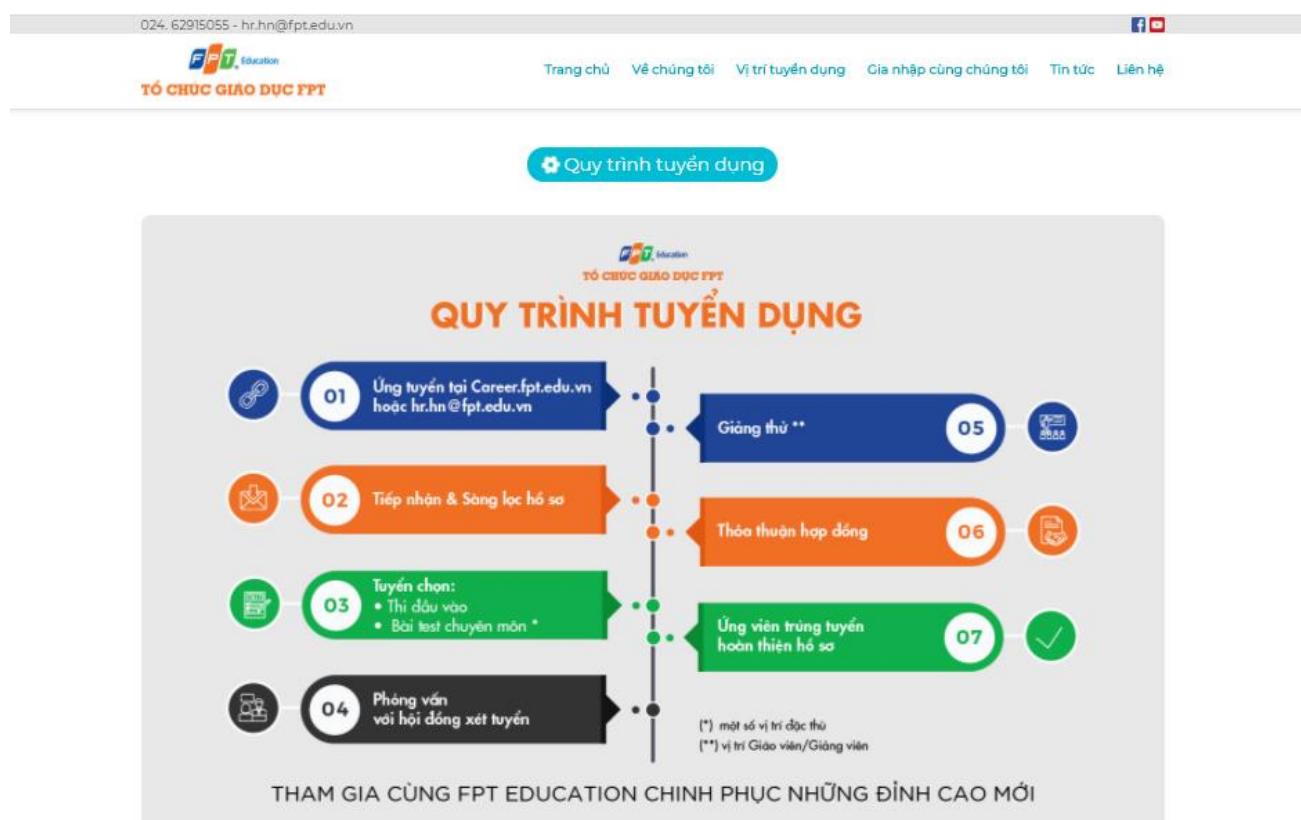
Thông tin tuyển dụng

Vị trí: Cán Bộ Quan hệ doanh nghiệp

Nghành nghề: Quan hệ doanh nghiệp

Figure 4.147 - Job detail

- Recruitment process



Hồ sơ trúng tuyển

I. HỒ SƠ CBNV MỚI

- Thư mời làm việc (đã ký)
- Sơ yếu lý lịch có xác nhận của địa phương (12 tháng gần đây)
- 01 bản sao công chứng Bằng, Bằng điểm, Chứng chỉ liên quan (cán dịch công chứng sang tiếng Việt nếu bằng là tiếng nước ngoài)
- Giấy khám sức khỏe (12 tháng gần đây) do cơ sở y tế cấp Quận, Huyện cấp
- 02 ảnh 4x6
- 02 bản photo CMND (Không cần công chứng)

II. HỒ SƠ GIÀNG VIÊN THÌNH GIÀNG

- Phiếu thông tin nhân viên (đã ký)
- Lý lịch khoa học (đã ký)
- 01 bản sao công chứng Bằng tốt nghiệp, Bằng điểm, các chứng chỉ liên quan (nếu có) (cán dịch công chứng sang tiếng Việt nếu bằng là tiếng nước ngoài)
- Bản sao công chứng chứng chỉ nghiệp vụ sư phạm (nếu có)
- 02 ảnh 4x6
- 01 bản photo giấy tờ tùy thân (chứng minh nhân dân/thẻ căn cước/hộ chiếu)

Figure 4.148 - Recruitment process

2. Admin

- Account management screen

#	Email	Tên	Chức vụ	Vị trí quản lý	Hoạt động
1	lampt@fpt.edu.vn	Phan Trường Lâm	Super Adminitrator HR Staff	Hà Nội Hồ Chí Minh Đà Nẵng Cần Thơ	Đang mở Sửa Xóa
2	hoahtb@fpt.edu.vn	Hoa Quỳnh	Super Adminitrator HR Staff	Hà Nội Hồ Chí Minh	Đang mở Sửa Xóa
3	baontse05601@fpt.edu.vn	Nguyễn Thái Bảo	Super Adminitrator HR Staff	Đà Nẵng Cần Thơ	Đang mở Sửa Xóa
4	tuandvse05339@fpt.edu.vn	Đỗ Văn Tuấn	Super Adminitrator HR Staff	Cần Thơ Cần Thơ	Đang mở Sửa Xóa
5	luyenddse04999@fpt.edu.vn	Đỗ Duy Luyện	Super Adminitrator HR Staff	Hồ Chí Minh	Đang mở Sửa Xóa
6	tungbtse05661@fpt.edu.vn	Bùi Thành Tùng	Super Adminitrator HR Staff	Hà Nội Hồ Chí Minh Đà Nẵng Cần Thơ Đắk Lăk	Đang mở Sửa Xóa

Figure 4.149 - Account management screen

- Career management screen

Số thứ tự	Tên nghề nghiệp	Ảnh nghề nghiệp	
1	Công nghệ thông tin		Sửa Xóa
2	Thiết kế đồ họa		Sửa Xóa
3	Giảng viên/Giáo viên		Sửa Xóa
4	Giáo viên Bán trú/Quản nhiệm		Sửa Xóa
5	Hành chính - Thủ ký		Sửa Xóa
6	Kế toán - Tài chính		Sửa Xóa
7	Tuyển sinh		Sửa Xóa
8	Marketing Online/Offline		Sửa Xóa
9	Nhân sự		Sửa Xóa
10	Truyền thông		Sửa Xóa

Figure 4.150 - Career management screen

- Config email management screen

The screenshot shows a web-based application interface for managing email accounts. The top navigation bar includes the FPT Education logo, the text 'TỔ CHỨC GIÁO DỤC FPT', and a user profile for 'Bùi Thành Tùng'. The main title is 'Quản lý gửi mail'. On the left, a dark sidebar menu lists various management options: Quản lý tài khoản, Quản lý địa điểm, Quản lý đơn vị, Quản lý nghề nghiệp, Quản lý gửi mail (highlighted in blue), Quản lý đề bài, Quản lý câu hỏi, Quản lý nhóm câu hỏi, and Quản lý log.

#	Email	Mật khẩu	Cổng	Host	Bật SSL	Trạng thái
1	FERecruitment123@gmail.com	Ekulajday12	587	smtp.gmail.com	Bật	Hoạt động

Below the table, it says 'Trang 1/1' and has 'Sửa' and 'Xóa' buttons.

Figure 4.151 - Config email management screen

- Location management screen

The screenshot shows a web-based application interface for managing locations. The top navigation bar includes the FPT Education logo, the text 'TỔ CHỨC GIÁO DỤC FPT', and a user profile for 'Bùi Thành Tùng'. The main title is 'Quản lý địa điểm'. On the left, a dark sidebar menu lists various management options: Quản lý tài khoản, Quản lý địa điểm (highlighted in blue), Quản lý đơn vị, Quản lý nghề nghiệp, Quản lý gửi mail, Quản lý đề bài, Quản lý câu hỏi, Quản lý nhóm câu hỏi, and Quản lý log.

Số thứ tự	Tên địa điểm	Vùng miền	Sửa Xóa
1	Hà Nội	Miền Bắc	Sửa Xóa
2	Hồ Chí Minh	Miền Nam	Sửa Xóa
3	Đà Nẵng	Miền Trung	Sửa Xóa
4	Cần Thơ	Miền Tây	Sửa Xóa
5	Đăk Lăk	Miền Trung	Sửa Xóa

Below the table, it says 'Trang 1/1' and has 'Sửa' and 'Xóa' buttons.

Figure 4.152 - Location management screen

- Unit management screen

Quản lý đơn vị

Bùi Thành Tùng

Số thứ tự	Tên đơn vị	Ảnh đơn vị	Sửa	Xóa
1	Trung tâm Liên kết quốc tế		Sửa	Xóa
2	FPT-BTEC		Sửa	Xóa
3	Đại học FPT		Sửa	Xóa
4	UBD-FPT Global		Sửa	Xóa
5	Viện Quản trị & Công nghệ FSB		Sửa	Xóa
6	Trường THPT FPT		Sửa	Xóa
7	Trường TH & THCS FPT Cầu Giấy		Sửa	Xóa
8	FPT Polytechnic		Sửa	Xóa
9	Đại học Greenwich (Việt Nam)		Sửa	Xóa

Figure 4.153 - Unit management screen

- Question management screen

Quản lý câu hỏi

Bùi Thành Tùng

Số	Câu hỏi	Đáp án	Nhóm câu hỏi	Ngày cập nhật	Ngày tạo	Sửa	Xóa
1	STC là viết tắt của cụm từ nào?	<ul style="list-style-type: none"> Sung túc Company Sáng tác Company hay Công ty Sáng tác Sở tay chung 	Văn Hóa	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
2	STC chính thức được ra mắt lần đầu tiên vào thời điểm nào?	<ul style="list-style-type: none"> Ngày 13/09/1992 Ngày 13/9/1990 Ngày 13/9/1989 Ngày 13/9/1988 	Nội Dung	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
3	"Hội làng FE" được tổ chức khi nào?	<ul style="list-style-type: none"> Ngày 31/12 hàng năm Trước khi nghỉ Tết âm lịch Đầu năm sau kỳ nghỉ Tết âm lịch 	Đối Ngoại	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
4	FE đã phát hành sứ ký nhän dịp bao nhiêu năm thành lập?	<ul style="list-style-type: none"> 10 năm 15 năm 13 năm 	Văn Hóa	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa

Figure 4.154 - Question management screen

- Question group management screen

Quản lý nhóm câu hỏi

Bùi Thành Tùng

Số thứ tự	Tên nhóm	Sửa	Xóa
1	Đội Ngoại	Sửa	Xóa
2	Nội Dung	Sửa	Xóa
3	Văn Hóa	Sửa	Xóa

Trang 1/1

1

Figure 4.155 - Question group management screen

- Quiz management screen

Quản lý đề bài

Bùi Thành Tùng

Số thứ tự	Tên đề bài	Ngày cập nhật	Ngày tạo	Sửa	Xóa
1	Thật là awesome	17/08/2020 03:58 AM	17/08/2020 03:29 AM	Sửa	Xóa
2	Quiz 1	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
3	Quiz 2	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
4	Quiz 3	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa

Trang 1/1

1

Figure 4.156 - Quiz management screen

- Log management screen

The screenshot shows a log management interface for a system. The left sidebar has a dark theme with the FPT Education logo and 'TỔ CHỨC GIÁO DỤC FPT' branding. The main area is titled 'Quản lý log' (Log Management) and shows a table of audit logs. The columns are: Email, Action, Url, Message, and Time. There are five entries in the log:

Email	Action	Url	Message	Time
tungbtse05661@fpt.edu.vn	Xóa nhóm câu hỏi	http://localhost:58243/Admin/DeleteGroup/7	ID: 7 Tên nhóm: Nhóm câu hỏi A	27/08/2020 10:42 PM
tungbtse05661@fpt.edu.vn	Xóa nhóm câu hỏi	http://localhost:58243/Admin/DeleteGroup/6	ID: 6 Tên nhóm: ABCDEF	27/08/2020 10:42 PM
tungbtse05661@fpt.edu.vn	Xóa câu hỏi	http://localhost:58243/Admin/DeleteQuestion/15	ID: 15; Câu hỏi: Một câu hỏi mới; Đáp án: as; sas;	27/08/2020 10:16 PM
tungbtse05661@fpt.edu.vn	Xóa câu hỏi	http://localhost:58243/Admin/DeleteQuestion/12	ID: 12;	27/08/2020

Figure 4.157 - Log management screen

3. HR Staff

- Job management screen

The screenshot shows a job management interface. The left sidebar has a dark theme with the FPT Education logo and 'TỔ CHỨC GIÁO DỤC FPT' branding. The main area is titled 'Quản lý tin tuyển dụng' (Job Post Management) and shows a table of job posts. The columns are: #, Vị trí, Ngành nghề, Đơn vị, Địa điểm, Số ứng viên, Hiển thị, Ngày tạo, Ngày sửa cuối, Ngày hết hạn, and Người tạo. There are seven job posts listed:

#	Vị trí	Ngành nghề	Đơn vị	Địa điểm	Số ứng viên	Hiển thị	Ngày tạo	Ngày sửa cuối	Ngày hết hạn	Người tạo	Sửa	Xóa
1	Giảng viên Hoá cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2 0 0	Đã hiện	1 25/08/2020 10:58 PM	25/08/2020 10:58 PM	31/10/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Giảng viên Toán cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2 0 0	Đã hiện	1 25/08/2020 10:57 PM	25/08/2020 10:57 PM	30/10/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Lập trình viên	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2 0 0	Đã hiện	1 25/08/2020 10:56 PM	25/08/2020 10:56 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Cán bộ Tổ chức và quản lý đào tạo	Tuyển sinh	Đại học FPT	Hà Nội	2 0 1	Đã hiện	3 25/08/2020 10:45 PM	25/08/2020 10:55 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Giáo viên Toán	Thực tập sinh	Trung tâm Liên kết quốc tế	Đà Nẵng	1 5 0	Đã hiện	1 25/08/2020 10:51 PM	25/08/2020 10:52 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	[FPL ĐN] Cán bộ Dịch vụ sinh viên (Under 30T)	Công tác học sinh/sinh viên	Trung tâm Liên kết quốc tế	Đà Nẵng	1 0 0	Đã hiện	1 25/08/2020 10:50 PM	25/08/2020 10:50 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	[FPL ĐN] Cán bộ Tổ chức sự kiện	Marketing Online/Offline	Đại học Greenwich (Việt Nam)	Đà Nẵng	1 0 0	Đã hiện	1 25/08/2020 10:49 PM	25/08/2020 10:49 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 4.158 - Job management screen

- CV management screen

The screenshot shows a web-based application interface for managing CVs. At the top, there's a header with the FPT Education logo and the text 'TỔ CHỨC GIÁO DỤC FPT'. On the left, a vertical menu bar lists three options: 'Quản lý tin tuyển dụng', 'Quản lý CV' (which is currently selected), and 'Quản lý Email lỗi'. The main content area has a title 'Quản lý CV' and a sub-section title 'Tất cả CV (Bao gồm cả CV của ứng viên tiềm năng)'. Below this are search filters for 'Vị trí' (Nhập tên công việc), 'Email' (Nhập email), 'Tên ứng viên' (Nhập tên ứng viên), 'Từ ngày' (dd/MM/yyyy), 'Đến ngày' (dd/MM/yyyy), and 'Trạng thái CV' (Chọn trạng thái CV). A green button labeled 'Xuất ra Excel' is visible. The data table below shows one row of information:

STT	Nguồn CV	Tên ứng viên	Email	Vị trí ứng tuyển	Ngày nộp	Bài kiểm tra	Trạng thái CV
1	Không có CV	Bùi Thành Tùng	bui thanh tung.317@gmail.com	Cán bộ Tổ chức và quản lý đào tạo	25/08/2020 11:43 PM	Điểm: 60 Đề bài: Quiz 1	Mới

At the bottom, there are buttons for 'Mới' (New), 'Xóa' (Delete), and a magnifying glass icon. The page footer indicates 'Trang 1/1'.

Figure 4.159 - CV management screen

- Error email management screen

The screenshot shows a web-based application interface for managing error emails. The layout is similar to Figure 4.159, with the FPT Education logo and 'TỔ CHỨC GIÁO DỤC FPT' at the top, and a 'Menu' sidebar on the left with the same three options. The main content area has a title 'Quản lý gửi Email lỗi' and a sub-section title 'Gửi lại những Email lỗi'. A red button labeled 'Gửi lại' is prominent. Below this is a data table:

STT	Email	Loại email	Trạng thái	Thời gian gửi lỗi	Lý do
1	bui thanh tung.317@gmail.com	QUIZ	FAIL	28/08/2020 12:47 AM	The SMTP server requires a secure connection or the client was not authenticated. The server response was: 5.7.0 Authentication Required. Learn more at

At the bottom, there are buttons for 'Gửi lại' (Send again) and a magnifying glass icon. The page footer indicates 'Trang 1/1'.

Figure 4.160 - Error email management screen

4.8. Database Design

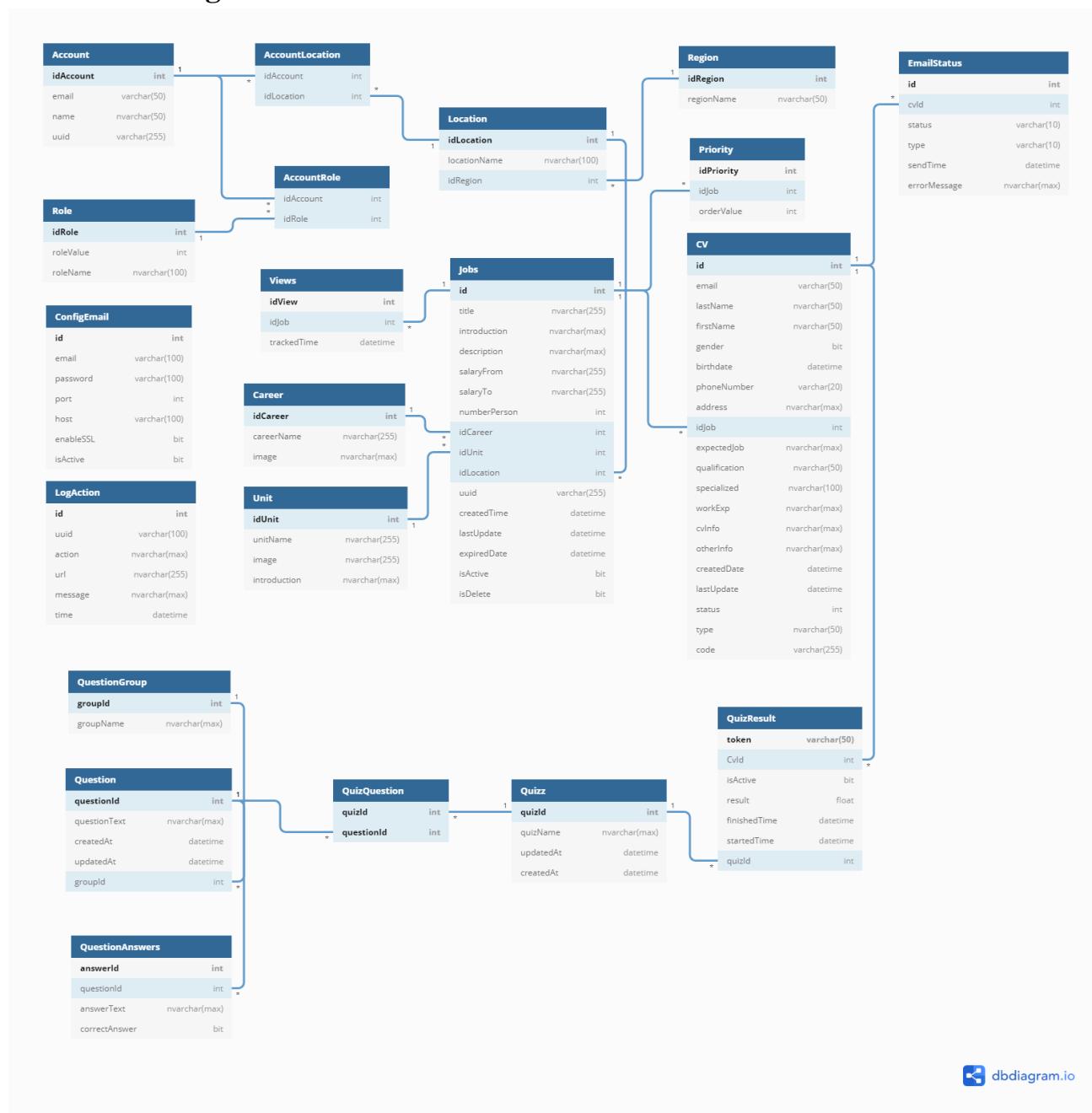


Figure 4.161 - Database design

4.8.1. Account

- This table to store account related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idAccount	int		✓	✓	✓		
email	varchar	50		✓			
name	varchar	50		✓			
uuid	varchar	255		✓			
isActive	bit						

Table 4.43: Database Account

4.8.2. AccountRole

- This table to store information that tie between 2 tables Account and Role
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idAccount	int			✓		✓	Fk: idAccount of Account
idRole	int			✓		✓	Fk: idRole of Role

Table 4.44: Database AccountRole

4.8.3. AccountLocation

- This table to store information that tie between 2 tables Account and Location
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idAccount	int			✓		✓	Fk: idAccount of Account
idLocation	int			✓		✓	Fk: idLocation of Location

Table 4.45: Database AccountLocation

4.8.4. Career

- This table to store career related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idCareer	int		✓	✓	✓		
careerName	nvarchar	255		✓			
image	nvarchar	Max					

Table 4.46: Database Carrer

4.8.5. ConfigEmail

- This table to store config email related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
id	int		✓	✓	✓		
email	varchar	100					
password	varchar	100					
port	int						
host	varchar	100					
enableSSL	bit						
isActive	bit						

Table 4.47: Database ConfigEmail

4.8.6. CV

- This table to store CV related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
id	int		✓	✓	✓		
email	varchar	50		✓			
lastName	varchar	50		✓			
fistName	varchar	50		✓			
gender	bit			✓			
birthdate	datetime			✓			
phoneNumb er	varchar	20		✓			
address	nvarchar	Max		✓			
idJob	int					✓	
expectedJob	nvarchar	Max					
qualification	nvarchar	50					
specialized	nvarchar	100					
workExp	nvarchar	Max					
cvInfo	nvarchar	Max					
createDate	datetime			✓			
lastUpdate	datetime			✓			
status	int			✓			
type	nvarchar	50					
code	varchar	255					

Table 4.48: Database CV

4.8.7. EmailStatus

- This table to store email status related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
id	int		✓	✓	✓		
cvId	int					✓	Fk: id of CV
status	varchar	10					
type	varchar	10					
sendTime	datetime						
errorMessage	nvarchar	Max					

Table 4.49: Database EmailStatus

4.8.8. Job

- This table to store job related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
id	int		✓	✓	✓		
title	nvarchar	255		✓			
introduction	nvarchar	Max		✓			
description	nvarchar	Max		✓			
salary	nvarchar	255		✓			
numberPerson	int			✓			
idCareer	int					✓	Fk: idCareer of Career
idUnit	int					✓	Fk: idUnit of Unit
idLocation	int					✓	Fk: idLocation of Location
uuid	varchar	255					
createdTime	datetime			✓			
lastUpdate	datetime			✓			
expiredDate	datetime			✓			
isActive	bit			✓			
isDelete	bit			✓			

Table 4.50: Database Job

4.8.9. Location

- This table to store location related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idLocation	int		✓	✓	✓		
locationName	nvarchar	100			✓		
idRegion	int					✓	Fk: idRegion of Region

Table 4.51: Database Location

4.8.10. LogAction

- This table to store log action related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
id	int		✓	✓	✓		
uuid	varchar	100					
action	nvarchar	Max					
url	nvarchar	255					
message	nvarchar	Max					
time	datetime						

Table 4.52: Database LogAction

4.8.11. Priority

- This table to store priority related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idPriority	int		✓	✓	✓		
idJob	int			✓			Fk: id of Job
orderValue	int			✓			

Table 4.53: Database Priority

4.8.12. Question

- This table to store question related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
questionId	int		✓	✓	✓		
questionText	nvarchar	Max		✓			
createdAt	datetime						

updateAt	datetime						
groupId	int					✓	Fk : groupId of QuestionGroup

Table 4.54: Database Question

4.8.13. QuestionAnswer

- This table to store question answer related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
answerId	int		✓	✓	✓		
questionId	int					✓	Fk: questionId of Question
answerText	nvarchar	Max		✓			
correctAnswer	bit			✓			

Table 4.55: Database QuestionAnswer

4.8.14. QuestionGroup

- This table to store question group related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
groupId	int		✓	✓	✓		
groupName	nvarchar	Max				✓	Fk: questionId of Question

Table 4.56: Database QuestionGroup

4.8.15. Quiz

- This table to store quiz related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
quizId	int		✓	✓	✓		
quizName	nvarchar	Max					
updateAt	datetime						
createAt	datetime						

Table 4.57: Database Quiz

4.8.16. QuizQuestion

- This table to store quiz question related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
quizId	int			✓		✓	Fk : quizId of Quiz
questionId	int			✓		✓	Fk : questionId of Question

Table 4.58: Database QuizQuestion

4.8.17. QuizResult

- This table to store quiz result related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
token	varchar	50	✓	✓	✓		
CvId	int					✓	Fk: id of CV
isActive	bit			✓			
result	float						
finishedTime	datetime						
startedTime	datetime						
quizId	int					✓	Fk: quizId of Quiz

Table 4.59: Database QuizResult

4.8.18. Region

- This table to store region related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idRegion	int		✓	✓	✓		
regionName	nvarchar	50		✓			

Table 4.60: Database Region

4.8.19. Role

- This table to store role related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idRole	int		✓	✓	✓		
roleValue	int			✓			
roleName	nvarchar	100		✓			

Table 4.61: Database Role

4.8.20. Unit

- This table to store unit related data

- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idUnit	int		✓	✓	✓		
unitName	nvarchar	255					
image	nvarchar	255					
introduction	nvarchar	Max					

Table 4.62: Database Unit

4.8.21. View

- This table to store view related data
- Table structure

Field name	Type	Size	Unique	Not Null	PK	FK	Notes
idView	int		✓	✓	✓		
idJob	int			✓		✓	Fk: id of Job
trackedTime	datetime			✓			

Table 4.63: Database Viewe

Chapter 5: Software Test Documentation

5.1. Purpose

The primary purpose of this chapter is to detect and prevent defects which may be created by developers while developing the software and this may lead to software failures. On the other hand, another objective of this chapter is to provide information about the level of quality and to make sure that the end result meets the business and user requirements. It contains the following sections:

- Test approach
- Test stages
- Test type
- Test plan: Feature to be tested, Feature not to be tested, Test process, Test schedule, Testing tool and environment.
- Test cases
- Checklist
- Test report

5.1.1. Test approach

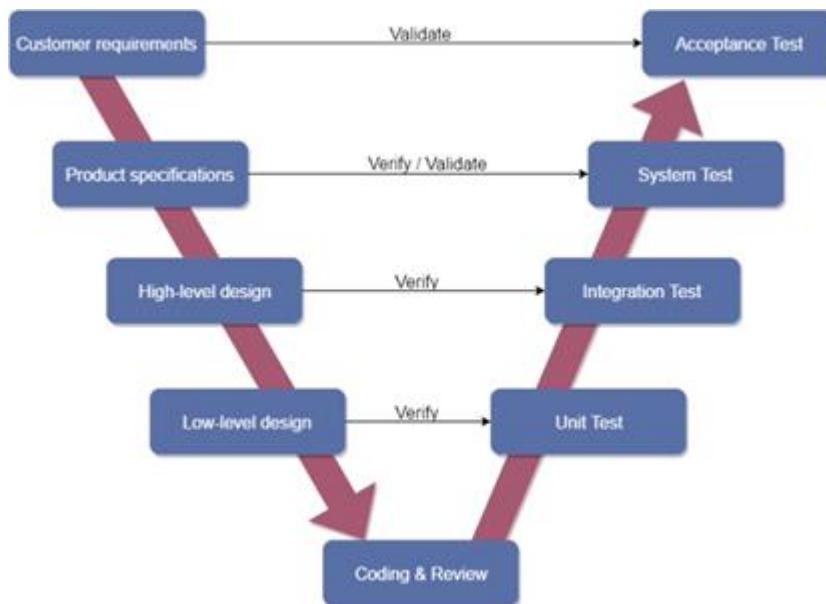


Figure 5.1 - V-Model

Overall, we choose V-Model to implement the testing process. With V-Model, software development is separated into two appropriate phase's groups: development and testing. In this model, the verification and validation will be done side by side. It emphasizes the strict process flow to develop a quality product. The errors occurring in any phase will be corrected in that phase. Proactive defect tracking defects, which are found at early stages even, may be in the development phase before application being tested.

5.2. Test stages

In this project, there are 4 phases in the testing process: Unit testing, Integration testing, System testing and Acceptance testing.

No.	Test Stages	Description
1	Unit testing	The main aim of this endeavor is to determine whether the application functions as designed. In this phase, a unit can refer to a function, individual program or even a procedure.
2	Integration testing	Integration testing allows individuals the opportunity to combine all of the units within a program and test them as a group. This testing level is designed to find interface defects between the modules/functions. This is particularly beneficial because it determines how efficiently the units are running together.
3	System testing	System testing is the first level in which the complete application is tested as a whole. The goal at this level is to evaluate whether the system has complied with all of the outlined requirements and to see that it meets Quality Standards.
4	Acceptance testing	Acceptance testing (or User Acceptance Testing), is conducted to determine whether the system is ready for release. During this phase, the tester and some alpha test users will test the system to find out whether the application meets their business' needs.

Table 5.1 – Testing stages

5.3. Test type

The test team has to test the following type:

- GUI test
- Function test
- Acceptance test
- Unit test

Type of test	Stage of test			
	Unit test	Integration test	System test	Acceptance test
Unit test	X	X	X	
GUI test			X	X
Function test	X	X	X	X
Acceptance test			X	X

Table 5.2 – Test type

5.4. Test plan

5.4.1. Features to be tested

Actor	Feature
Candidate	View recruitment process
	View home
	View all jobs
	View list jobs by region
	View list jobs by unit
	View job detail
	Search job
	Create CV
	Upload CV
	Register potential candidate
	Edit CV
	Take quiz
HR Staff	Login
	Logout
	View all CVs

	View detail CV Change CV status Search CV Delete CV Send email quiz Export CV View all jobs Add job Edit job Delete job Search job in HR View list CVs applied for a job View all error emails Resend all error email Resend each error email
Super Admin	Login
	Logout
	View all accounts
	Add account
	Edit account
	Delete account
	View all units
	Add unit
	Edit unit
	Delete unit

	View all locations
	Add location
	Edit location
	Delete location
	View all question groups
	Add question group
	Edit question group
	Delete question group
	View all questions
	Add question
	Edit question
	Delete question
	Search question
	View all quizzes
	Add quiz
	Edit quiz
	Delete quiz
	View all careers
	Add career
	Edit career
	Delete career
	View all config emails
	Add config email
	Edit config email
	Delete config email

	View logs
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5.4.2. Test process

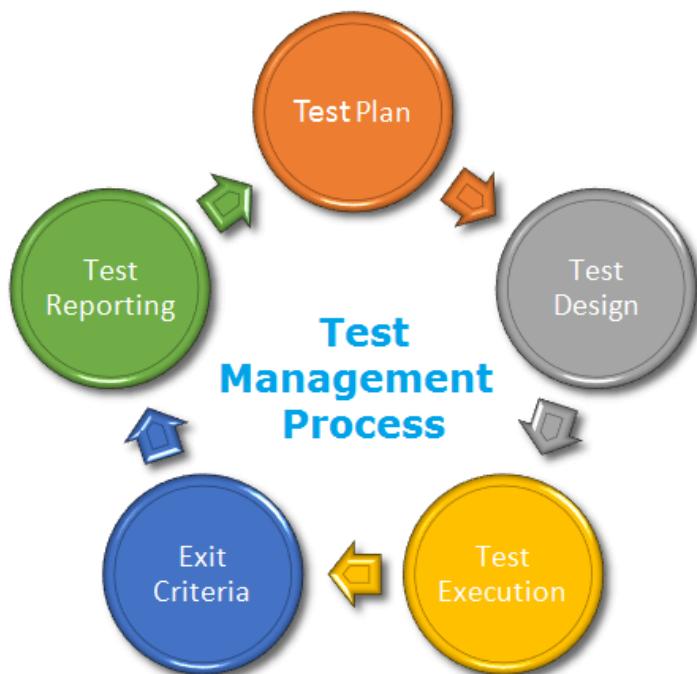


Figure 5.2 - Test process

- Test Planning use requirement specification test plans will make more detailed decisions about the overall approach of testing.
- Test Design design and create test cases.
- Test Execution execute test procedures using test execution tools, check actual results with expected results.
- Exit criteria defines when to stop testing based on time.
- Test reporting activities update Test Report and if there is an error then report error to developer.

5.4.3. Test schedule

The table below describes the test schedule for the FERS Project:

Test Schedule	Start Date	End Date	Responsibilities
Unit test	June 24, 2020	August 19, 2020	Developers
GUI test	June 26, 2020	July 31, 2020	Testers
Integration test	July 01, 2020	August 10, 2020	Testers
System test	July 21, 2020	August 17, 2020	Testers
Acceptance test	July 30, 2020	August 31, 2020	FPT HR Staffs

Table 5.3 – Test schedule

5.5. Testing Tools and Environment

5.5.1. Testing Tools

- Chrome 84.0.4147.135 (64-bit) DevTools: To view logs, inspect elements, lighthouse.



Figure 5.3 - Chrome dev tools

- Google sheet: To manage test documents



Figure 5.4 - Google sheet

- Microsoft Visual Studio 17: To run unit tests and create/ update code unit tests.



Figure 5.5 - Microsoft visual

5.5.2. Testing Environment

Type of testing	Software	Hardware
System test & Acceptance test & Test case	<ul style="list-style-type: none"> - Google Sheet. - Google Docs. - Google Chrome 84.0.4147.135 (64-bit) 	Personal computer for developing with the minimum configuration: <ul style="list-style-type: none"> - Laptop Asus - 2.20GHz Intel Core i7 - RAM: 16GB
Unit test	<ul style="list-style-type: none"> - Microsoft Visual Studio 2017 	Personal computer for run testing with minimum configuration: <ul style="list-style-type: none"> - Laptop Asus rog gl552vx - Core i7 6700HQ 2.6GHz - RAM: 8GB

Table 5.4 – Testing Environment

5.6. Test cases

Test cases have been managed on the [Test Case Sheet](#). Test case example:

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	TestData	Result	Test date	Note
Function View all Jobs								
[HRStaff-4]	Test View Detail Job and show excepted output	1. User has been login with HR role 2. User click any link on "Vị trí" column of table 3. Show detail of job on Home	1. After user has been login with HR role, display HRStaff Page by following design 2. After user clicks on link, redirect user to Job Detail page and display Job Detail by design	[HRStaff-2]	1. Google account has HR role	Pass		
[HRStaff-5]	Test View all CVs from selected job and show excepted output	1. User has been login with HR role 2. User clicks any link on multiple user icon column of table 3. Show all CVs register for selected job	1. After user has been login with HR role, display HRStaff Page by following design 2. After user clicks on link below multiple user icon column, redirect user to View all CVs page and display View all CVs with selected job by design	[HRStaff-2]	1. Google account has HR role	Pass		
[HRStaff-6]	Test Edit job and show excepted output	1. User has been login with HR role 2. User clicks any link on edit icon of table 3. Show Edit Job page	1. After user has been login with HR role, display HRStaff Page by following design 2. After user clicks on link, redirect user to Edit Job page and display Edit Job by design	[HRStaff-2]	1. Google account has HR role	Pass		
[HRStaff-7]	Test Edit job and show excepted output	1. User has gone to Edit Job page 2. User clears all inputs 3. Show invalid message to user	1. After user has gone to Edit Job page, clear all text of all inputs. 2. After user clicks on "Lưu" button, notification all fields that are invalid	[HRStaff-6]	1. Google account has HR role 2. Title Input: "" 3. Description Input: "" 4. Salary Input: "" 5. Number Recruitment: "" 6. Close Date: "09-05-2020"	Pass		

Figure 5.5 - Test case view all jobs

Function Register Form						
[Candidate-23]	Test Not Having CV Register Modal and show expected output.	1. User has go to Having CV Selection Modal, 2. User click on "Chưa có CV" button. 3. Show Not Having CV Register Modal.	1. After User goes to Having CV Selection Modal, and display Having CV Selection Modal. 2. After click on "Chưa có CV" button, display Not Having CV Register Modal as design.	[Candidate-5]		Pass
[Candidate-24]	Test "Nộp CV" button on Not Having CV Register Modal and show expected output.	1. User has go to Not Having CV Register Modal. 2. User fill invalid value on inputs of form. 3. User click on "Nộp CV" button.	1. After click on "Chưa có CV" button, display Not Having CV Register Modal as design. 2. Show invalid input to user and don't submit form 3. Show invalid notification to user	[Candidate-23]	1. Lastname Input: "" 2. Firstname Input: "" 3. Birthdate Select Box: "" 4. Address Input: "" 5. Email Input: "" 6. Phone Input: ""	Pass
[Candidate-25]	Test "Nộp CV" button on Not Having CV Register Modal and show expected output.	1. User has go to Not Having CV Register Modal. 2. User fill invalid value on inputs of form. 3. User click on "Nộp CV" button.	1. After click on "Chưa có CV" button, display Not Having CV Register Modal as design. 2. Show invalid input to user and don't submit form 3. Show invalid notification to user	[Candidate-23]	1. Lastname Input: "Do Duy" 2. Firstname Input: "Luyen" 3. Birthdate Select Box: "" 4. Address Input: "" 5. Email Input: "" 6. Phone Input: ""	Pass
[Candidate-26]	Test "Nộp CV" button on Not Having CV Register Modal and show expected output.	1. User has go to Not Having CV Register Modal. 2. User fill invalid value on inputs of form. 3. User click on "Nộp CV" button.	1. After click on "Chưa có CV" button, display Not Having CV Register Modal as design. 2. Show invalid input to user and don't submit form 3. Show invalid notification to user	[Candidate-23]	1. Lastname Input: "Do Duy" 2. Firstname Input: "Luyen" 3. Birthdate Select Box: "" 4. Address Input: "" 5. Email Input: "" 6. Phone Input: ""	Pass

Figure 5.6 - Test case register form

5.7. Checklists

ID	Checklists	Yes	No
General			
CL-01	Functionality of buttons available on all pages.	✓	
CL-02	Validation error messages are displayed properly below the field.	✓	
CL-03	All numeric values are formatted properly.	✓	

CL-04	All error messages are displayed using red color.	√	
CL-05	Delete functionality for any record on the page is asked for confirmation.	√	
CL-06	Text does not have grammatical and spelling errors.	√	
CL-07	Unavailable pages are redirected to the error page.	√	
CL-08	Navigation space is the same on all pages.	√	
CL-09	Feature buttons on all page displays with the right role of users.	√	
CL-10	All mandatory fields are validated and required.	√	
CL-11	All messages create/update/delete successfully using green color.	√	
CL-12	All messages create/update/delete failure using red color.	√	

GUI and Usability

CL-13	Information is presented in the order that the user needs it.	√	
CL-14	All fields on page (e.g. text box, radio options, dropdown lists) should be aligned properly.	√	
CL-15	The text is easy to understand. Don't use slang, acronyms, and abbreviations.	√	
CL-16	Icons and images are designed to give impression and copyright.	√	
CL-17	The most important fields are located where they are easy to see.	√	
CL-18	Candidate's screens have responsive for mobile, laptop, desktop devices	√	
CL-19	Candidate's screen has header and footer on every single screen.	√	
CL-20	SuperAdmin/ HR Staff screen has menu on the left in each screen	√	
CL-21	Only enable scroll when screen overheight or overwidth	√	
CL-22	All image tags have an "alt" attribute to decorate an image when the image wasn't downloaded.	√	

Database

CL-23	Values columns are not accepting null values.	√	
--------------	---	---	--

CL-24	Input date of birth cannot be greater than current date.	√	
CL-25	Null values are not allowed for Primary key columns.	√	
CL-26	Radio button options are saved correctly in the database with true/false.	√	
CL-27	Input data is not truncated. Field length shown to the user on page and in database schema should be the same.	√	
CL-28	Input numeric fields with minimum, maximum, and float values.	√	
CL-29	Input date is formatted dd/mm/yyyy	√	
CL-30	Database fields are designed with correct data type and data length.	√	
CL-31	Input field leading and trailing spaces are truncated before committing data to the database.	√	
CL-32	Fields of columns are unique then cannot duplicate.	√	
Security			
CL-33	Test login with google authenticator.	√	
CL-34	Do not save all information of the account logged, but only save uuid in session.	√	

Table 5.5 – Checklist

5.8. Acceptance test

- HR staff did an [acceptance test](#) to find out Web Application meet requirements:

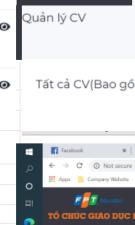
A	B	C	D	E	F	G	H	I	J
STT	View	Mô tả và Cản sửa thành (Nếu có)	Tên Người Test	Người Fix	Screen Solution(nếu có)	Trạng thái	Ghi chú		
1	Quản lý CV	trạng thái CV đang chữ to quá => cho cỡ chữ nhỏ đi	LuuLT	LuyenDD	1280 x 720	Done		Tất cả CV	
2	Quản lý CV	cột tên uv đe lén trước cột email	LuuLT	DatTQ		Done		Quản lý CV	
3	Quản lý CV	"Đóng tuyển vào công việc" chuyển thành "Vị trí ứng tuyển"	LuuLT	DatTQ		Done		Quản lý CV	
4	Quản lý CV	"Mô tả CV" chuyển thành "CV đính kèm"	LuuLT	DatTQ		Done		Quản lý CV	
5	Quản lý CV	"Tên công việc" => "Vị trí"; "Tên email" => "Email"; "Trang thái của CV" => "Trang thái CV"	LuuLT	DatTQ		Done		Quản lý CV	
6	Quản lý CV	"Thông tin CV" => "CV đính kèm"	LuuLT	DatTQ		Done		Quản lý CV	
7	Quản lý CV	Cột đèn có logo bên trái, hình như hơi to => cho nhỏ lại, theo chiều dọc	LuuLT	TungBT		Done		Quản lý CV	
8	Quản lý CV	Dòng chữ "Tất cả CV(Bao gồm cả CV của ứng viên tiềm năng)" bị lỗi ko có dấu cách giữa CV và (Bao gồm)	LuuLT	DatTQ		Done		Quản lý CV	
		- "Số lượng tuyển" => "Số lượng cần tuyển"	LuuLT	DatTQ		Done		Quản lý CV	
		- Cột "Độ ưu tiên" cho sau cột "Hiển thị"	LuuLT	DatTQ		Done		Quản lý CV	
3	Trong quản lý tin tuyển dụng	Địa chỉ email bị sai => hr.ln@fpt.edu.vn	LuuLT	DatTQ		Done		Tất cả CV(Bao gồm cả C	
4	Trong Home	Nhấn vào nút "Đăng ký" bên góc trái trên cùng nhưng hiện ra nút Liên hệ?	LuuLT	TungBT		Done		Trong Home	
5	Trong Home	cập nhật lại Đơn vị làm việc theo danh sách Trang đã gửi	LuuLT	DatTQ		Done		Trong Home	
6	Trong Home	Sửa "Gõ công việc muốn tìm" thành "Tim kiếm việc làm"	LuuLT	LuyenDD		Done		Trong Home	
7	Trong Home	Sửa "Tin tuyển dụng, việc làm tốt nhất" => "Đam mê của bạn là gì?"	LuuLT	DatTQ		Done		Trong Home	
8	Trong Home	Sửa Miền Bắc, Miền Trung, Miền Nam cho đẹp hơn	LuuLT	TungBT		Done		Trong Home	
9	Trong Home	Bỏ "Hồ sơ trống tuyển" tại phần footnote đ	LuuLT	TuanDV		Done		Trong Home	
10	Trong Home					Done		Trong Home	

Figure 5.7 - Acceptance test

5.9. Test Report

- Test report has been manage on the [Test report sheet](#)
- We used Google Lighthouse tools for measuring the quality of web pages, especially SEO:

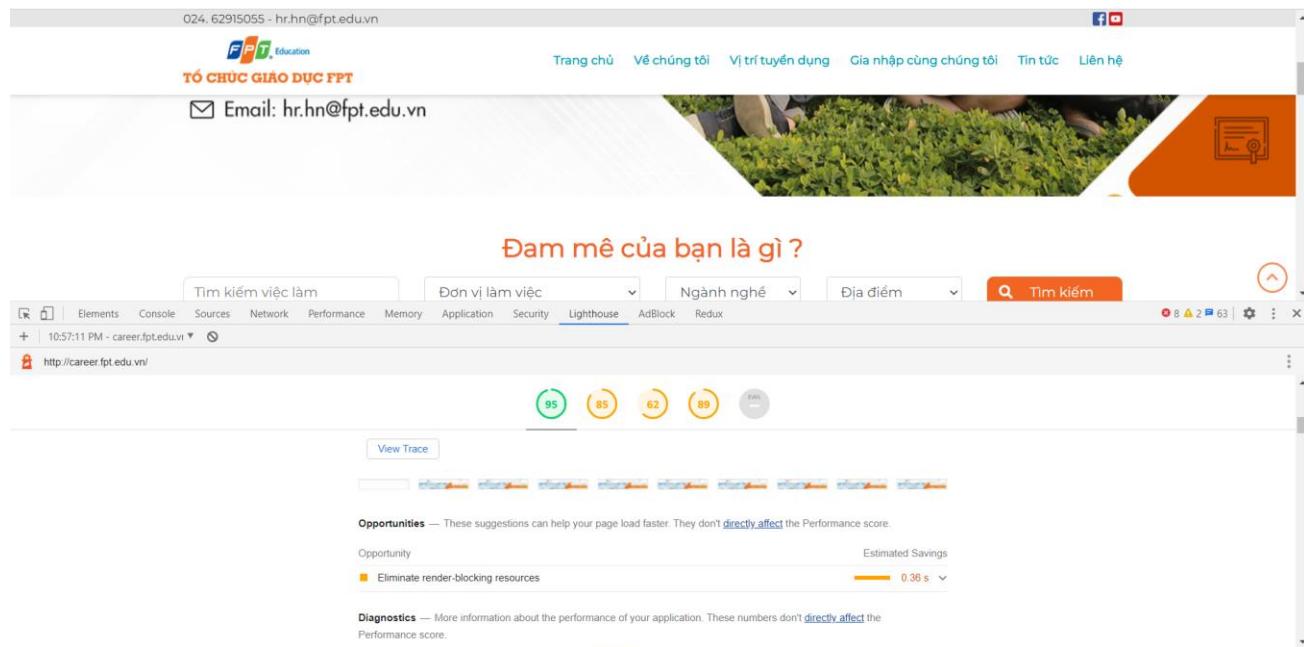


Figure 5.8 - Lighthouse tool's result

Chapter 6: Software User's Manual

6.1. Candidate

6.1.1. Menu



Figure 6.1. Header of homepage

“Trang chủ”: Display home page of FERS.

“Về chúng tôi”: Give information about history of FPT Education.

“Vị trí tuyển dụng”: Redirect to list of all jobs that are in recruitment need at FPT education.

“Gia nhập cùng chúng tôi”: Popup a modal dialog for users to register potential candidates

“Tin tức”: Redirect to news page of FPT Education.

“Liên hệ”: Redirect to contact page of FPT Education.

6.1.2. Search job

Figure 6.2. Search bar

Fill the condition you want to find and click the “Tìm kiếm” button. System will redirect to list jobs that are being recruited at FPT Education with the condition you want.

For example: Search job with title “Giáo viên STEM” and career “Giảng viên/Giáo viên” will return job based on condition search.

024. 62915055 - hr.hn@fpt.edu.vn YouTube Facebook

FPT Education
TỔ CHỨC GIÁO DỤC FPT



[Trang chủ](#) [Về chúng tôi](#) [Vị trí tuyển dụng](#) [Gia nhập cùng chúng tôi](#) [Tin tức](#) [Liên hệ](#)

Tìm kiếm vị trí tuyển dụng

Giao viên STEM Đơn vị làm việc Giảng viên/Giáo viên Địa điểm 🔍 Tìm kiếm

Kết quả : 1

STT	Vị trí	Ngành nghề	Đơn vị tuyển dụng	Địa điểm	SL	Ngày đăng	Hết hạn
1	Giáo viên STEM - công nghệ 4.0 (Cơ điện tử; Tư Động hóa; Công nghệ thông tin; Tin học; Vật lý)	Giảng viên/Giáo viên	Trường TH & THCS FPT Cầu Giấy	Cần Thơ	4	25/07/2020	31/08/2020

Trang 1/1

1

Figure 6.3. List jobs page

6.1.3. List jobs

Miền Bắc

- FPT Education** **FPT ACADEMY INTERNATIONAL**
Cán bộ Truyền thông
\$ 10,000,000đ-20,000,000đ
Trung tâm Liên kết quốc tế, Hà Nội
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)
- FPT Education** **FPT ACADEMY INTERNATIONAL**
Giảng viên IT (Bộ môn CF, SE, ITS)
Theo thỏa thuận
Trung tâm Liên kết quốc tế, Hà Nội
Hết hạn: 31/08/2020
[Ứng tuyển ngay](#)

Xem thêm

Miền Trung

- FPT ACADEMY INTERNATIONAL**
Giáo viên Toán
\$ \$1000-\$2000
Trung tâm Liên kết quốc tế, Đà Nẵng
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)
- FPT ACADEMY INTERNATIONAL**
[FPL ĐN] Cán bộ Dịch vụ sinh viên (Under 30T)
Theo thỏa thuận
Trung tâm Liên kết quốc tế, Đà Nẵng
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)
- UNIVERSITY of GREENWICH** **FPT ACADEMY INTERNATIONAL**
[FPL ĐN] Cán bộ Tổ chức sự kiện
Theo thỏa thuận
Đại học Greenwich (Việt Nam), Đà Nẵng
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)

Xem thêm

Miền Nam

- FPT ACADEMY INTERNATIONAL**
Cán Bộ Quan hệ doanh nghiệp
\$ 20,000,000đ-40,000,000đ
Trung tâm Liên kết quốc tế, Hồ Chí Minh
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)
- FPT POLYTECHNIC**
Cán bộ Hành chính
Theo thỏa thuận
FPT Polytechnic, Hồ Chí Minh
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)
- FPT ACADEMY INTERNATIONAL**
Cán bộ Văn hóa - Đoàn thể
Theo thỏa thuận
Trung tâm Liên kết quốc tế, Hồ Chí Minh
Hết hạn: 31/12/2020
[Ứng tuyển ngay](#)

Xem thêm

Miền Tây

- FPT Education** **FPT SCHOOLS**
Giáo viên STEM - công nghệ 4.0 (Cơ điện tử; Tự Động hóa; Công nghệ thông tin; Tin học; Vật lý)
\$ 20,000,000
Trường TH & THCS FPT Cầu Giấy, Cần Thơ
Hết hạn: 31/08/2020
[Ứng tuyển ngay](#)
- FPT Education** **FPT ACADEMY INTERNATIONAL**
Giảng viên Hóa cấp 3 (Thỉnh giảng)
Theo thỏa thuận
Trung tâm Liên kết quốc tế, Cần Thơ
Hết hạn: 31/10/2020
[Ứng tuyển ngay](#)
- FPT Education** **FPT ACADEMY INTERNATIONAL**
Giảng viên Toán cấp 3 (Thỉnh giảng)
Theo thỏa thuận
Trung tâm Liên kết quốc tế, Cần Thơ
Hết hạn: 30/10/2020
[Ứng tuyển ngay](#)

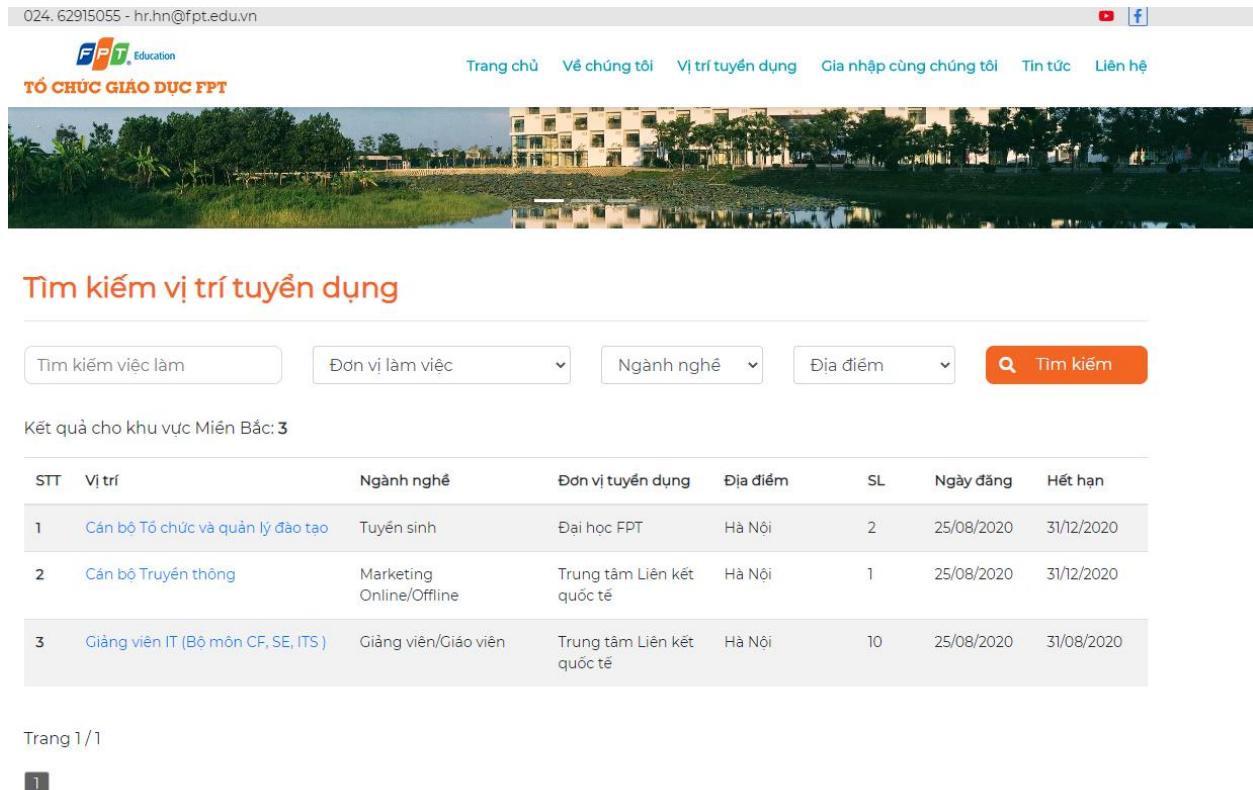
Xem thêm

Figure 6.4. Highlight jobs of regions

That part displays jobs in each region on the home page, max is 3 jobs of each region. We have 4 regions in the system (Miền Bắc, Miền Trung, Miền Nam, Miền Tây). If you want to see

more jobs in each region. Click the “Xem thêm” button, the system will redirect to a list of jobs in that region.

For example, I want to see all jobs of “Miền Bắc” region, I click “Xem thêm” of “Miền Bắc” region and the result is all jobs of “Miền Bắc” (Having 3 jobs).



The screenshot shows the FPT Education website interface. At the top, there is a header with the logo, contact information (024. 62915055 - hr.hn@fpt.edu.vn), and social media links (YouTube and Facebook). Below the header, there is a navigation menu with links to Trang chủ, Về chúng tôi, Vị trí tuyển dụng, Gia nhập cùng chúng tôi, Tin tức, and Liên hệ. The main content area features a large image of a modern building complex by a lake. Below the image, the title "Tìm kiếm vị trí tuyển dụng" is displayed in orange. There are four search input fields: "Tìm kiếm việc làm", "Đơn vị làm việc", "Ngành nghề", and "Địa điểm", followed by a search button labeled "Tim kiem". A sub-section titled "Kết quả cho khu vực Miền Bắc: 3" displays a table of three job listings:

STT	Vị trí	Ngành nghề	Đơn vị tuyển dụng	Địa điểm	SL	Ngày đăng	Hết hạn
1	Cán bộ Tổ chức và quản lý đào tạo	Tuyển sinh	Đại học FPT	Hà Nội	2	25/08/2020	31/12/2020
2	Cán bộ Truyền thông	Marketing Online/Offline	Trung tâm Liên kết quốc tế	Hà Nội	1	25/08/2020	31/12/2020
3	Giảng viên IT (Bộ môn CF, SE, ITS)	Giảng viên/Giáo viên	Trung tâm Liên kết quốc tế	Hà Nội	10	25/08/2020	31/08/2020

At the bottom left, it says "Trang 1/1" and has a page number "1".

Figure 6.5. Jobs displayed by a region

6.1.4. Job positions



The screenshot shows a section titled "Các vị trí tuyển dụng" (Hot job positions) with tabs for "Thực tập sinh" and "Vị trí khác". Below the tabs, there is a description: "Nội dung về vị trí Thực tập sinh tại FPT" and a link to "Trung tâm Liên kết quốc tế". To the right, there is a large orange graphic featuring a smiling woman in an orange shirt, a circular logo for "FPT Education TỔ CHỨC GIÁO DỤC FPT", and several promotional boxes: "Đào tạo nâng cao chuyên môn", "Lương thưởng hấp dẫn", and "Cơ hội trở thành thành viên chính thức FPT Edu".

Figure 6.6. Hot job positions and recruitment units

This part is a description of a tab which has jobs. We divide into 4 tabs : “Giảng viên/Giáo viên”, “Thực tập sinh”, “Tuyển sinh”, “Vị trí khác”. In each tab, we will show all units have jobs in that position. If we click to each unit, we will show all jobs in this unit.

For example, in tab “Giáo viên/Giảng viên”, we have two units have jobs about “Giáo viên/Giảng viên” : “Trường TH & THCS FPT Cầu Giấy” and “Trung tâm Liên kết quốc tế”. When I click to “Trường TH & THCS FPT Cầu Giấy”, the system will show all jobs in this unit.

Tìm kiếm vị trí tuyển dụng

<input type="text" value="Tim kiem việc làm"/>	<input type="button" value="Trung tâm Liên kết quốc t"/>	<input type="button" value="Ngành nghề"/>	<input type="button" value="Địa điểm"/>	<input type="button" value="Tim kiem"/>			
Kết quả : 9							
STT	Vị trí	Ngành nghề	Đơn vị tuyển dụng	Địa điểm	SL	Ngày đăng	Hết hạn
1	Cán Bộ Quan hệ doanh nghiệp	Quan hệ doanh nghiệp	Trung tâm Liên kết quốc tế	Hồ Chí Minh	1	25/08/2020	31/12/2020
2	Cán bộ Truyền thông	Marketing Online/Offline	Trung tâm Liên kết quốc tế	Hà Nội	1	25/08/2020	31/12/2020
3	Giảng viên IT (Bộ môn CF, SE, ITS)	Giảng viên/Giáo viên	Trung tâm Liên kết quốc tế	Hà Nội	10	25/08/2020	31/08/2020

Figure 6.7. List jobs of a unit

6.1.5. Working environment

Môi trường làm việc



- ✓ Môi trường làm việc tốt nhất châu Á (do HR Asia Magazine bình chọn)
- ✓ Các quyền lợi khác: thường ngày 20/11, thường ngày thành lập Tập đoàn 13/09, phụ cấp đa dạng, tham gia các hoạt động vui chơi giải trí...
- ✓ Hướng chế độ chăm sóc sức khỏe đặc biệt cho bản thân và gia đình (FPT care)
- ✓ Được đóng BHXH, BHYT, BHTN, ... theo quy định của nhà nước
- ✓ Người nhà được hưởng chế độ ưu đãi học phí khi học tập tại Tổ chức giáo dục FPT
- ✓ Các quyền lợi khác: thường ngày 20/11, thường ngày thành lập Tập đoàn 13/09, phụ cấp đa dạng, tham gia các hoạt động vui chơi giải trí...
- ✓ Môi trường giáo dục với nhiều cơ hội được học tập, trải nghiệm và phát triển bản thân

Figure 6.8. Information about working environment of FPT Education

This part describes the working environment in FPT Education, if click to image, the system will redirect to a detail description page.

6.1.6. What did FPT Education people say?

Người FPT Education nói gì



Figure 6.9. Reviews about FPT Education

This part gives some video about something that FPT Education people said. You can click each video to watch.

6.1.7. Apply job

Miền Bắc

FPT University

ĐẠI HỌC FPT

Cán bộ Tổ chức và quản lý đào tạo

₹ Theo thỏa thuận

📍 Đại học FPT, Hà Nội

📅 Hết hạn: 31/12/2020

Ứng tuyển ngay

Miền Bắc

FPT Education

FPT ACADEMY INTERNATIONAL

Cán bộ Truyền thông

₹ 10,000,000đ-20,000,000đ

📍 Trung tâm Liên kết quốc tế, Hà Nội

📅 Hết hạn: 31/12/2020

Ứng tuyển ngay

Miền Bắc

FPT Education

FPT ACADEMY INTERNATIONAL

Giảng viên IT (Bộ môn CF, SE, ITS)

₹ Theo thỏa thuận

📍 Trung tâm Liên kết quốc tế, Hà Nội

📅 Hết hạn: 31/08/2020

Ứng tuyển ngay

Figure 6.10. List jobs of a region

When you want to apply a job, you can click the “**Ứng tuyển ngay**” button of each job. The system will show a popup with 2 choices : “**Có CV**” and “**Đã có CV**”.

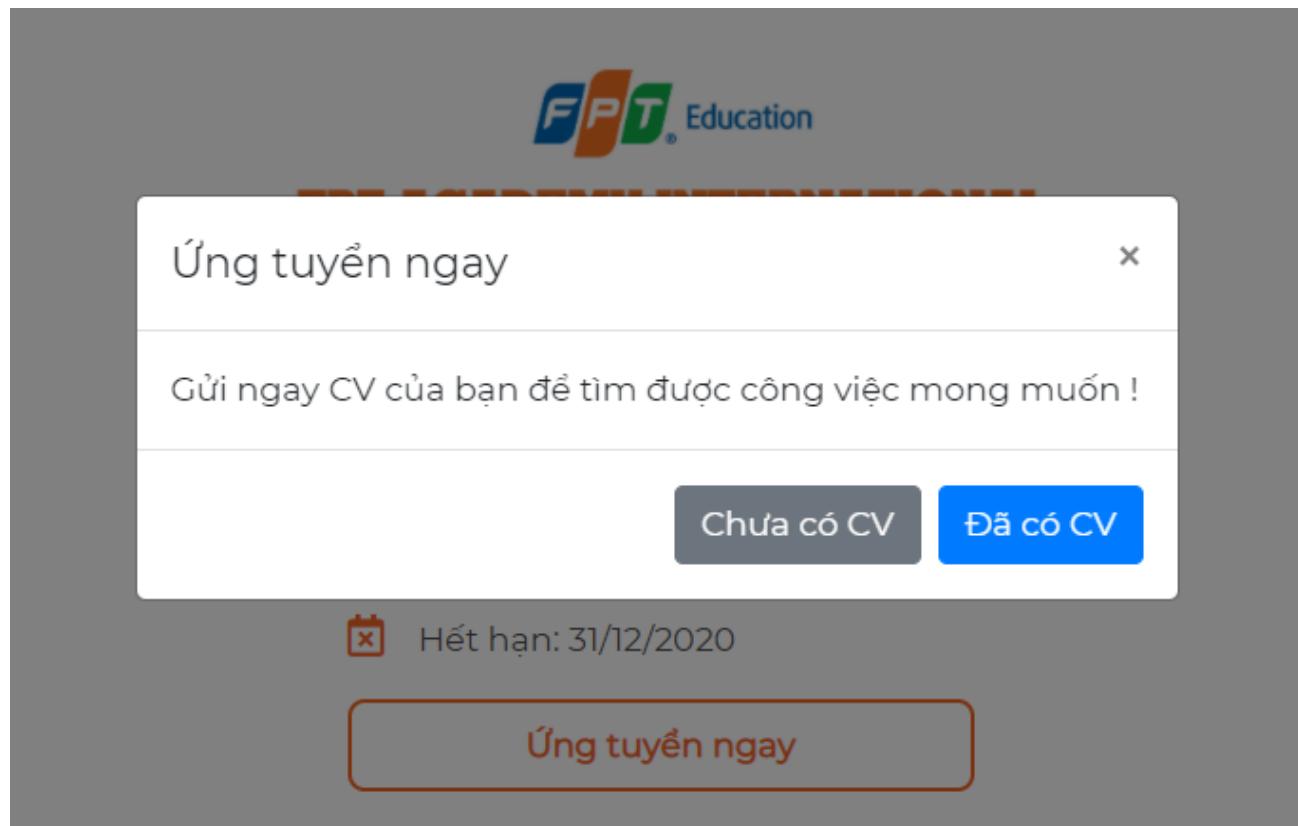


Figure 6.11. Confirmation dialog box

If you don't have a CV, click the “Chưa có CV” button, the system will show a form suitable for you to fill in.

Tạo CV ngay ×

FPT Education

TÓ CHỨC GIÁO DỤC FPT

Vì sao nên đăng ký gia nhập FPT Education?

Cảm ơn bạn đã cân nhắc lựa chọn FPT Education trên lộ trình nghề nghiệp của mình. Đăng ký gia nhập cùng chúng tôi sẽ giúp bạn nâng cao khả năng tìm kiếm được công việc mơ ước.

- Nhận thông báo việc làm mới phù hợp với đam mê của bạn
- Trò chuyện với các Chuyên viên Tuyển dụng về định hướng nghề nghiệp
- Chia sẻ cơ hội việc làm với bạn bè, người thân

Hãy đăng ký thông tin để kết nối với chúng tôi ngay hôm nay!

Họ *	<input type="text" value="Nhập họ"/>
Tên *	<input type="text" value="Nhập tên"/>
Giới tính *	<input type="text" value="Nữ"/> ▼
Ngày sinh *	<input type="text" value="dd/mm/yyyy"/> CALENDAR
Địa chỉ *	<input type="text" value="Nhập địa chỉ"/>
Email *	<input type="text" value="Nhập email"/>
Số điện thoại *	<input type="text" value="Nhập số điện thoại"/>
Trình độ *	<input type="text" value="Trung Cấp"/> ▼
Công việc mong muốn *	<input type="text" value="Cán bộ Truyền thông"/>
Chuyên ngành	<input type="text" value="VD: Sư Phạm,..."/>
Kinh nghiệm làm việc	<input type="text" value="VD: 3 năm cán bộ tuyển sinh"/>
Thông tin khác	<input type="text"/>

Hủy Nộp CV

Figure 6.12. Create CV modal dialog

If you have a CV, click the “Đã có CV” button, the system will show a form suitable for you to fill in.

Gửi CV ngay



TỔ CHỨC GIÁO DỤC FPT

Vì sao nên đăng ký gia nhập FPT Education?

Cảm ơn bạn đã cân nhắc lựa chọn FPT Education trên lộ trình nghề nghiệp của mình. Đăng ký gia nhập cùng chúng tôi sẽ giúp bạn nâng cao khả năng tìm kiếm được công việc mơ ước.

- Nhận thông báo việc làm mới phù hợp với đam mê của bạn
- Trò chuyện với các Chuyên viên Tuyển dụng về định hướng nghề nghiệp
- Chia sẻ cơ hội việc làm với bạn bè, người thân

Hãy đăng ký thông tin để kết nối với chúng tôi ngay hôm nay!

Họ *	<input type="text" value="Nhập họ"/>
Tên *	<input type="text" value="Nhập tên"/>
Giới tính *	<input type="text" value="Nữ"/> 
Ngày sinh *	<input type="text" value="dd/mm/yyyy"/> 
Địa chỉ *	<input type="text" value="Nhập địa chỉ"/>
Email *	<input type="text" value="Nhập email"/>
Số điện thoại *	<input type="text" value="Nhập số điện thoại"/>
Công việc mong muốn *	<input type="text" value="Cán bộ Truyền thông"/>
Đã có CV:	<input type="file"/>
	
 	

Figure 6.13. Upload CV modal dialog

Fields validation :

- With field have red symbol (*), you cannot leave it blank.
- In the field “Ngày sinh”, you must choose a date that is less than or equal to the current date.
- Phone number max length is 11 number.
- If you upload a CV file, the size of the file must be less than or equal 4MB.

Then, click the “Nộp CV” button to submit the form and the system will send a email to you to confirm about receiving your CV.

If you don't want to apply for a job but are still in contact with the recruitment system, you can register a CV to the system with your expected job by click “Gia nhập cùng chúng tôi” in menu tab or click the “Đăng ký” button in the bottom of page. The system will show a form for you to register.

<p>Hãy gia nhập với chúng tôi ngay hôm nay!</p> <p>Đăng ký</p>
<div style="display: flex; justify-content: space-between;"> <div style="width: 33%;"> <p>Thông tin liên hệ</p> <p>Khu công nghệ cao Hòa Lạc, Hà Nội Email: hr.hn@fpt.edu.vn Hotline: 024 6291 5055</p> </div> <div style="width: 33%;"> <p>Về chúng tôi</p> <p>Giới thiệu Môi trường làm việc Quy trình tuyển dụng</p> </div> <div style="width: 33%;"> <p>Liên kết</p> <p> </p> </div> </div>

Figure 6.14. Register potential candidate

Đăng ký ngay để nhận tư vấn

FPT Education

TỔ CHỨC GIÁO DỤC FPT

Vì sao nên đăng ký gia nhập FPT Education?

Cảm ơn bạn đã cân nhắc lựa chọn FPT Education trên lộ trình nghề nghiệp của mình. Đăng ký gia nhập cùng chúng tôi sẽ giúp bạn nâng cao khả năng tìm kiếm được công việc mơ ước.

- Nhận thông báo việc làm mới phù hợp với đam mê của bạn
- Trò chuyện với các Chuyên viên Tuyển dụng về định hướng nghề nghiệp
- Chia sẻ cơ hội việc làm với bạn bè, người thân

Hãy đăng ký thông tin để kết nối với chúng tôi ngay hôm nay!

Họ *

Tên *

Giới tính *

Nữ

Ngày sinh *

Địa chỉ *

Email *

Số điện thoại *

Trình độ *

Trung Cấp

Công việc mong muốn *

Chuyên ngành

VD: Sư Phạm,...

Kinh nghiệm làm việc

VD: 3 năm cán bộ tuyển sinh

Upload CV (Nếu có):

Chọn file

Thông tin khác

[Hủy](#) [Đăng ký](#)

Figure 6.15. Register potential candidate modal dialog

Fields validation :

- With field have red symbol (*), you cannot leave it blank.

- In the field “Ngày sinh”, you must choose a date that is less than or equal to the current date.
- Phone number max length is 11 number.
- If you upload a CV file, the size of the file must be less than or equal 4MB.

Then, click the “Đăng ký” button to submit the form and the system will send an email to you to confirm about receiving your CV.

6.1.8. Recruitment Process

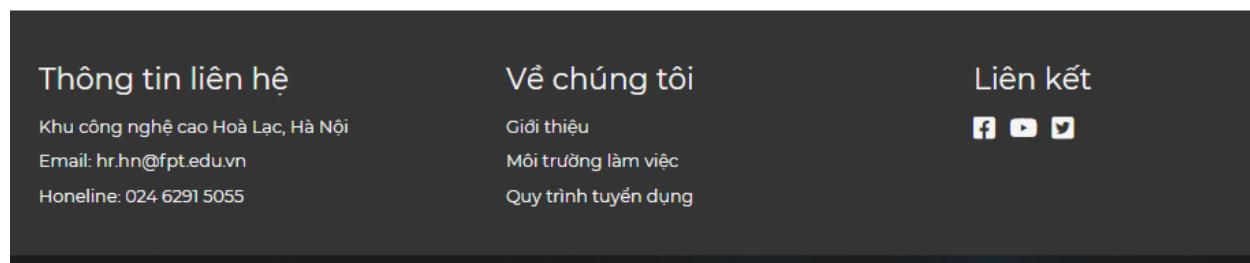


Figure 6.16. Footer of FERS site

When you click to “Quy trình tuyển dụng” on the footer, the system will redirect to recruitment process. This page have two part:

- Recruitment process: An image of the job recruitment process and steps at FPT Education
- Profile: Required documents and procedures if you are admitted to FPT Education


I. HỒ SƠ CBNV MỚI

1. Thư mời làm việc (đã ký)
2. Sơ yếu lý lịch có xác nhận của địa phương (l2 tháng gần đây)
3. 01 bản sao công chứng Bằng, Bằng điểm, Chứng chỉ liên quan (cân dịch công chứng sang tiếng Việt nếu bằng là tiếng nước ngoài)
4. Giấy khám sức khỏe (l2 tháng gần đây) do cơ sở y tế cấp Quận, Huyện cấp
5. 02 ảnh 4x6
6. 02 bản photo CMND (Không cần công chứng)

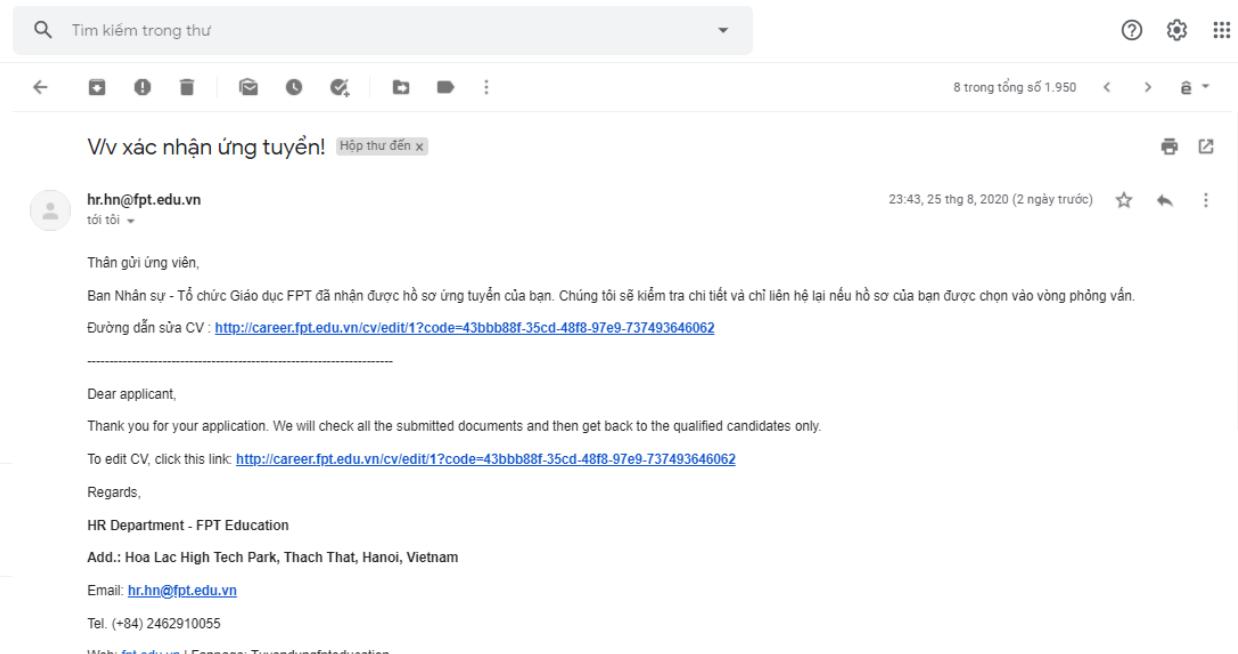
II. HỒ SƠ GIẢNG VIÊN THÌNH GIẢNG

1. Phiếu thông tin nhân viên (đã ký)
2. Lý lịch khoa học (đã ký)
3. 01 bản sao công chứng Bằng tốt nghiệp, Bằng điểm, các chứng chỉ liên quan (nếu có) (cân dịch công chứng sang tiếng Việt nếu bằng là tiếng nước ngoài)
4. Bản sao công chứng chứng chỉ nghiệp vụ sư phạm (nếu có)
5. 02 ảnh 4x6
6. 01 bản photo giấy tờ tùy thân (chứng minh nhân dân/thẻ căn cước/hộ chiếu)

Figure 6.17. Recruitment process page

6.1.9. Edit CV

After successfully applying/registering potential candidates for a job, candidates will receive an email with a link allowing them to edit their CV.



The screenshot shows an email inbox with one unread message. The message is from "hr.hn@fpt.edu.vn" to the recipient. The subject line is "V/v xác nhận ứng tuyển! [Hộp thư đến x]". The email body contains a welcome message, a link to edit the CV, and contact information for the HR department.

V/v xác nhận ứng tuyển! [Hộp thư đến x]

hr.hn@fpt.edu.vn
tới tôi

23:43, 25 thg 8, 2020 (2 ngày trước)

Để sửa CV: <http://career.fpt.edu.vn/cv/edit/1?code=43bbb88f-35cd-48f8-97e9-737493646062>

Dear applicant,
Thank you for your application. We will check all the submitted documents and then get back to the qualified candidates only.
To edit CV, click this link: <http://career.fpt.edu.vn/cv/edit/1?code=43bbb88f-35cd-48f8-97e9-737493646062>
Regards,
HR Department - FPT Education
Add.: Hoa Lac High Tech Park, Thach That, Hanoi, Vietnam
Email: hr.hn@fpt.edu.vn
Tel. (+84) 2462910055
Web: fpt.edu.vn | Fanpage: Tuyendungfpteducation

Figure 6.18. Email notification of successful application

The screenshot shows a web form titled "Sửa thông tin đăng ký" (Edit registration information). The form includes fields for personal details like Name, Gender, Date of Birth, Address, Email, Phone Number, and Education Level. It also includes dropdowns for desired job position, specialization, and work experience, along with a text area for other information. A sidebar on the left provides information about why one should register and a note encouraging them to do so right away. At the bottom are "Home" and "Save" buttons.

Họ *	Thanh Tùng
Tên *	Bùi
Giới tính *	Nam
Ngày sinh *	05/08/2020
Địa chỉ *	Xóm Vuôt, Ngũ Sơn
Email *	buihanhtung.317@gmail.com
Số điện thoại *	0354442626
Trình độ*	Đại Học
Công việc mong muốn *	Cán bộ Tổ chức và quản lý đào tạo
Chuyên ngành	
Kinh nghiệm làm việc	
Thông tin khác	

TÓ CHỨC GIÁO DỤC FPT

Vì sao nên đăng ký gia nhập FPT Education?

Cảm ơn bạn đã cân nhắc lựa chọn FPT Education trên lộ trình nghề nghiệp của mình. Đăng ký gia nhập cùng chúng tôi sẽ giúp bạn nâng cao khả năng tìm kiếm được công việc mơ ước.

- Nhận thông báo việc làm mới phù hợp với đam mê của bạn
- Trò chuyện với các Chuyên viên Tuyển dụng về định hướng nghề nghiệp
- Chia sẻ cơ hội việc làm với bạn bè, người thân

Hãy đăng ký thông tin để kết nối với chúng tôi ngay hôm nay!

[Home](#) [Save](#)

Figure 6.19. Edit CV page

6.1.10. Take quiz

After applying for a job successfully, Candidate's CV will be stored in the system. Once HR Staff click the send link quiz for the candidate, an email will be sent to the candidate, including the link of the quiz.

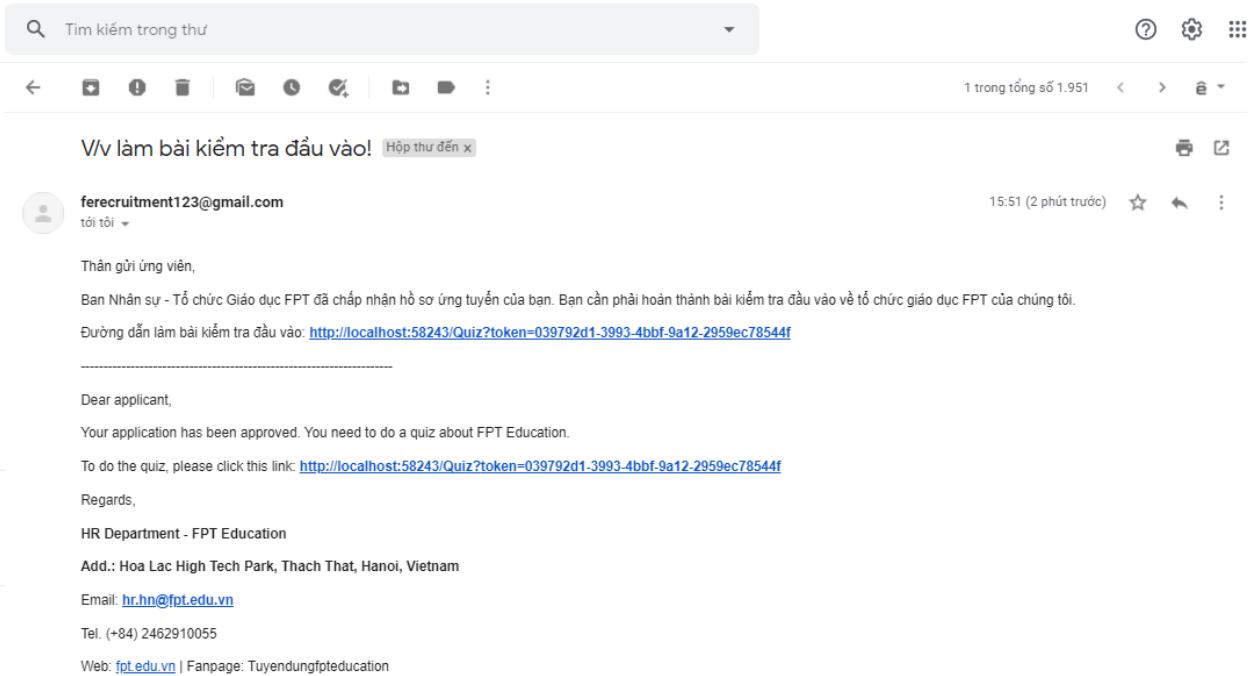


Figure 6.20. Email quiz link

Candidate will have 40 minutes to complete the quiz

024. 62915055 - hr.hn@fpt.edu.vn

FPT Education
TỔ CHỨC GIÁO DỤC FPT

Trang chủ Về chúng tôi Vị trí tuyển dụng Gia nhập cùng chúng tôi Tin tức Liên hệ

Bài Kiểm Tra Hiểu Biết Về FPT Education 39:48

1. STC là viết tắt của cụm từ nào?

- Sung túc Company
- Sáng tác Company hay Công ty Sáng tác
- Số tay chung

2. STC chính thức được ra mắt lần đầu tiên vào thời điểm nào?

- Ngày 13/09/1992
- Ngày 13/9/1990
- Ngày 13/9/1989
- Ngày 13/9/1988

3. "Hội làng FE" được tổ chức khi nào?

- Ngày 31/12 hàng năm
- Trước khi nghỉ Tết âm lịch

Figure 6.21. Take quiz page

6.1.11. Login

Go to url : career.fpt.edu.vnAccount/Login to go to the login page. Click the “Đăng nhập” button and select your email to login the system. After login success,

- If you have the role “HR Staff”, the system will redirect to the HR manager page.

- If you have role “Admin” or both role “Admin” and “HR Staff”, the system will redirect to the admin manage page.



Figure 6.22. Login page

6.2. Admin

Description all about function of Admin

6.2.1. Account management

#	Email	Tên	Chức vụ	Vị trí quản lý	Hoạt động	
1	lampt@fpt.edu.vn	Phan Trường Lâm	Super Administrator HR Staff	Hà Nội Hồ Chí Minh Đà Nẵng Cần Thơ	Đang mở	Sửa Xóa
2	hoaht9@fpt.edu.vn	Hoa Quỳnh	Super Administrator HR Staff	Hà Nội Hồ Chí Minh	Đang mở	Sửa Xóa
3	baontse05601@fpt.edu.vn	Nguyễn Thái Bảo	Super Administrator HR Staff	Đà Nẵng Cần Thơ	Đang mở	Sửa Xóa
4	tuandvse05339@fpt.edu.vn	Đỗ Văn Tuấn	Super Administrator HR Staff	Cần Thơ Cần Thơ	Đang mở	Sửa Xóa
5	luyenddse04999@fpt.edu.vn	Đỗ Duy Luyện	Super Administrator HR Staff	Hồ Chí Minh	Đang mở	Sửa Xóa
6	tungbtse05661@fpt.edu.vn	Bùi Thanh Tùng	Super Administrator HR Staff	Hà Nội Hồ Chí Minh Đà Nẵng Cần Thơ Đăk Lăk	Đang mở	Sửa Xóa

Figure 6.23. Account management page

This is the account management page. This page shows all accounts in the system.

- If you want to create a new account, click “Tạo tài khoản”.
- If you want to edit an account, click the “Sửa” button.
- If you want to delete an account, click the “Xóa” button.

Quản lý tài khoản

Bùi Thành Tùng

Tạo tài khoản mới

Tên email:

Tên tài khoản:

Chức vụ:

- Super Administrator
- HR Staff

Địa điểm quản lý:

- Hà Nội
- Hồ Chí Minh
- Đà Nẵng
- Cần Thơ
- Đăk Lăk

Hoạt động:

-

Tạo mới

[Quay về](#)

Figure 6.24. Add account page

- When user want to add a new account, they have to full fill the following information:
 - “Tên email”: email of the account
 - “Tên tài khoản”: Display name of the account
 - “Chức vụ”: Role of account, there are two role of accounts: Super Administrator and HR Staff.
 - “Địa điểm quản lý”: All working locations of FPT Education. The user only has management rights related to the specified locations
 - “Hoạt động”: Enable or disable the account?
- Similarly, with the edit account page, the user must also fill in the information as above

Quản lý tài khoản

Bùi Thành Tùng

Chỉnh sửa

Tên email:

Tên tài khoản:

Chức vụ:

- Super Administrator
- HR Staff

Địa điểm quản lý:

- Hà Nội
- Hồ Chí Minh
- Đà Nẵng
- Cần Thơ
- Đăk Lăk

Hoạt động:

-

Lưu

[Quay về](#)

Figure 6.25. Edit account page

When the user wants to remove an account from the system, they can click the button “Xóa” on an account. A confirmation dialog will popup, if the user clicks OK - the account will be removed from the system.

6.2.2. Location management

The screenshot shows a web application interface for managing locations. The top navigation bar includes the FPT Education logo and the text "TỔ CHỨC GIÁO DỤC FPT". On the right, there is a user profile for "Bùi Thành Tùng" with a link and a user icon. The main content area has a title "Quản lý địa điểm". On the left, a sidebar menu lists various administrative functions: Quản lý tài khoản, Quản lý địa điểm (selected), Quản lý đơn vị, Quản lý nghề nghiệp, Quản lý gửi mail, Quản lý đề bài, Quản lý câu hỏi, Quản lý nhóm câu hỏi, and Quản lý log. The main content area displays a table titled "Tạo địa điểm mới" with columns: Số thứ tự, Tên địa điểm, and Vùng miền. The table contains five rows of data:

Số thứ tự	Tên địa điểm	Vùng miền
1	Hà Nội	Miền Bắc
2	Hồ Chí Minh	Miền Nam
3	Đà Nẵng	Miền Trung
4	Cần Thơ	Miền Tây
5	Đăk Lăk	Miền Trung

Each row has "Sửa" and "Xóa" buttons. Below the table, it says "Trang 1/1" and shows a page number "1".

Figure 6.26. Location management page

This is a location management page. This page shows a list of all working locations of FPT Education.

- Click “Tạo địa điểm mới” to add a new location into FPT Education
- Click “Sửa” to edit a location
- Click “Xóa” to delete a location

The screenshot shows the "Tạo địa điểm mới" (Create New Location) form. The top navigation bar and sidebar menu are identical to Figure 6.26. The main content area has a title "Tạo địa điểm mới". It contains two input fields: "Tên địa điểm" (Location Name) and "Vùng Miền" (Region). A dropdown menu under "Vùng Miền" is set to "Miền Bắc". Below the inputs are two buttons: "Tạo mới" (Create New) and "Quay về" (Go Back).

Figure 6.27. Add location page

- When adding a new location, user must full fill the following information:
 - “Tên địa điểm”: Name of the location

- “Vùng miền”: Region of the location
- When editing the location, the user can change the name and region of the location.
- When deleting the location, a modal dialog will popup to make sure that the user really wants to delete the location.

6.2.3. Unit management

Số thứ tự	Tên đơn vị	Ảnh đơn vị	Sửa	Xóa
1	Trung tâm Liên kết quốc tế		Sửa	Xóa
2	FPT-BTEC		Sửa	Xóa
3	Đại học FPT		Sửa	Xóa
4	UBD-FPT Global		Sửa	Xóa
5	Viện Quản trị & Công nghệ FSB		Sửa	Xóa
6	Trường THPT FPT		Sửa	Xóa
7	Trường TH & THCS FPT Cầu Giấy		Sửa	Xóa
8	FPT Polytechnic		Sửa	Xóa
9	Đại học Greenwich (Việt Nam)		Sửa	Xóa

Figure 6.28. Unit management page

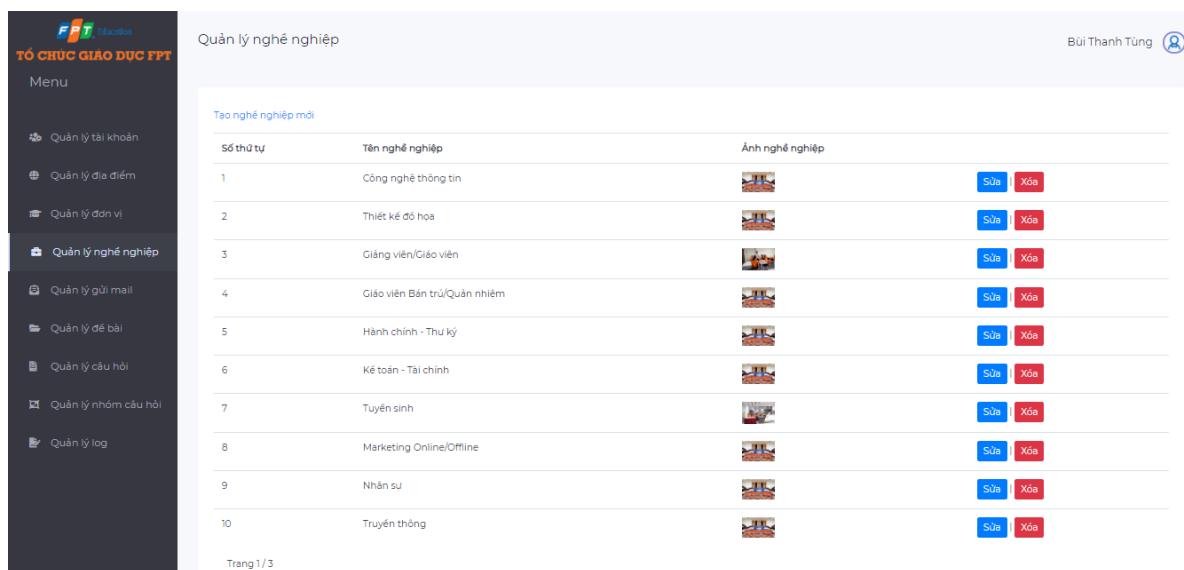
This is the unit management page. This page shows a list of all working units of FPT Education.

- Click “Tạo đơn vị mới” to add a new unit into FPT Education
- Click “Sửa” to edit a unit
- Click “Xóa” to delete a unit

Figure 6.29. Add unit page

- When adding a new unit , user must full fill the following information:
 - “Tên đơn vị”: Name of the unit
 - “Giới thiệu”: Description about the unit
 - “Ảnh đơn vị”: A photo of the unit (must be JPG or PNG format file and below 4MB size)
- When editing the unit, the user can change the above information (unit name, description, image).
- When deleting the unit, a modal dialog will popup to make sure that the user really wants to delete the unit.

6.2.4. Career management



The screenshot shows a web interface for managing careers at FPT Education. The top navigation bar includes the FPT Education logo, the title 'TỔ CHỨC GIÁO DỤC FPT' (FPT Education Organization), and a user profile for 'Bùi Thành Tùng'. On the left, a vertical menu lists various administrative tasks: Quản lý tài khoản, Quản lý địa điểm, Quản lý đơn vị, Quản lý nghề nghiệp (highlighted in blue), Quản lý gửi mail, Quản lý đề bài, Quản lý câu hỏi, Quản lý nhóm câu hỏi, and Quản lý log. The main content area is titled 'Quản lý nghề nghiệp' and shows a table titled 'Tạo nghề nghiệp mới' (Create New Career). The table lists 10 careers with their names and small thumbnail images. Each row has two buttons: 'Sửa' (Edit) and 'Xóa' (Delete). The table is paginated at the bottom with 'Trang 1 / 3'.

Số thứ tự	Tên nghề nghiệp	Ảnh nghề nghiệp	Sửa	Xóa
1	Công nghệ thông tin		Sửa	Xóa
2	Thiết kế đồ họa		Sửa	Xóa
3	Giảng viên/Giáo viên		Sửa	Xóa
4	Giáo viên/Bán trú/Quản nhiệm		Sửa	Xóa
5	Hành chính - Thư ký		Sửa	Xóa
6	Kế toán - Tài chính		Sửa	Xóa
7	Tuyển sinh		Sửa	Xóa
8	Marketing Online/Offline		Sửa	Xóa
9	Nhân sự		Sửa	Xóa
10	Truyền thông		Sửa	Xóa

Figure 6.30. Career management page

This is a career management page. This page shows a list of all careers of FPT Education.

- Click “Tạo nghề nghiệp mới” to add a new career into FPT Education
- Click “Sửa” to edit a career
- Click “Xóa” to delete a career

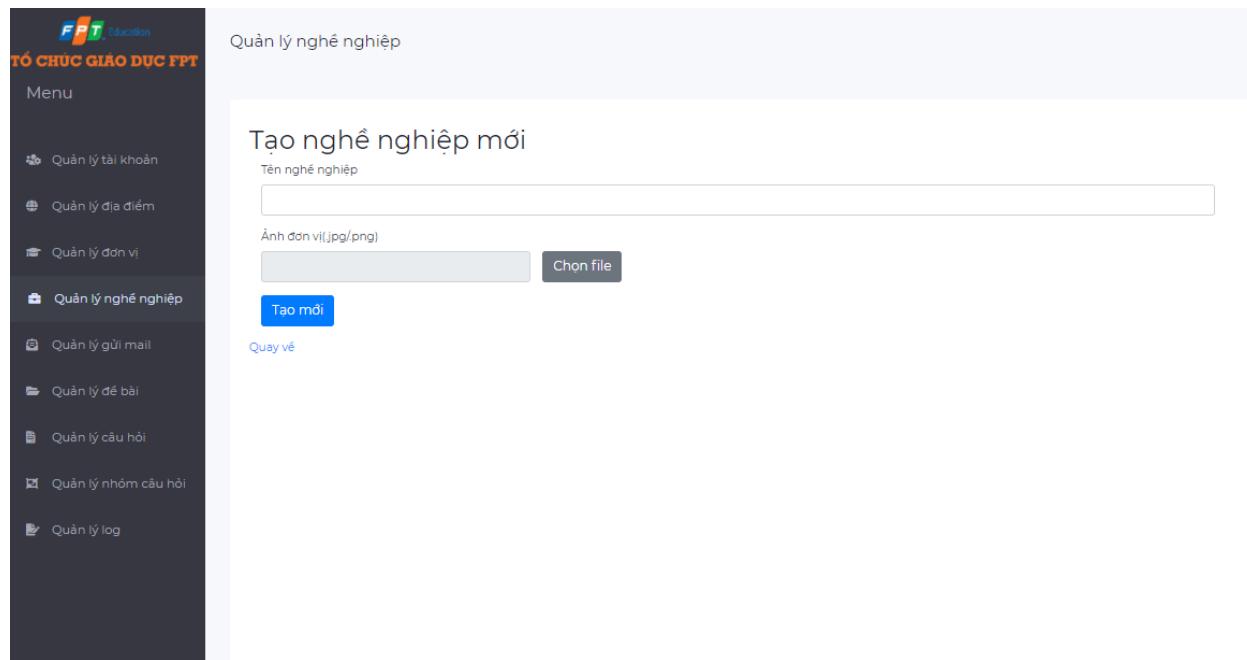


Figure 6.31. Add career page

- When adding a new career, user must full fill the following information:
 - “Tên nghề nghiệp”: Name of the career
 - “Ảnh nghề nghiệp”: A photo of the career (must be JPG or PNG format file and below 4MB size)
- When editing the career, the user can change the above information (career name, image).
- When deleting the career, a modal dialog will popup to make sure that the user really wants to delete the career.

6.2.5. Config email management

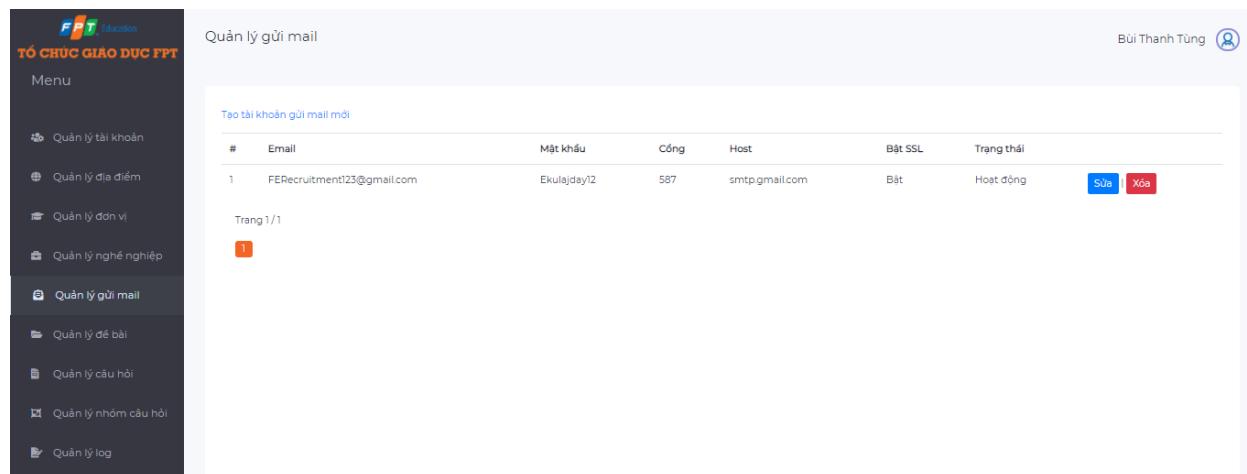


Figure 6.32. Config email management page

This is the config email management page. This page shows a list of all emails which are used to automatically send to the candidates .

- Click “Tạo tài khoản gửi email mới” to add a new email
- Click “Sửa” to edit an email
- Click “Xóa” to delete an email

The screenshot shows a web-based application interface for managing email accounts. On the left, there is a vertical menu with various options such as 'Quản lý tài khoản', 'Quản lý địa điểm', 'Quản lý đơn vị', etc. The main area is titled 'CreateConfigEmail' and contains a form for creating a new email account. The form fields are: 'Email' (input field), 'Password' (input field), 'Port' (input field), 'Host' (input field), 'EnableSSL' (checkbox), and 'IsActive' (checkbox). Below the form is a blue button labeled 'Tạo mới'. At the bottom of the form area, there is a link 'Quay về'.

Figure 6.33. Add a new email

- When adding a new email, user must full fill the following information:
 - “Email”: The email address
 - “Password”: The password of the email address
 - “Port”:
 - “Host”:
 - “EnableSSL”:
 - “IsActive”: When this option is checked, the email is able to be used. Note that only one email is enabled at a time.
- When editing the email, the user can change the above information (email address, password, port number, host, enableSSL, isActive).
- When deleting the email, a modal dialog will popup to make sure that the user really wants to delete the email.

6.2.6. Question management

The screenshot shows a web-based question management system. On the left is a dark sidebar menu with various options like 'Quản lý tài khoản', 'Quản lý địa điểm', etc. The main area has a header 'Quản lý câu hỏi' and a user profile 'Bùi Thanh Tùng'. Below is a search bar with dropdowns for 'Nhóm câu hỏi' and 'Nhập từ khóa tìm kiếm' (highlighted with a red box), and a 'Tim kiếm' button. A table lists three questions with columns for ID, Question, Answer, Group, Creation Date, and Last Update. Each row has 'Sửa' and 'Xóa' buttons.

Sđt	Câu hỏi	Đáp án	Nhóm câu hỏi	Ngày cập nhật	Ngày tạo
1	STC là viết tắt của cụm từ nào?	<ul style="list-style-type: none"> Sung túc Company Sáng tác Company hay Công ty Sáng tác Số tay chung 	Văn Hóa	01/01/2020 12:00 AM	01/01/2020 12:00 AM
2	STC chính thức được ra mắt lần đầu tiên vào thời điểm nào?	<ul style="list-style-type: none"> Ngày 13/09/1992 Ngày 13/9/1990 Ngày 13/9/1989 Ngày 13/9/1988 	Nội Dung	01/01/2020 12:00 AM	01/01/2020 12:00 AM
3	"Hội làng FE" được tổ chức khi nào?	<ul style="list-style-type: none"> Ngày 31/12 hàng năm Trước khi nghỉ Tết âm lịch Đầu năm sau kỳ nghỉ Tết âm lịch 	Đối Ngoại	01/01/2020 12:00 AM	01/01/2020 12:00 AM

Figure 6.34. Question management page

The above is an interface of the question management page, including a list of all questions and search menu.

- Click “Tạo câu hỏi mới” to add a new question
- Click “Sửa” to edit a question
- Click “Xóa” to delete a question

The screenshot shows the 'Thêm câu hỏi' (Add question) page. It features a title 'Tạo câu hỏi mới' and a form with fields for 'Câu hỏi' (Question content), 'Đáp án:' (Answer), '(+) Thêm đáp án' (Add answer), 'Nhóm câu hỏi' (Question group), and a 'Tạo mới' (Create new) button. There is also a 'Quay về' (Back) link at the bottom.

Figure 6.35. Add question page

- When adding a new question, user must full fill the following information:
 - “Câu hỏi”: Content of the question
 - “Đáp án”: Answers of the question. A question has one or more answers

- User can add a new answer by clicking the button “Thêm đáp án”
- “Nhóm câu hỏi”: The questions in the system are divided into groups to easily classify candidates
- When editing the question, the user can change the above information (question name, answers, question group)
- When deleting the question, a modal dialog will popup to make sure that the user really wants to delete it.

6.2.7. Question group management

Sđt	Tên nhóm	Sửa	Xóa
1	Đối Ngoại	Sửa	Xóa
2	Nội Dung	Sửa	Xóa
3	Văn Hóa	Sửa	Xóa

Trang 1/1

Figure 6.36. Question group management page

As mentioned above, the questions in the system will be divided into groups to easily manage the question bank and classify candidates when doing tests.

- Click “Tạo nhóm mới” to add a new question group
- Click “Sửa” to edit a question group
- Click “Xóa” to delete a question group

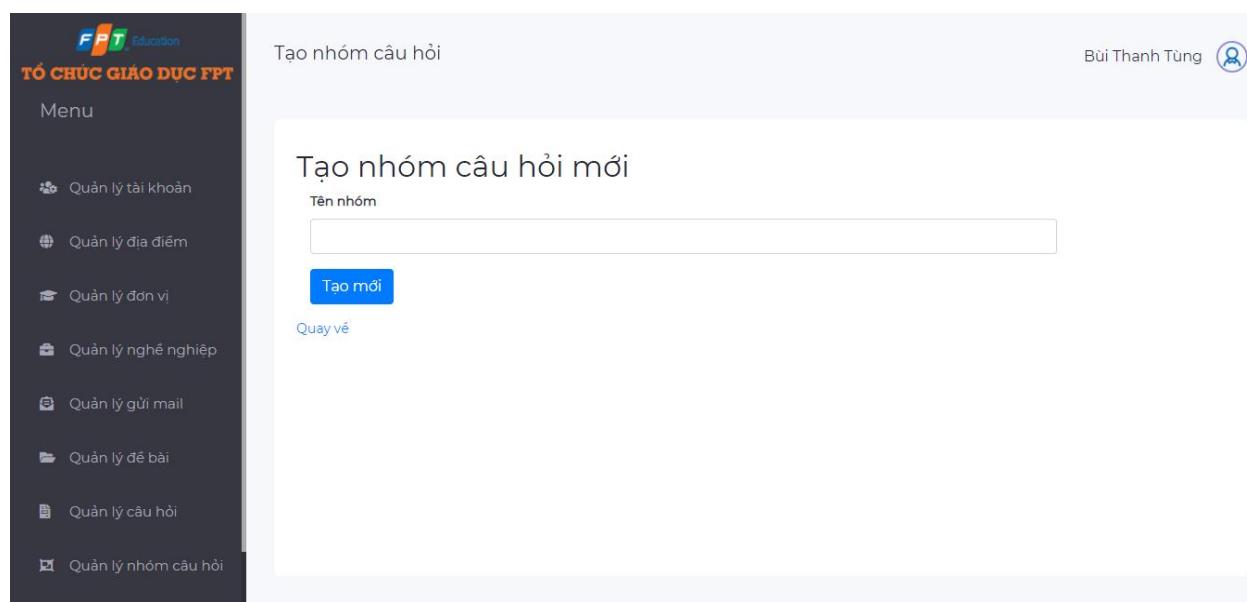


Figure 6.37. Add question group page

- When adding a new question group, user must full fill the following information:
 - “Tên nhóm”: The question group name
- User can also edit the name of question group
- Note: When creating a new question group, by default this question group has no questions, but once a question is added to this group, it cannot be deleted.

Số	Tên đề bài	Ngày cập nhật	Ngày tạo	Sửa	Xóa
1	Thật là awesome	17/08/2020 03:58 AM	17/08/2020 03:29 AM	Sửa	Xóa
2	Quiz 1	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
3	Quiz 2	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa
4	Quiz 3	01/01/2020 12:00 AM	01/01/2020 12:00 AM	Sửa	Xóa

Figure 6.38. Quiz management page

Quiz is a collection of questions that will be selected by Super Admin.

- Click “Tạo đề bài mới” to add a new quiz
- Click “Sửa” to edit a quiz
- Click “Xóa” to delete a quiz

The screenshot shows the 'Tạo đề bài mới' (Create New Quiz) page. On the left is a dark sidebar menu with various management options like 'Quản lý tài khoản', 'Quản lý địa điểm', etc. The main area has fields for 'Tên đề bài' (Quiz Name) and 'Câu hỏi đã chọn' (Selected Questions). A dropdown menu for selecting questions is open, showing options like '---Tất cả các nhóm---' and several specific questions about FPT. Below the dropdown are two buttons: 'Tạo mới' (Create New) and 'Quay về' (Go Back).

Figure 6.39. Add quiz page

- When adding a new quiz, user must full fill the following information:
 - “Tên đề bài”: The quiz name
 - Questions: Users select the questions by clicking the check box. The list of questions can be displayed all or filtered by question group
- User can also edit the name of quiz or the questions of the quiz
- When deleting a quiz, there is one thing to note that, it is not possible to delete the quizzes for which the candidate has already taken.

6.2.8. Log management

The screenshot shows the 'Quản lý log' (Log Management) page. It displays a table of log entries for user Bùi Thành Tùng. The columns are Email, Action, Url, Message, and Time. The log entries show three deletions of groups and one deletion of a question, each with its ID, action details, URL, message, and timestamp.

Email	Action	Url	Message	Time
tungbtse05661@fpt.edu.vn	Xóa nhóm câu hỏi	http://localhost:58243/Admin/DeleteGroup/7	ID: 7 Tên nhóm: Nhóm câu hỏi A	27/08/2020 10:42 PM
tungbtse05661@fpt.edu.vn	Xóa nhóm câu hỏi	http://localhost:58243/Admin/DeleteGroup/6	ID: 6 Tên nhóm: ABCDEF	27/08/2020 10:42 PM
tungbtse05661@fpt.edu.vn	Xóa câu hỏi	http://localhost:58243/Admin/DeleteQuestion/15	ID: 15; Câu hỏi: Một câu hỏi mới; Đáp án: as; sas;	27/08/2020 10:16 PM
tungbtse05661@fpt.edu.vn	Xóa câu hỏi	http://localhost:58243/Admin/DeleteQuestion/12	ID: 12;	27/08/2020

Figure 6.40. Log management page

When there are changes made to the system, the change history is logged and displayed in the log page.

For example: When a HR Staff deletes a question in question bank, this action is logged including information like: who took the action, type of action, url, message of action, datetime of action.

6.3. HR Staff

6.3.1. Job management

Tổng: 13	#	Vị trí	Ngành nghề	Đơn vị	Địa điểm	Lượt xem	Hiển thị	Ngày tạo	Ngày sửa cuối	Ngày hết hạn	Người tạo	Sửa	Xóa	
1	Giảng viên Hoá cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	0	0	Đã hiện	1 25/08/2020 10:58 PM	25/08/2020 10:58 PM	31/10/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
2	Giảng viên Toán cấp 3 (Thịnh giảng)	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	0	0	Đã hiện	1 25/08/2020 10:57 PM	25/08/2020 10:57 PM	30/10/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
3	Lập trình viên	Công nghệ thông tin	Trung tâm Liên kết quốc tế	Cần Thơ	2	0	0	Đã hiện	1 25/08/2020 10:56 PM	25/08/2020 10:56 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
4	Cán bộ Tổ chức và quản lý đào tạo	Tuyển sinh	Đại học FPT	Hà Nội	2	0	1	Đã hiện	3 25/08/2020 10:45 PM	25/08/2020 10:55 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
5	Giáo viên Toán	Thực tập sinh	Trung tâm Liên kết quốc tế	Đà Nẵng	1	5	0	Đã hiện	1 25/08/2020 10:51 PM	25/08/2020 10:52 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
6	[FPL-DN] Cán bộ Dịch vụ sinh viên (Under 30T)	Công tác học sinh/sinh viên	Trung tâm Liên kết quốc tế	Đà Nẵng	1	0	0	Đã hiện	1 25/08/2020 10:50 PM	25/08/2020 10:50 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa
7	[FPL-ĐN] Cán bộ Tổ chức sự kiện	Marketing Online/Offline	Đại học Greenwich (Việt Nam)	Đà Nẵng	1	0	0	Đã hiện	1 25/08/2020 10:49 PM	25/08/2020 10:49 PM	31/12/2020 12:00 AM	Đạt	<input checked="" type="checkbox"/> Sửa	<input checked="" type="checkbox"/> Xóa

Figure 6.41. Job management page

The above is job management page, display all information about jobs that are in recruitment need

- “Vị trí”: Position of recruitment job
- “Ngành nghề”: The major involve to the job
- “Đơn vị”: The unit
- “Địa điểm”: Working location
- “Số lượng cần tuyển”: Number of recruitment required
- “Lượt xem”: Number of clicks on job details
- “Số lượng CV đã ứng tuyển”: Number of CV applied to the job, user can click this to see list of all CVs that applied for this job
- “Hiển thị”: Are the jobs currently displayed?
- “Độ ưu tiên”: There are 3 priority levels (1, 2 and 3). The higher the priority level, the first displayed job on the homepage
- “Ngày tạo”: The created date
- “Ngày sửa cuối”: Datetime of last modified
- “Người tạo”: Who created this job

The screenshot shows the 'Create job' page of the FPT Education recruitment management system. The left sidebar has a dark theme with the FPT Education logo and menu items: 'Quản lý tin tuyển dụng', 'Quản lý CV', and 'Quản lý Email iJob'. The main area has a light background with a header 'Quản lý tin tuyển dụng' and a user profile 'Bùi Thành Tùng'. The form title is 'Tạo mới' (Create new) under 'Tin tuyển dụng'. It includes fields for 'Người Tạo' (Created by), 'Đơn vị' (Working unit), 'Địa điểm' (Working location), 'Ngành nghề' (Major), 'Tiêu đề' (Title), and a rich text editor. Below the editor is a 'Mô tả' (Description) field.

Figure 6.42. Create job page

When adding or editing the job, user must full fill the following information:

- “Đơn vị”: working unit
- “Địa điểm”: working location
- “Ngành nghề”: major of the job
- “Tiêu đề”: title of the job
- “Mô tả”: description about the job
- “Mức lương”: amount of salary
- “Số lượng”: number to be recruited
- “Ngày tạo”: created date
- “Ngày đóng”: close date
- “Độ ưu tiên”: priority level (1, 2, 3)
- “Hiển thị”: enable this option to show job, when you disable this option, the job will not display at candidate side.

6.3.2. CV management

The screenshot shows a web-based application interface for managing CVs. The top navigation bar includes the FPT Education logo, the title 'TỔ CHỨC GIÁO DỤC FPT', and a user profile for 'Bùi Thành Tùng'. The left sidebar menu has three items: 'Quản lý tin tuyển dụng', 'Quản lý CV' (selected), and 'Quản lý Email iesti'. The main content area is titled 'Quản lý CV' and displays a table of submitted CVs. The table columns are: STT, Nguồn CV, Tên ứng viên, Email, Vị trí ứng tuyển, Ngày nộp, Bài kiểm tra, and Trạng thái CV. One row is shown, with details: STT 1, Nguồn CV 'Không có CV', Tên ứng viên 'Bùi Thành Tùng', Email 'buithanh tung.317@gmail.com', Vị trí ứng tuyển 'Cán bộ Tổ chức và quản lý đào tạo', Ngày nộp '25/08/2020 11:43 PM', Bài kiểm tra 'Đề bài: Quiz 1', and Trạng thái CV 'Mới'. A green 'Xuất ra Excel' button is at the top right of the table.

Figure 6.43. CV management page

The above is CV management page, show list of all CVs that was submitted to the system

- Click the eye icon to view detailed information about CV
- Search a CV by job position, email, candidate name, date, status of CV
- Change status of CV, there are five status of CV:
 - New
 - Seen
 - Pending
 - Approve
 - Reject
- Send link quiz for candidates

The screenshot shows a web-based application interface for sending a quiz. The top navigation bar includes the FPT Education logo, the title 'TỔ CHỨC GIÁO DỤC FPT', and a user profile for 'Đỗ Duy Luyện'. The left sidebar menu has three items: 'Quản lý tin tuyển dụng', 'Quản lý CV' (selected), and 'Quản lý Email iesti'. The main content area is titled 'Gửi bài kiểm tra' and displays a form to send a quiz to a candidate. The form fields are: 'Email ứng viên' (Email recipient) with value 'dattq18@gmail.com', 'Ứng tuyển cho' (Applied for) with value 'Student Service Officer', and 'Hãy chọn câu hỏi:' (Select question) with value 'Quiz 1'. At the bottom are two buttons: a blue 'Gửi' (Send) button and a grey 'Quay về' (Back) button.

Figure 6.44. Send email quiz page

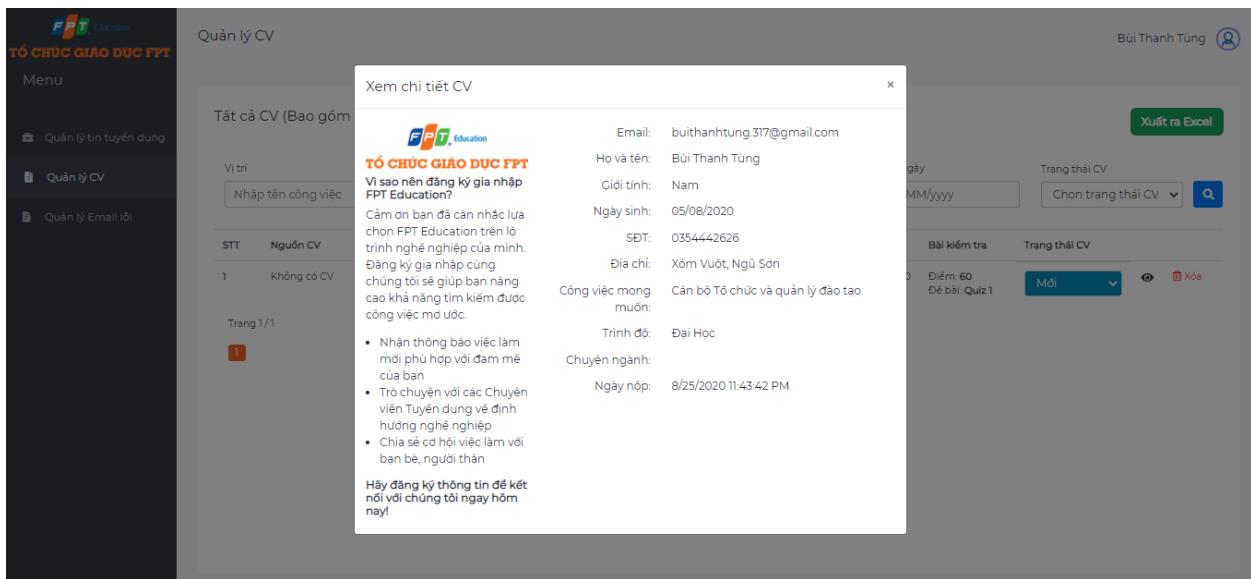


Figure 6.45. Detail CV

6.3.3. Error email management

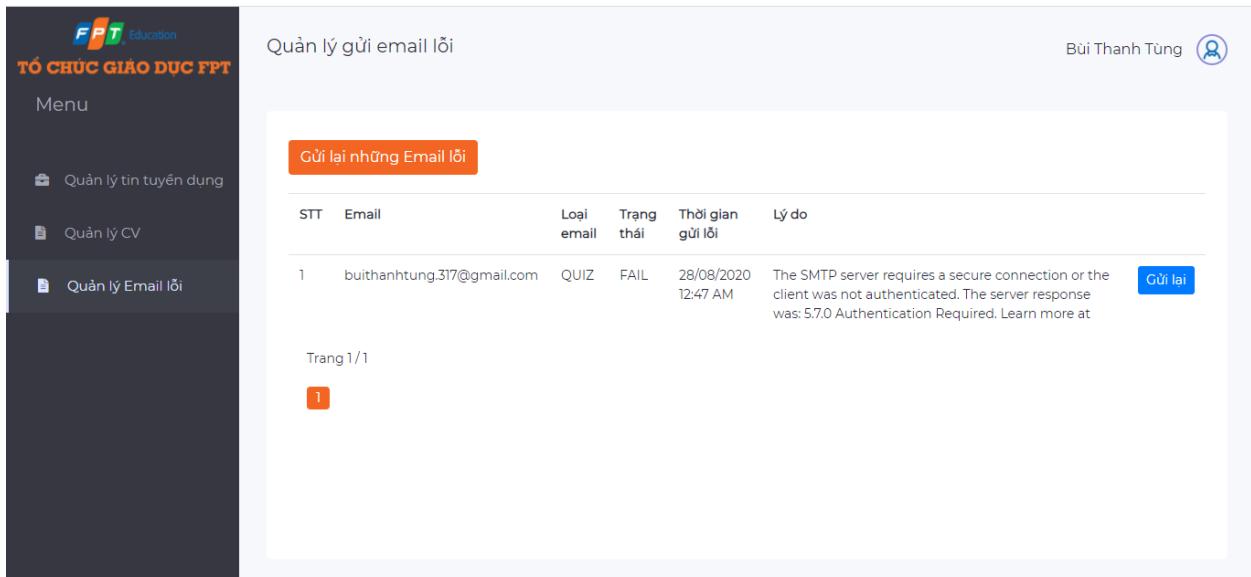


Figure 6.46. Error email management page

When sending emails to candidates, the email may not reach the candidate's inbox due to some error, such as the access network does not allow sending mail, lost internet connection, These emails are not lost but are saved in the system and displayed on the error email management page.

Note: In case the email cannot be sent, the user should check the connection, local network and email configuration in the management error screen of Admin .

HR Staff can select a certain error email to resend by clicking the button “Gửi lại”. Can also resend all the error emails by clicking “Gửi lại những Email lỗi”