

System Requirement Specification Document



WADAK.com
ONLINE PLATFORM FOR IT
WORKERS AND HIRE PERSONS

CS Group 18

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Details of Project Supervisor, Co-Supervisor and Client.

Project Supervisor: Ms. Sanduni Thrimahavithana

Co-Supervisor : Mr. Akila Gamage

Client(s): As a general product, anyone willing to join with the Wadak platform.

1) Introduction Purpose

1.1) Purpose

The purpose of this document is to give a detailed description of the requirements for “**Project:WADAK.COM, online platforms for providing IT services based on client requests**”. It will illustrate the purpose and complete declaration for the development of the system. It will also explain system constraints, low fidelity wireframes, and the UI flow along with all required diagrams.

This document aims to provide a concise description of system requirements, system feasibility, and architecture of the proposed system.

1.2) Acronyms, abbreviations, and similar terms

- CS: Computer Science
- HTML: HyperText Markup Language
- IDE: Integrated Development Environment
- IT: Information Technology
- NIC: Network Interface Card
- PC: Personal Computer
- SQL: Structured Query Language
- UML: Unified Modelling Language
- PHP: Hypertext Preprocessor
- JS: JavaScript
- CSS: Cascading Style Sheets
- Q & A: Questions and Answers
- NIC: Network Interface Card
- OO: Object-Oriented
- IEEE: Institute of Electrical and Electronics Engineers

1.3) Domain description

After analyzing the online platforms for providing IT services based on client requests, we recognized the following existing problems and their impacts:

- a) There are so many platforms to get services and as well as to provide services, but there are fewer online platforms to find quality IT service providers or to hire those people.
- b) If there is a high-end platform to get or to give services, there is a huge amount of commission rate.
- c) Due to the pandemic situation everything is getting digitized and everyone is looking for online services which can take from the internet to save time.
- d) Hardness to find a talented IT service provider.
- e) Hardness to find genuine clients to provide service.

Based on the above-identified issues we discovered that the following outcomes are of necessity:

To build a system which means an **online platform to meet IT service providers and those people who want to hire service providers.**

As Computer Science undergraduates who have experienced the above issues alongside the online platform for businesses that provide services, we decided to implement a system that would help to manage **online IT services** regarding the above problems with the solutions.

1.4 Current system & its limitations

In the present world, still, people use traditional ways to get their needs done. People are still not comfortable with online services. Most of the customers are tend to visit their service provider and give a job because they are not satisfied to give a job without seeing a proper portfolio. Behalf of this scenario it's really hard to get a service or provide service in a busy scheduled lifestyle and especially in a pandemic situation. When the world is getting digitalised, entrepreneurs have created many platforms to give jobs and as well as to find jobs. But there are some limitations due to those platforms are created for business purposes.

- The high amount of commission fees, (20% from the buyer, and 20% from the seller).
- On some platforms, it's not easy to post a job post (Upwork).

1.5) Objectives & Goals

1.5.1) Project Goal

To produce a fully functioning, user-friendly system,

- For the person who wants to find an IT service provider to get their needs done, and to find a service provider, to communicate with service providers, to publish their job request posts and share them, Publish their job post as an advertisement and find solutions with giving less amount of commission rate for their questions with the help of the community.

and

- For the person who likes to give their service to find job opportunities and apply for those jobs in an effective manner, share their profile with the community, publish their achievements and get interaction, publish their advertisements for more reachability and find solutions for their questions with the help of the community. The people who would like to do a part-time job related to their IT knowledge, this system will be a very effective platform.

1.5.2) Objectives of the system

- To produce the above-mentioned system with every component fully functional.
- To solve all problems related to business to business platforms and to make them satisfied in using our system.
- To make the system ‘user-friendly’ to the user as much as possible by creating easy-to-use and efficient user screens.
- To gain a learning experience on how software is made by working together and increasing web developing knowledge.

1.6) Assumptions, Constraints and Limitations

Assumptions:

- The end-users of the system will be able to understand and manage the functionality since it requires only basic IT and English knowledge to handle the system.
- Users will have a device and an internet connection to access the web application.
- Users will be able to handle the online payment system.
- Users will be able to understand English.

Constraints and limitations:

- Only system administrators will be able to create co-admins accounts.
- Only Administrators will be able to generate reports and view statistics.
- To give or to get a job only for registered users.
- Payments between the hire person and the service provider will not happen through our system.

2) Feasibility Study

2.1) Technical Feasibility

We plan to use HTML, PHP, JavaScript, and MySQL as our implementation techniques. All IDEs used for development are free and open-source and are considered simple to handle for CS students.

Laptops and desktops that are already owned will be used for our project hardware requirements.

IDEs:

- Visual Studio Code
- Notepad++
- Sublime text

Tools & Utilities:

- XAMPP
- Version management - GitHub
- Draw.io - UMLs & diagrams
- Adobe Illustrator, Adobe Photoshop - for logo making
- Microsoft Office 365 (Student edition provided free for university email)
- Google docs
- Notepad
- Grammarly - Free edition to eliminate grammar mistakes

Hardware:

- Network equipment: (NIC), cables (eg: RJ45) and routers.
- Personal laptops.

All the above-mentioned resources are easily usable within our knowledge limits. Hence **the project is technically feasible.**

2.2) Economical Feasibility

Main Costs of the project :

1. Domain registration and renewal - Year by Year

Discover .com domain prices

	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
.com registration	\$8.88	\$17.76	\$26.64	\$35.52	\$44.40
.com renewal	\$12.98	\$25.96	\$38.94	\$51.92	\$64.90
.com transfer	\$8.58 SPECIAL \$8.88	—	—	—	—

2. Costs for hosting

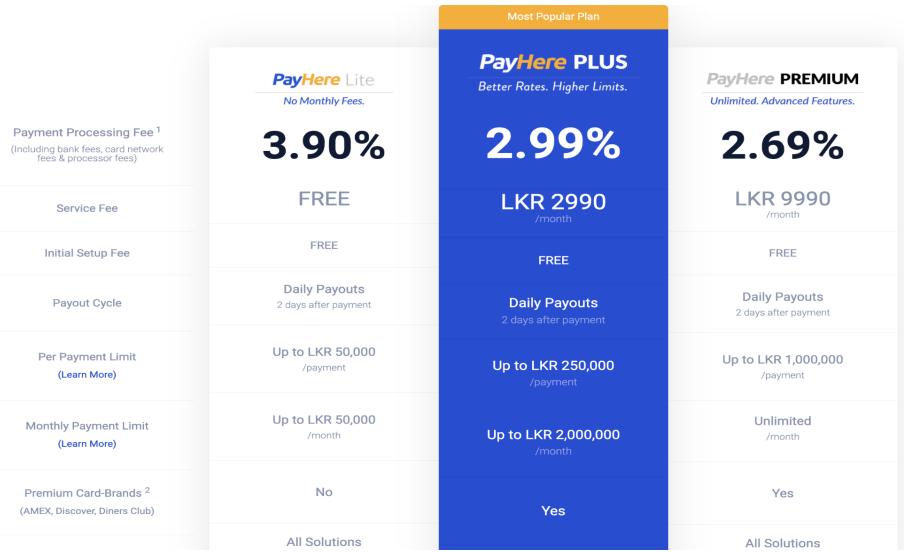
Namecheap web server Stellar package - \$2.88/mo

The screenshot shows the 'Shared Hosting Plans' section of the Namecheap website. At the top, there's a filter for 'Datacenter Location' (US, UK, EU) and plan options (Monthly, Yearly, 2 Years). Below this, three hosting plans are listed:

- Stellar**: \$2.88/mo. Includes 3 Websites, 20 GB SSD, and Free CDN (BETA). Renewal price is \$2.88/month.
- Stellar Plus**: \$4.88/mo. Includes Unlimited Websites, Unmetered SSD, Free CDN (BETA), and AutoBackup. Renewal price is \$4.88/month.
- Stellar Business**: \$8.88/mo. Includes Unlimited Websites, 50 GB SSD, Free CDN (BETA), AutoBackup & Cloud Storage. Renewal price is \$8.88/month.

Each plan has a 'Get Started' button. At the bottom, it says 'All plans also include these benefits:' followed by 'Unmetered bandwidth'.

3. Cost for payHere sandbox module - Free



- As mentioned above, free, and open-source software and applications will be used except Adobe package. There will be no software left to purchase.
- The tools which we are planning to use are languages such as PHP, C++, HTML, CSS, MySQL, Javascript and the collaboration tools Github, Google Drive which are almost freely available.
- No additional hardware costs.
- Project is done by only team members and no developer fee to be paid.
- Our own routers and internet plans will be used. Data usage might increase more than normal but it will not be a huge unbearable amount.
- Other services such as hosting and SMS gateway will be freemium services.
- In case of any hardware failure, there might be costs for replacement (this is very unlikely to happen).
- For the 1st part of the project, communication costs might be high because of the current Covid-19 situation as we are forced to use distance communication via mobile phones and zoom meetings.

- Paperwork cost is planned to be reduced by using electronic media (notebook, word editor, docs) as much as possible.

Since there are no considerable expenses the project is economically feasible.

2.3) Legal & Ethical Feasibility

Access to the hire person's details or to the service provider's details will not be allowed for any user of the system except for the following logins:

- Admin - Since this is the admin of the system all access will be granted.
- Co-admin - Since this is the person who has the functionality of communicating with the hired persons or the service providers and he is the person who has the responsibility of the system after the Admin has access to those details.

All login, credit card details will be sent through an encrypted medium when doing online payments.

The only part in which users will have to provide data to 3rd parties will be for the online advanced payment function, it will require user consent. All transfers will be done with trusted, standardized payment providers over a secured connection.

Since there are neither legal or ethical conflicts, the project is legally and ethically feasible.

2.4 Operational Feasibility

We are going to establish a system for those basically who are already in the IT sector or for those who already have medium IT knowledge because this system is for those who want to serve as an IT service provider or for those who want to hire IT service providers. So we assume that the persons who will engage with this system will have medium IT knowledge and English knowledge.

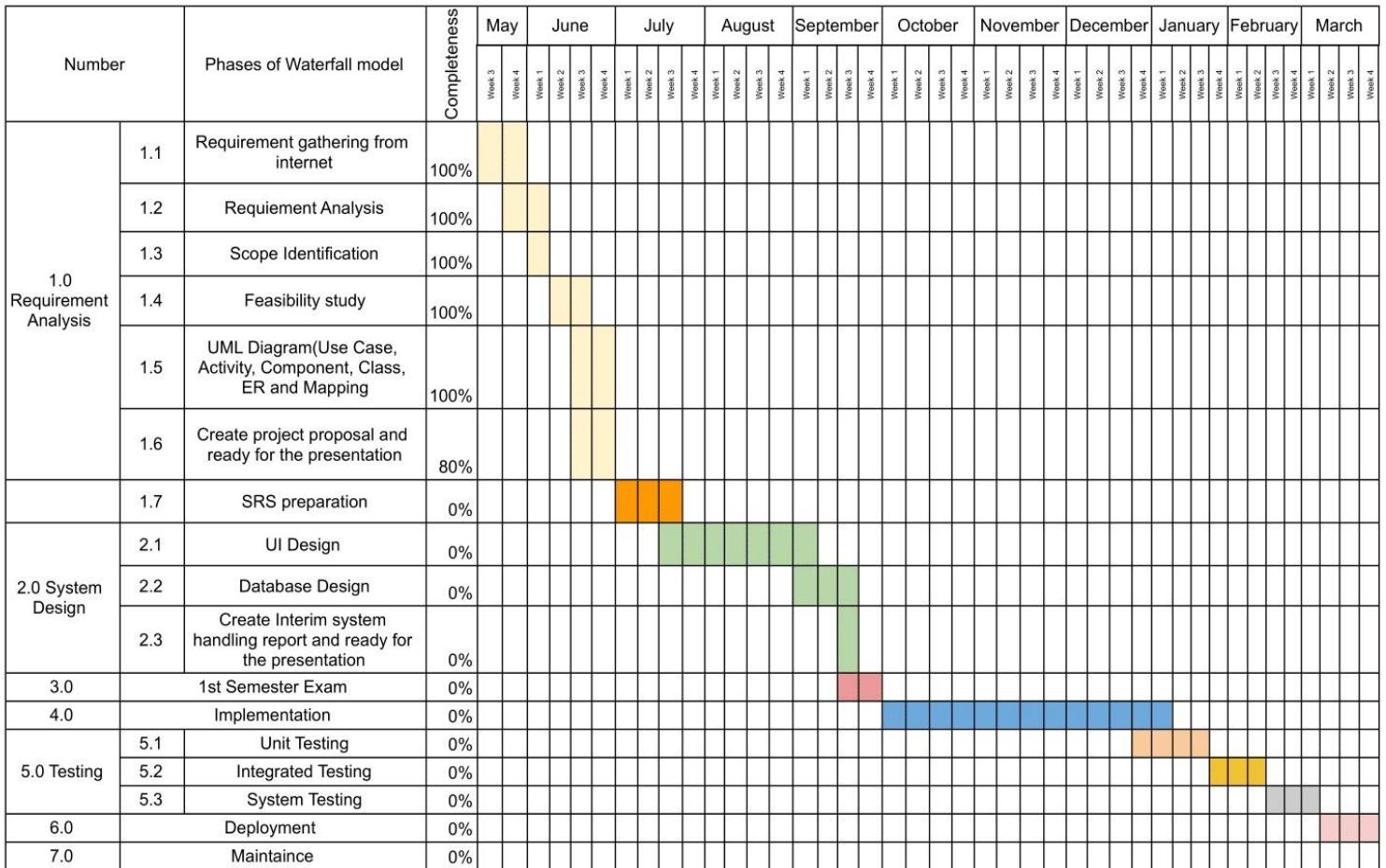
Basically the main two secondary users of the system are the hire person and the service provider. Main aim of hire person is to find a service provider for his/her needs. For that purpose, systems basically provide filtering criteria to choose the required service type when searching service providers. Also the hire person can see the service provider's profile, the rates and reviews about him/her. In addition, the system provides a chat facility with the service provider. If hire person is satisfied to get the service, then he/she can send the invitation to the service provider to request him/her to provide service. The main aim of the service provider is to find suitable jobs for him/her. He /she can view job post using filtering criteria and can apply for the job posts.

All these are basically simple functions and any person can do all these things with the correct flow without any hazard. System will provide guidance for those who need to understand what the system is doing and how to engage with the system. So the system can be easily used.

Because there will be no need of getting training or getting preparation, **the project is operationally feasible.**

2.5) Schedule Feasibility

- A time span of 10 months is available to complete the system and the **Gantt chart is attached in section 10.**
- There are 4 members in the group so there is satisfactory time, therefore **the project is Schedually feasible.**



3) Requirements

3.1) Stakeholders



Admin

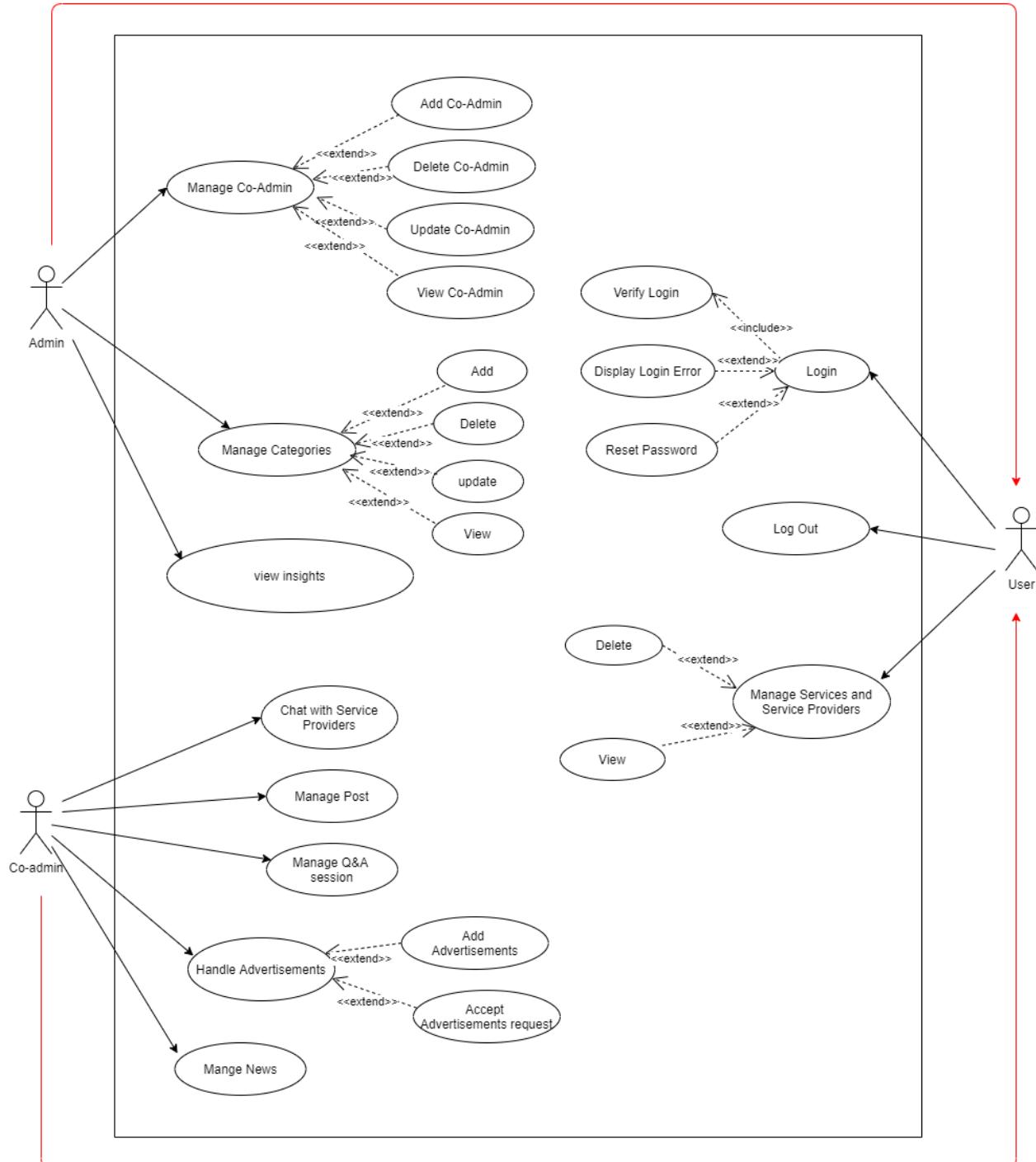
Co-Admin

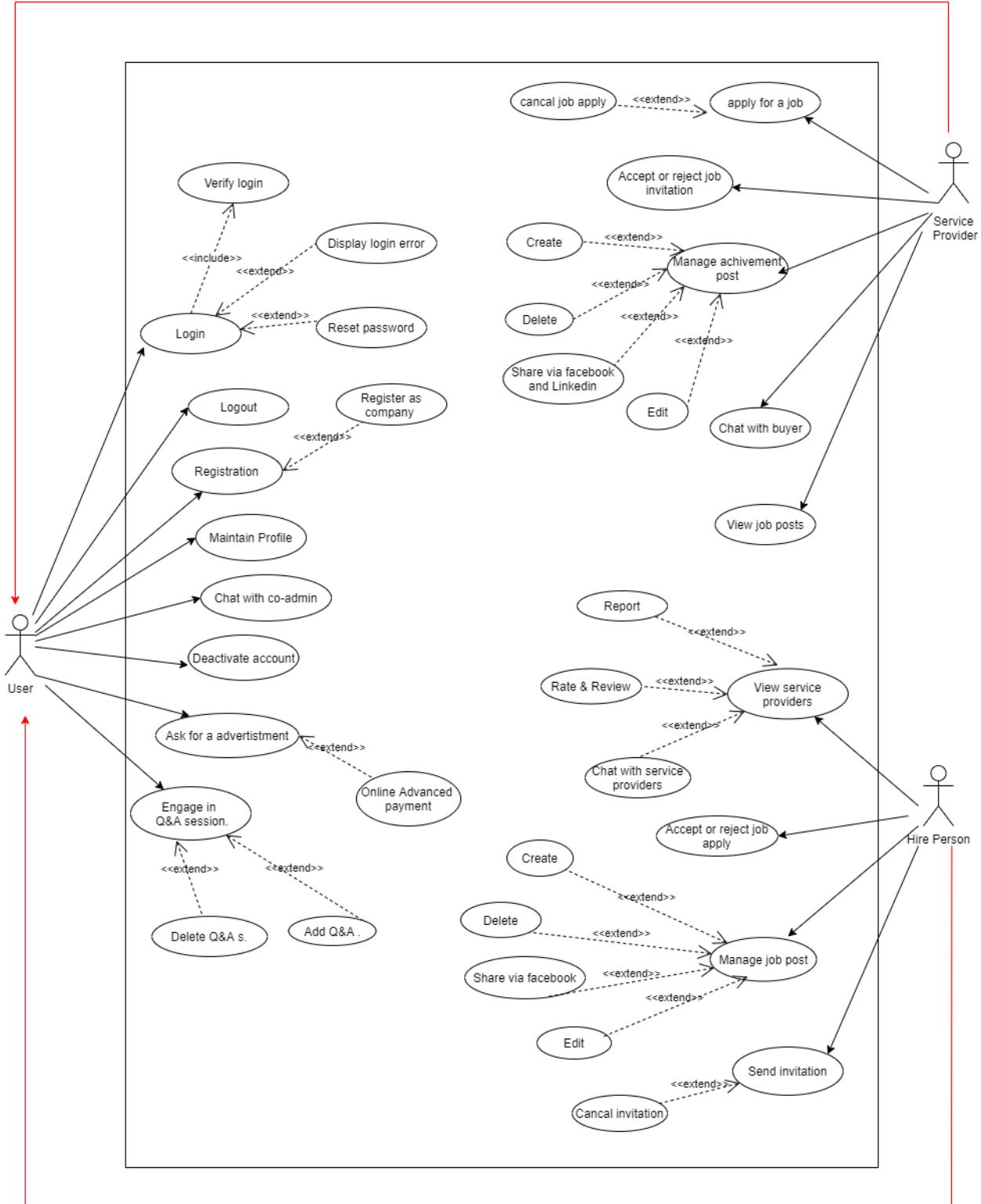
Hire Person **Service Provider**

Main Tasks :

- Manage co-admins, service providers, and Hire person, manage website, report generation for the Admin.
- Manage service providers and hire persons, handle the advertisements through the system, manage Q&A sessions for co-admin.
- Contacting the service provider, rating, reviewing, and reporting functionalities for the hire person.
- Contact the hire persons for the service provider.

3.2) Use Case Diagram for the entire system





Use case diagram for Admin role



Use case diagram for CO-Admin role



Use case diagram for Service Provider role



Use case diagram for Hire person role



3.3) Narratives

Use Case	Login	Summary
Use Case ID	01	Need username and password to login. (security) User can reset password when he or she forgets the password(security)
Actors	Admin, Co-Admin, Hire person, Service provider	
Preconditions	Registered as Admin, Co-admin, Hire person or service provider.	
Description	All users can login by giving a username and password. User can reset the password when he or she forgot the password.	
Exception	The user has not been registered.	
Post Conditions	Display you have logged in successfully.	

Use Case	Change Login Password	Summary
Use Case ID	02	Users can change their own password. (security)
Actors	Admin, Co-Admin, Hire person, Service provider	
Preconditions	Login has been done through Super-Admin, Admin, Hire person, or Service provider.	
Description	Users can change their password.	
Exception	Forget the previous password.	
Post Conditions	If any other matters to attend to, can logout.	

Use Case	Logout	Summary
Use Case ID	03	Users can logout of their profile after using the system. (security)
Actors	Admin,Co-Admin,Hire person,Service provider	
Preconditions	Login done through Admin,Co-Admin,Hire person,or Service provider	
Description	Users can log out of their own profile after this web system is used.	
Exception	-	
Post Conditions	Login before reuse the system.	

Use Case	Register	Summary
Use Case ID	04	Can create accounts for user groups. Hire persons can register as a personal account or company account.
Actors	Hire person, Service provider	
Preconditions	-	
Description	They can create an account with their details such as whether they are hire persons or service providers, personal details , categories they belong to which would facilitate maintaining their profile.	
Exception	Invalid data for the fields.	
Post Conditions	If success : Account created in database.	

Use Case	Update profile.	Summary
Use Case ID	05	They can change their account details.
Actors	Hire person, Service provider	
Preconditions	Login through Hire person or service provider account.	
Description	They can change their details such as name, contact details, profile picture, category etc.	
Exception	-	
Post Conditions	Update database.	

Use Case	Add Co-admin.	Summary
Use Case ID	06	Admin can add co-admins who are joining newly to the database.
Actors	Admin	
Preconditions	Login to the system as Admin.	
Description	When an admin wants to add a co-admin, admin can add a co-admin by adding his details to the database.	
Exception	-	
Post Conditions	Issue Id and password to co-admins via SMS and update database.	

Use Case	Delete co-admin	Summary
Use Case ID	07	Admin can remove co-admins from the system.
Actors	Admin	
Preconditions	Login through Admin account.	
Description	Admin is able to get decisions whether the co-admin is necessary or not. Data will be deleted from the database.	
Exception	Invalid search.	
Post Conditions	Send an information message to the co-admin if there are no other matters to attend to, can log out.	

Use Case	Update co-admin	Summary
Use Case ID	08	Admin can update co-admin personal details.
Actors	Admin	
Preconditions	Login through Admin account.	
Description	Only Admin able to update co-admin personal details. It will ensure the confidentiality of the co-admin details. Data will be updated in the database.	
Exception	Invalid search.	
Post Conditions	Send an informative message to the co-admin if any other matters to attend to, can logout.	

Use Case	View co-admin	Summary
Use Case ID	09	Admin can view relevant details of co-admins which are included in the database.
Actors	Admin	
Preconditions	Login as Admin.	
Description	If there is a need to view details of co-admins in the website, Admin can search the co-admin's details and then view the relevant details.	
Exception	Invalid search.	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Delete Hire person or service provider.	Summary
Use Case ID	10	Admin and co-admin can remove Hire persons or service providers from the system.
Actors	Admin, Co-admin	
Preconditions	Login through Admin or co-admin account.	
Description	Admin and co-admin are able to get decisions whether the service provider or hire person is necessary or not. Data will be deleted from the database.	
Exception	Invalid search.	
Post Conditions	Send an information message to the co-admin if there are no other matters to attend to, can log out.	

Use Case	View Hire person or service provider.	Summary
Use Case ID	11	Admin or co-admin can view relevant details of the Hire person or service provider which are included in the database.
Actors	Admin, Co-Admin	
Preconditions	Login as Admin or Co-Admin.	
Description	If there is a need to view details of Hire persons or service providers in the website, Admin or co-admin can search their details and then view the relevant details.	
Exception	Invalid search.	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	View the report of current users.	Summary
Use Case ID	12	Admin can view reports about the current number of Hire persons, service providers and number of deactivated accounts and reasons.
Actors	Admin	
Preconditions	Login through the admin account.	
Description	Only Admin can view the report about the current number of Hire persons, service providers according to their category and number of deactivated accounts and the reasons for it which will help to improve the website.	
Exception	-	

Post Conditions	If not any other matters to attend to, can logout.
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Use Case	Add new category	Summary
Use Case ID	13	Admin can add new categories to the system.
Actors	Admin	
Preconditions	Login through the admin account.	
Description	When an admin needs to add a new category to the system, he can do it and update the database.	
Exception	-	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Delete existing category	Summary
Use Case ID	14	Admin can delete existing categories from the system.
Actors	Admin	
Preconditions	Login through the admin account.	
Description	When Admin needs to remove an existing category from the system, he can do it. When the category is deleted, if there are accounts that belong to that category, then that category can not be deleted..	
Exception	Invalid search.	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Update existing category	Summary
Use Case ID	15	Admin can update existing categories from the system.
Actors	Admin	
Preconditions	Login through the admin account.	
Description	When Admin needs to update an existing category from the system, he can do it. When the category is updated, the accounts belong to that category will also be updated.	
Exception	Invalid search.	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Chat with Hire persons or service providers.	Summary
Use Case ID	16	If there is an issue or fact that hiring persons or service providers arise, co-admin can give advice through the chat section.
Actors	Co-admin	
Preconditions	Login as co-admin.	
Description	Co-admins can communicate with hire persons or service providers through the chat section.	
Exception	-	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Chat with co-admins.	Summary
Use Case ID	17	If there is an issue or fact that needs to be clarified, hire persons and service providers can contact co-admins through the chat section.
Actors	Service provider or hire person.	
Preconditions	Login as service provider or hire person.	
Description	Hire persons or service providers can communicate with co-admins through the chat section.	
Exception	-	
Post Conditions	If not any other matters to attend to, can logout.	

Use Case	Chat with service providers or hire persons.	Summary
Use Case ID	18	If there is an issue or fact that needs to be clarified, hire persons and service providers can contact each other through the chat section of the service provider.
Actors	Service provider or hire person.	
Preconditions	Login as a service provider or a hire person.	
Description	Hire persons or service providers can communicate with each other through the chat section of the service provider.	
Exception	-	
Post Conditions	If no other matters to attend to, can log out.	

Use Case	Deactivate the account	Summary
Use Case ID	19	Hire person, Service provider can deactivate their account if they do not want to be available in the system anymore.
Actors	Hire person, Service provider.	
Preconditions	Log in as a service provider or a hire person.	
Description	Hire person, Service provider can close their account if they do not want to be available in the system anymore by selecting the reason for account deactivation. Data will be deleted from the database.	
Exception	Do not select reasons through provided reasons.	
Post Conditions	If no other matters to attend to, the account is deactivated.	

Use Case	Create job post	Summary
Use Case ID	20	Hire people can create job posts according to their perspectives.
Actors	Hire person	
Preconditions	Login through a hire person account.	
Description	Hire people can create job posts after selecting relevant categories.	
Exception	Do not select a category.	
Post Conditions	Post is created and can be viewed.	

Use Case	Delete or edit a job post	Summary
Use Case ID	21	Hire people can delete or edit job posts according to their perspective.
Actors	Hire person	
Preconditions	Login through a hire person account and a post must be created before.	
Description	Hire persons can delete or edit job posts after creating them.	
Exception	-	
Post Conditions	The post is deleted or edited.	

Use Case	Share job post	Summary
Use Case ID	22	Hire persons who can share their job posts through facebook.
Actors	Hire person	
Preconditions	Login through a hire person account.	
Description	Hire persons can share their job posts through facebook.	
Exception	Do not login into the relevant facebook account.	
Post Conditions	Post is shared.	

Use Case	Create an achievement post.	Summary
Use Case ID	23	Service providers can create achievement posts according to their perspectives.
Actors	Service provider.	
Preconditions	Login through a service provider account.	
Description	Service providers can create achievement posts.	
Exception	-	
Post Conditions	Post is created and can be viewed.	

Use Case	Delete or edit an achievement post.	Summary
Use Case ID	24	Service providers can delete or edit achievement posts according to their perspectives.
Actors	Service provider.	
Preconditions	Login through a service provider account and a post must be created before.	
Description	Service providers can delete or edit their achievement posts created before.	
Exception	-	
Post Conditions	Post is deleted or edited.	

Use Case	Share job post	Summary
Use Case ID	25	Hire people can share their achievement posts through facebook.
Actors	Service provider.	
Preconditions	Login through a service provider account and post must be created before.	
Description	Service providers can share their achievement posts through facebook.	
Exception	Do not login into the relevant facebook account.	
Post Conditions	Post is shared.	

Use Case	Manage post	Summary
Use Case ID	26	Co-admin can manage both posts including job posts and achievement posts.
Actors	Co-admin	
Preconditions	Login through a Co-admin account.	
Description	If there are posts that are not related to the system, the co-admin can delete those posts.	
Exception	-	
Post Conditions	Post is deleted.	

Use Case	Rate and review service provider	Summary
Use Case ID	27	Hire people can rate and review service providers in the service provider's profile.
Actors	Hire person	
Preconditions	Login as hire person	
Description	Hire person can rate and review the service providers. These two options are available in service providers profiles.	
Exception	-	
Post Conditions	Rate is done and review is created.	

Use Case	Report service provider	Summary
Use Case ID	28	Hire people can report service providers in the service provider's profile.
Actors	Hire person	
Preconditions	Login as hire person	
Description	Hire persons can rate and review service providers. These two options are available in service provider profiles.	
Exception	-	
Post Conditions	Rate is done and review is done..	

Use Case	Send an invitation.	Summary
Use Case ID	29	Hire person can send an invitation to the service provider.
Actors	Hire person.	
Preconditions	Login as a hire person and should be in the service provider's profile.	
Description	A hire person can send an invitation to the service provider by filling in relevant details.	
Exception	Do not fill out the invitation details.	
Post Conditions	Invitation is sent.	

Use Case	Cancel an invitation.	Summary
Use Case ID	30	Hire person can cancel the previously sent invitation to the service provider.
Actors	Hire a person.	
Preconditions	Login as a hire person.	
Description	The Hired person can cancel the previously sent invitation to the service provider.	
Exception	-	
Post Conditions	Invitation is canceled.	

Use Case	Accept or reject job apply for a post.	Summary
Use Case ID	31	Hire person can accept or reject job applications sent by service providers.
Actors	Hire a person.	
Preconditions	Log in as a hire person.	
Description	The Hire person can send an invitation to the service provider by filling relevant details.	
Exception	-	
Post Conditions	Job application is accepted or rejected.	

Use Case	Apply for a job post.	Summary
Use Case ID	32	The service provider can apply for a job post created by a hire person.
Actors	Service provider.	
Preconditions	Log in through a service provider account.	
Description	The service provider can apply for a job post created by a Hire person.	
Exception	Do not fill in relevant details.	
Post Conditions	Job apply is sent.	

Use Case	Accept or reject job invitation.	Summary
Use Case ID	33	Service providers can accept or reject job invitations sent by a Hire person.
Actors	Service provider.	
Preconditions	Login through a service provider account.	
Description	Service providers can accept or reject job invitations sent by a Hire person.	
Exception	-	
Post Conditions	Job invitation is accepted or rejected.	

Use Case	Add Q&A	Summary
Use Case ID	34	Hire persons and service providers can add Q&A in the Q&A section.
Actors	Hire person, Service provider	
Preconditions	Login as a hire person or a service provider.	
Description	Both hire persons and service providers can publish their questions in the Q&A session as well as can reply to the questions.	
Exception	-	
Post Conditions	Q&A is published.	

Use Case	Delete Q&A	Summary
Use Case ID	35	Hire persons and service providers can delete Q&A in the Q&A section.
Actors	Hire person, Service provider	
Preconditions	Login as a hire person or a service provider./Q&A must be published before.	
Description	Both hire persons and service providers can delete their published questions in the Q&A session as well as delete replies to the questions.	
Exception	-	
Post Conditions	Q&A is deleted.	

Use Case	Manage Q&A sessions.	Summary
Use Case ID	36	Co-admin can delete Q&A s in the Q & A section.
Actors	Co-admin	
Preconditions	Login as a co-admin.	
Description	If there are Q&As which are not related to the system, the co-admin can delete those Q&A from the system.	
Exception	-	
Post Conditions	Q&A is deleted	

Use Case	Ask for a advertisement	Summary
Use Case ID	37	Both hired persons or service providers can request for their image(png or jpeg format) advertisement.
Actors	Hire person, Service provider	
Preconditions	Login as a hire person or service provider.	
Description	Both hired persons or service providers can request for their image(png or jpeg format) advertisement.	
Exception	Did not fill the required sections.	
Post Conditions	Request is sent.	

Use Case	Online advanced payments.	Summary
Use Case ID	38	Can pay advance even online (quality)
Actors	Hire person, Service provider	
Preconditions	Should be in “Apply advertisement”	
Description	Users can select a payment method and pay the advance. All authentication will be handled by the online payment module.	
Exception	Payment method error, Insufficient balance.	
Post Conditions	If success: perform transaction	

3.4) Functional Requirements

There are 4 types of users that concern the system.

- Admin
- Co-Admin
- Service provider
- Hire person

Following are the requirements that we identified.

For all users

- Shall be able to Login into the system.
- Shall be able to Logout from the system.

Admin

- Shall be able to Manage co-admins. (Add, Delete, Update, View)
- Shall be able to Manage hire persons & service providers. (Delete, View)
- Shall be able to Manage service Categories (Add, Delete, Update, View)
- Shall be able to View reports of the view insights.

Co-Admin

- Shall be able to Manage hire persons & service providers. (Add, Delete, Update, View)
- Shall be able to Handle the chat with hire persons & service providers.
- Shall be able to Manage posts.
- Shall be able to Manage News.
- Shall be able to Manage Q&A sessions.
- Shall be able to Handle Advertisements.
- Shall be able to Accept advertisement requests and Add advertisements.

For both hire person & service provider

- Shall be able to register to the system
- Shall be able to deactivate the account.
- Shall be able to chat with co-Admin.
- Shall be able to chat with each other. (hire person & service provider)
- Shall be able to maintain profile.
- Shall be able to ask for advertisements.
- Shall be able to do online payments for advertisements
- Shall be able to engage in a Q & A session.

Job application - when the hire person publishes a job post, the service provider can view it and can apply for it. system will give notification for both of them.

Job Invitation - Hire persons can view the service provider's profile and there is an option to send an invitation. From it, a Hire person can send an invitation to the service provider. system will give notification for both of them.

Hire person

- Shall be able to view service providers.
- Shall be able to report service provider
- Shall be able to rate and review service providers.
- Shall be able to accept or reject job applications (System will give a notification).
- Shall be able to manage job posts. Create, Delete, Update and share on facebook.
- Shall be able to send and cancel invitations sent to the service provider.

Service provider

- Shall be able to view job posts.
- Shall be able to send and cancel job applications sent to the hire person(System will give a notification).
- Shall be able to manage achievement posts. Create, Delete, Update and share on facebook.
- Shall be able to accept or reject job invitations(System will give a notification).

System

- Should provide **Intelligence suggestions** when searching service providers or job posts.
- Should provide **filtering criteria** when searching service providers or job posts.
- Should provide **badges** based on the category and the performance of the service providers and the hire persons.
- Should provide **a place on the leaderboard** based on the category and the performance of the service providers and the hire persons.
- Should generate reports based on the current users of the system.
- Should facilitate online method for advanced payments for advertisements.
- System will give a notification in the cases of job applications and invitations.

3.5) Quality Attributes Requirements

Following are the relevant quality attributes planned to be achieved using the system according to ISO standards.

- ❖ Availability
- ❖ Usability
- ❖ Modifiability
- ❖ Security
- ❖ Testability
- ❖ Performance

Availability:

- The system is easily accessible since it is a website. The users of the system can access the system by simply typing the website URL.
- The online payment function will be done using the PayHere module. Even though it is a 3rd party integration, reliability is ensured.
- The system databases will be programmed to back up on a regular basis.
- The system will be optimized to give the best resolution across different devices for the website.

Usability :

- The website will be made using simple User-friendly interfaces so that it will be pleasant for the customers to view and understand the system without confusion.
- New users can easily learn the procedure of the system.
- Easy navigation and developed according to the standard UI principles.
- Instructions, tips and examples will be provided in the interface where possible.

Modifiability :

- As the system is made using an OO development approach it will be made component by component so that each component can be modified accordingly.

E.g.: The price of a certain advertisement could be changed accordingly after some time

- New components and functionalities can be added as future enhancements later.

E.g.: Leaderboard generation based on the performance of the hired persons and the service providers.

Badge generation is based on the category and the performance of the hired persons and the service providers.

Intelligence suggestions based on the previous searches.

- The system is made component by a component according to the MVC architecture.
- Maintain good documentation throughout the development life cycle.
- Use remote repositories to keep track of development.
- Follow coding standards and best practices. (Reliability of code blocks, Edit, adding new code blocks, adding comments)
- Organized folder structures.
- Use up to date technologies for development to improve the longevity of the system.

Security:

- All user credentials from logins and registrations will be sent securely encrypted from the backend (Hashing mechanisms will be used).
- Sensitive fields, elements will be kept encrypted in the database (user logins, passwords).
- Only the admin and co-admin will be allowed all administrative roles such as access to user records and user information.
- Following are the only 3rd party modules used and reasons as to why:

- o PayHere: For online advance payment functionality
- o Nexmo: Text message notifications for reservations, password changes etc.

Both above modules are in correspondence to data security measures and details regarding them are available in the references.

Testability:

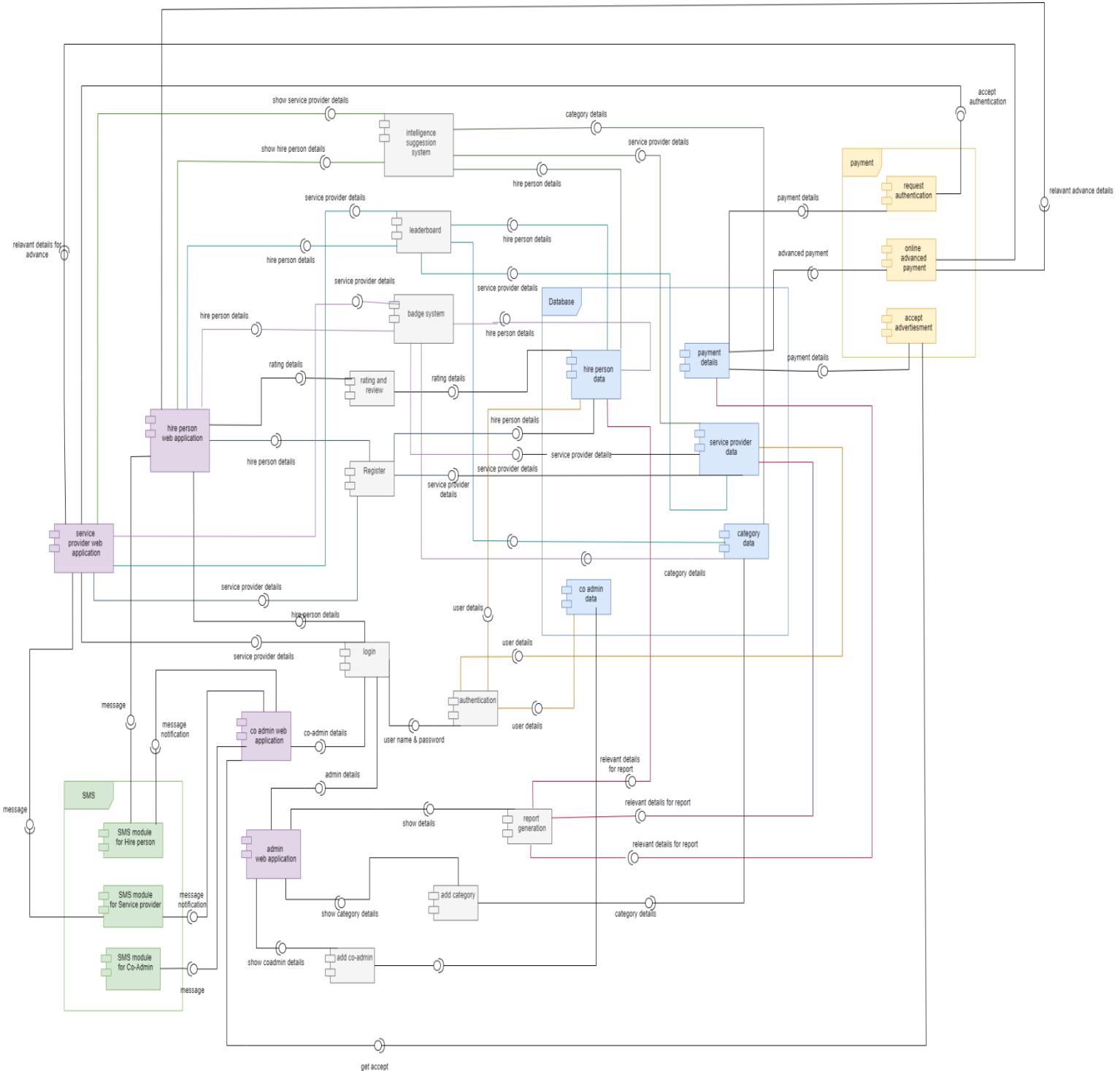
- In case of system failures, error detection and debugging will be easier due to modularity.

Performance:

The web application will follow the following standards to ensure performance.

- Develop the web application in a mobile-friendly manner using methods of developing responsive websites.
- Optimizing image size used in the web application.
- Using web caching mechanism
- Trying to reduce the number of HTTP requests as much as possible.
- Using native PHP functions as much as possible
- Optimizing the SQL database with normalisation

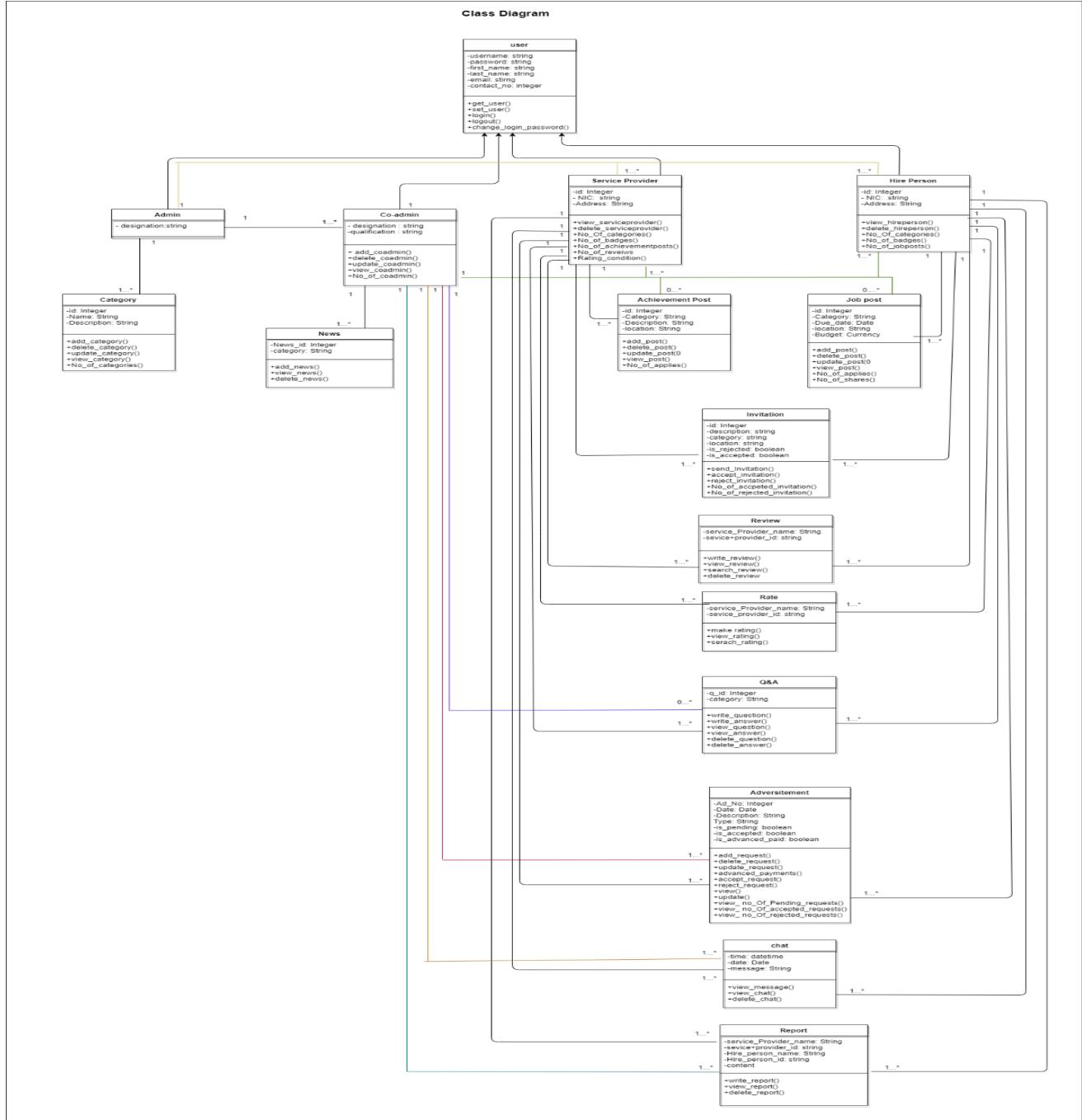
4) Proposed System Architecture



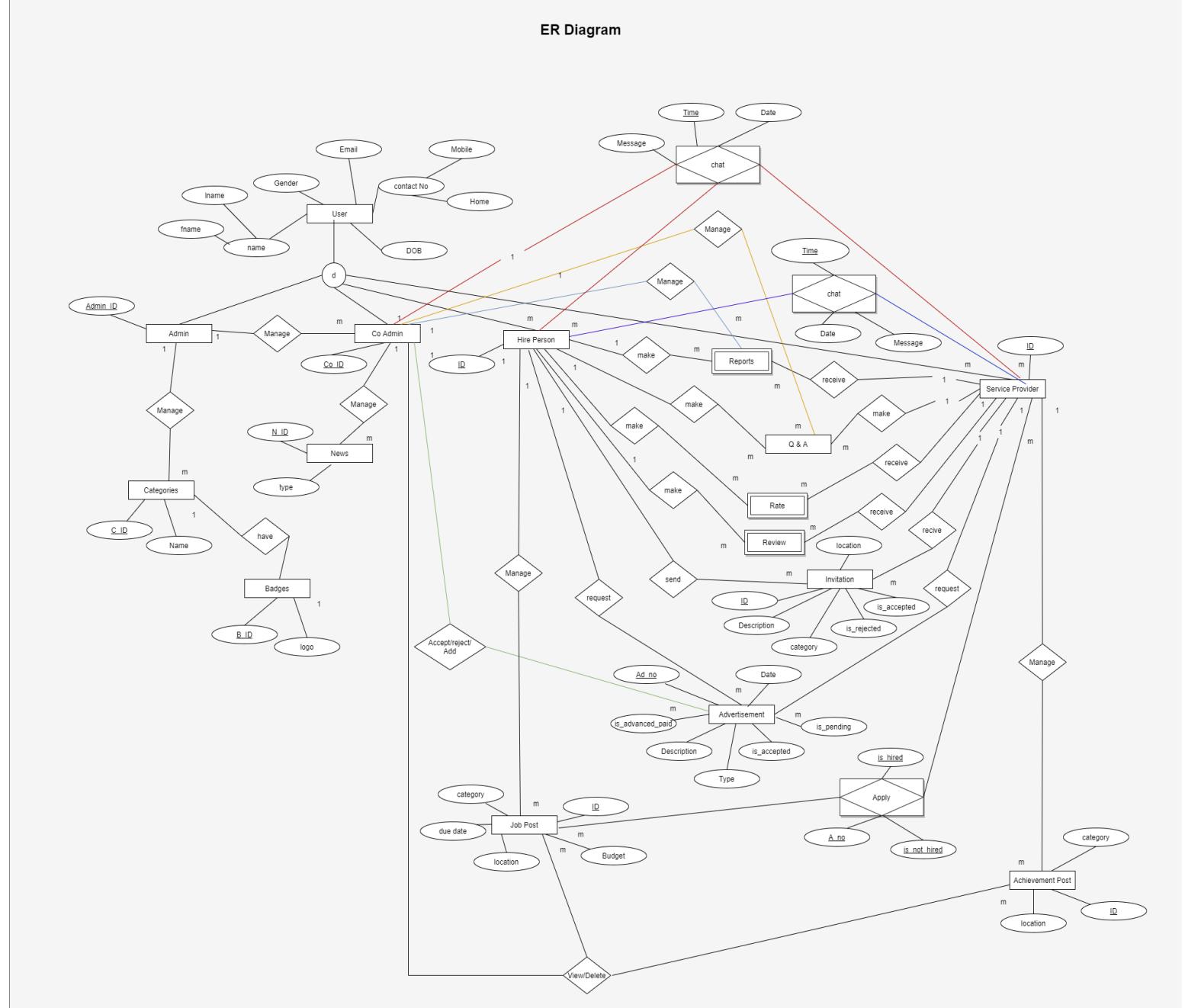
<https://app.diagrams.net/#G1USOLaRpCPolcn-YBK7kwUlNTOcNBhxT>

5) Design of the System

5.1) Class Diagram - <https://app.diagrams.net/#G1UQguIHQ-Fi6bs34BBeCEb1cFMk4-2il>

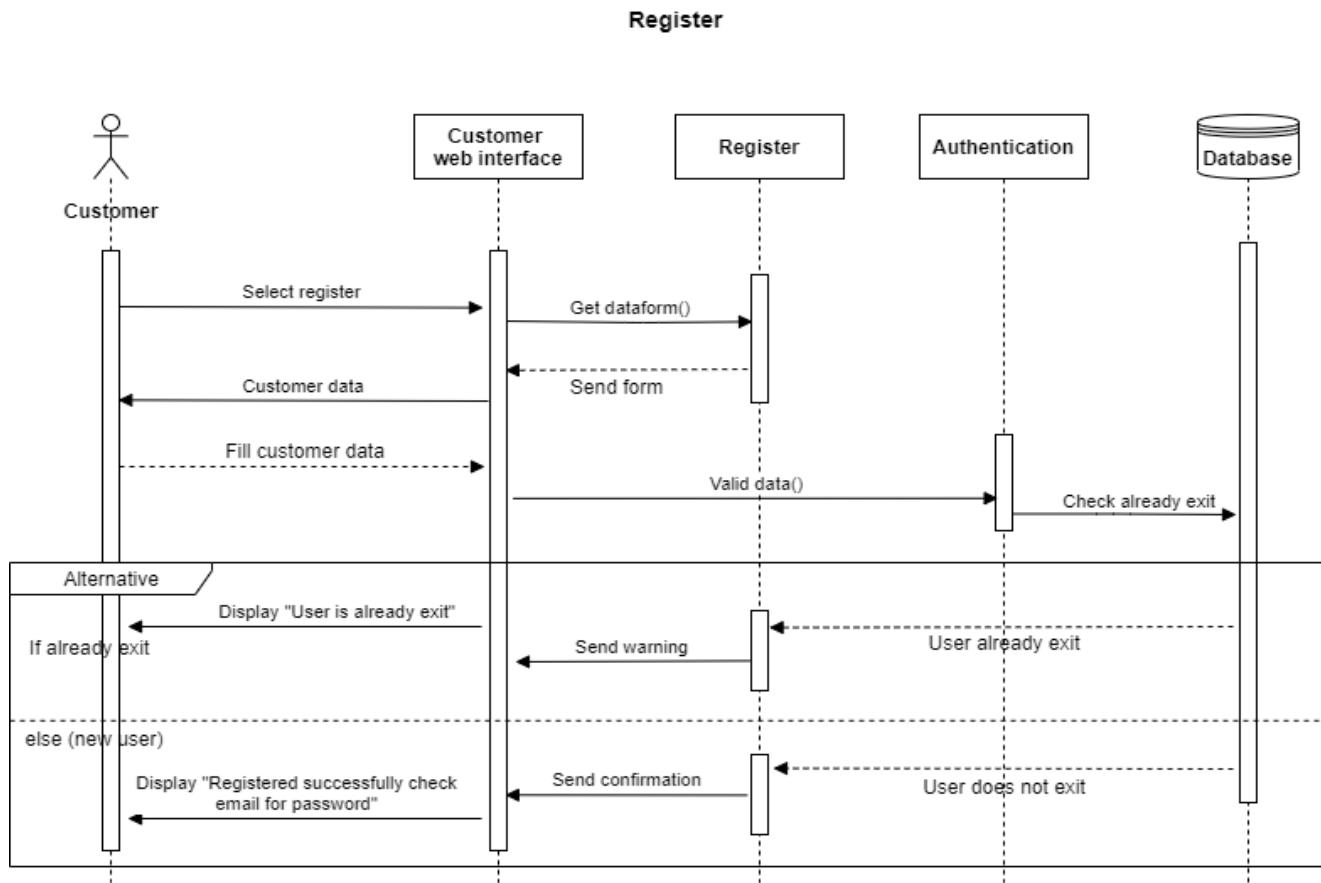


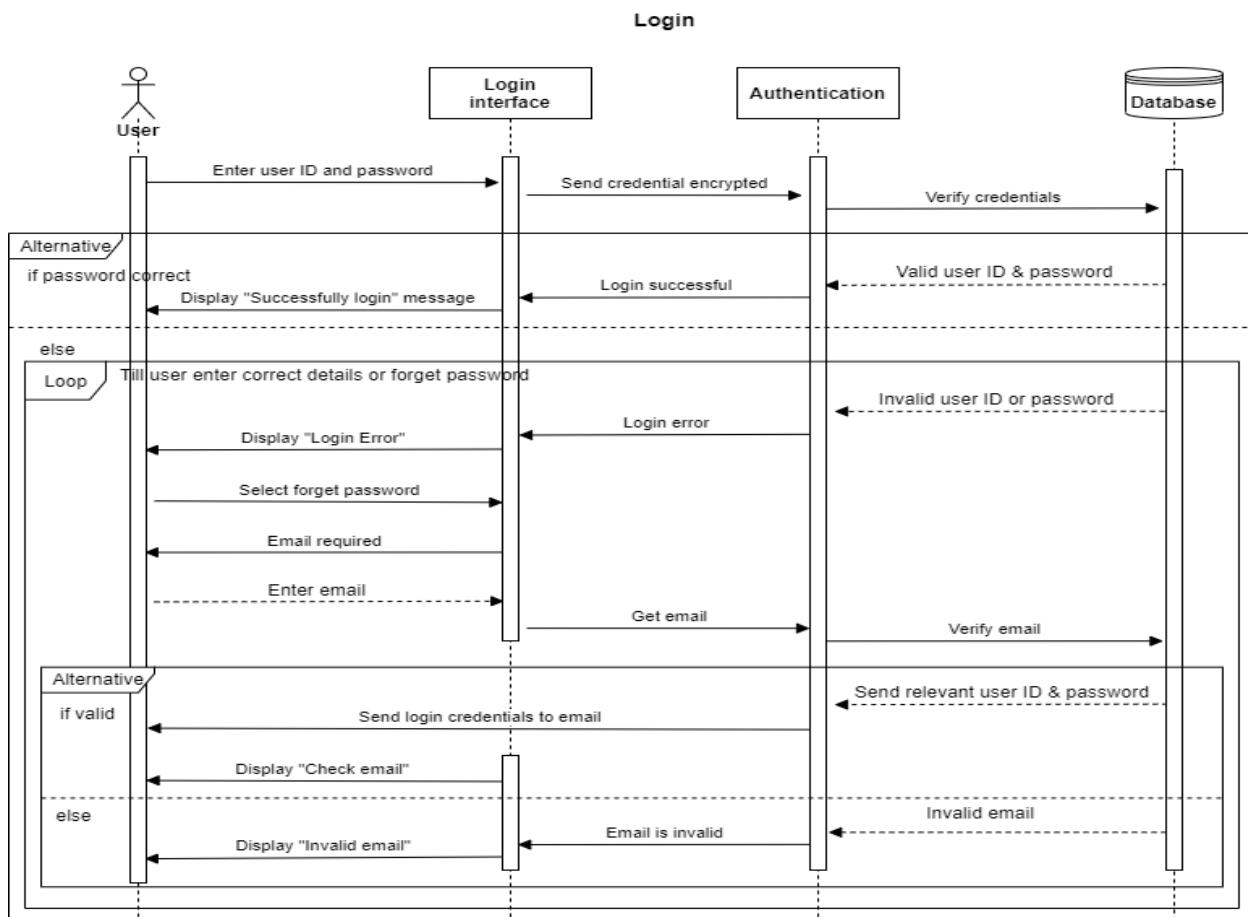
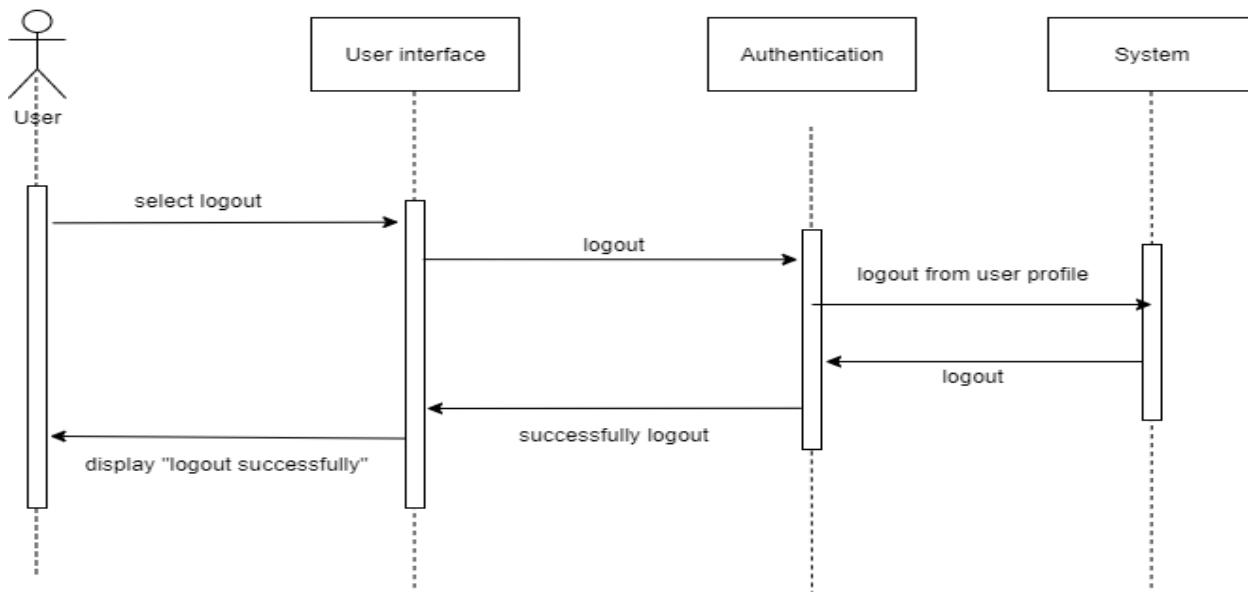
5.2) Entity-Relationship Diagrams

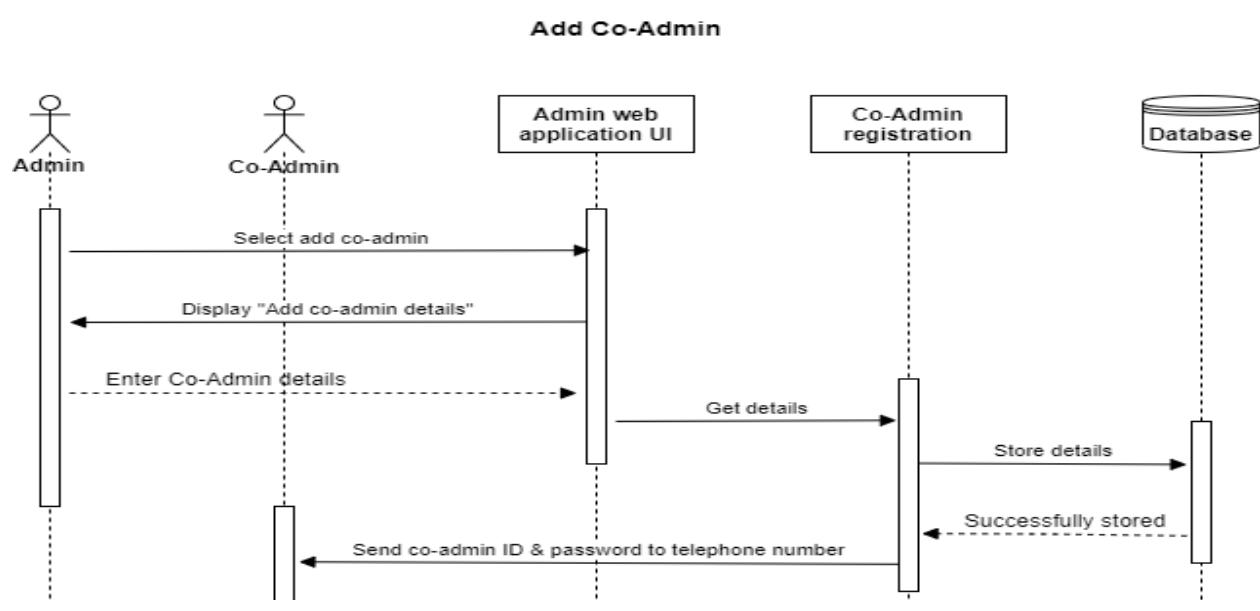
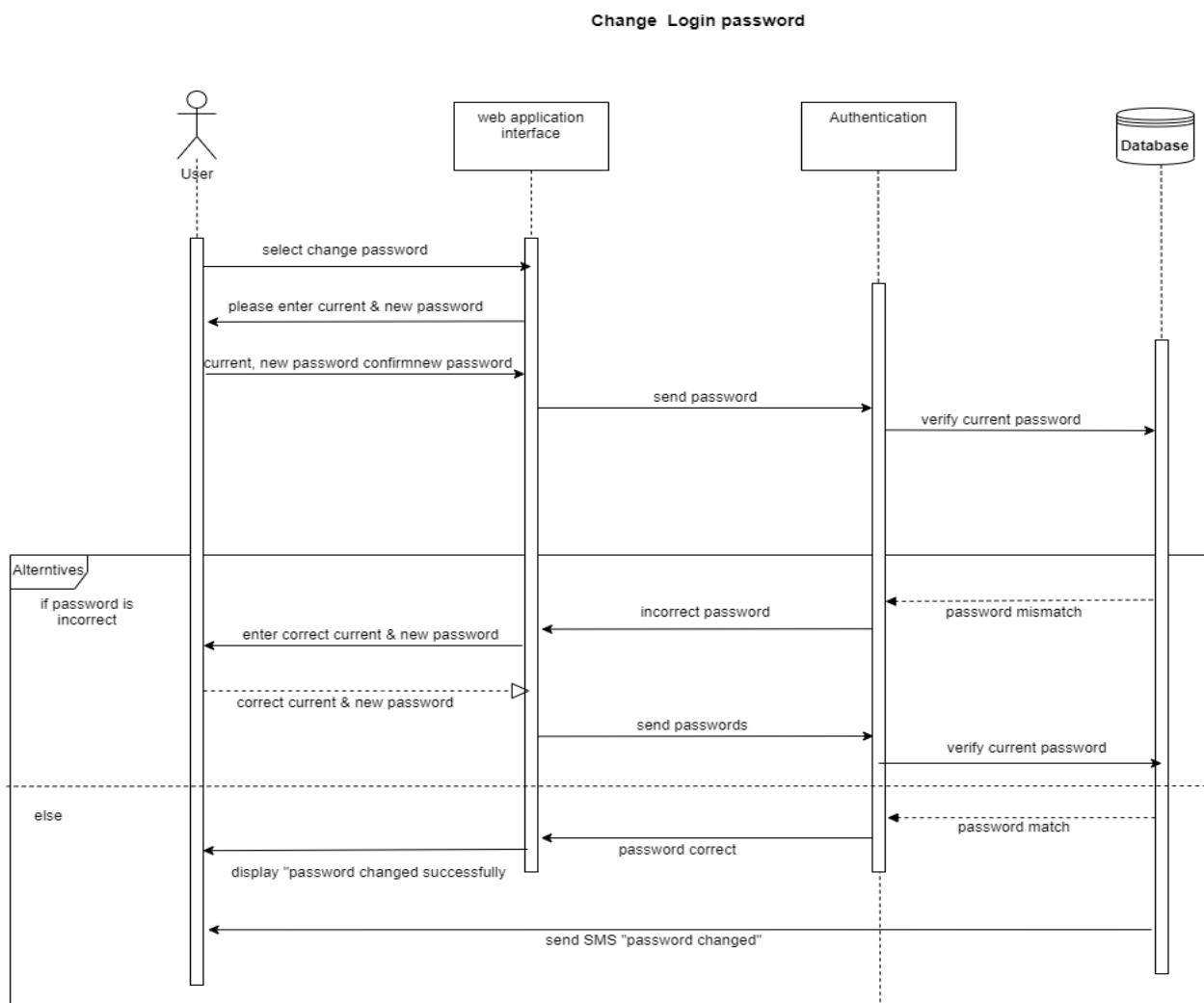


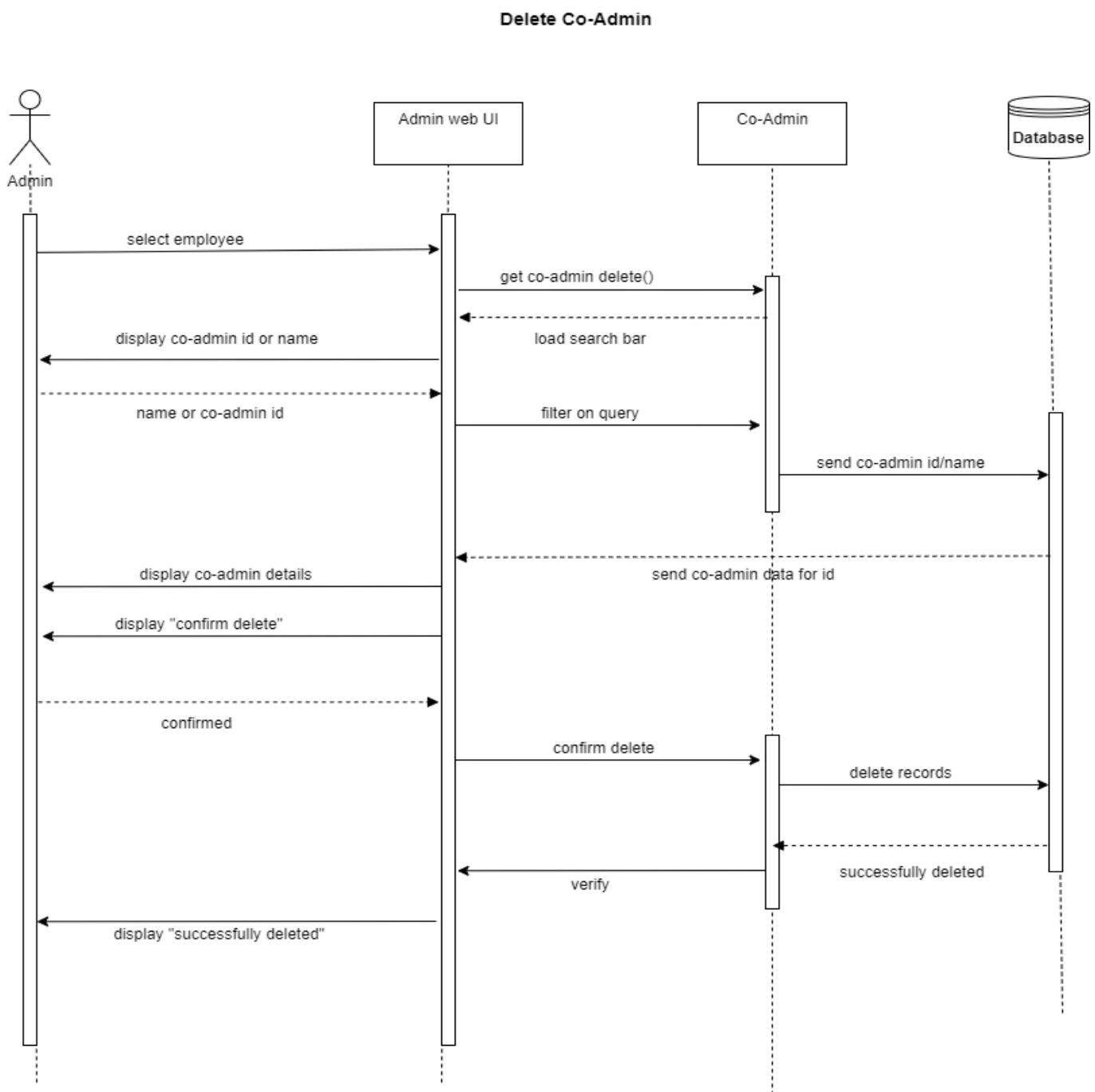
<https://app.diagrams.net/#G1ECQ-z1Mkc3j8Co1SgjUFHUZB1O7Uflz4>

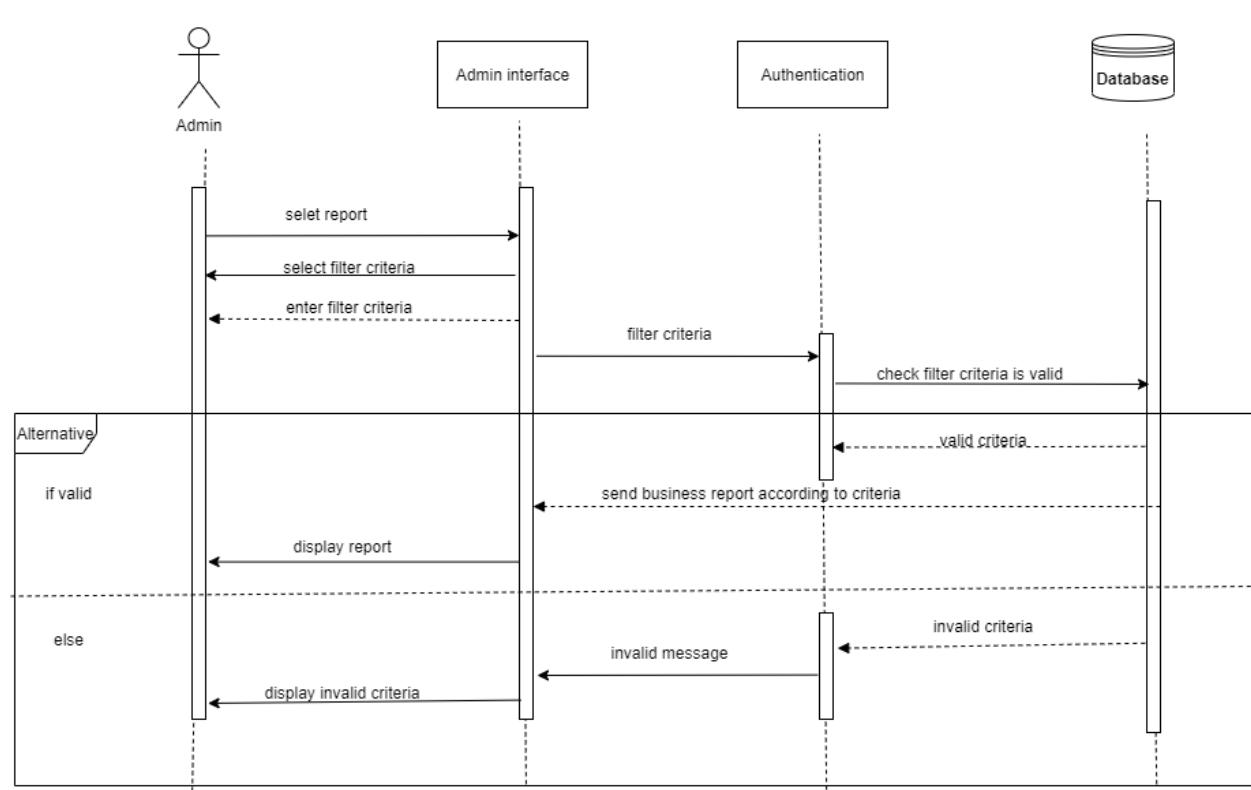
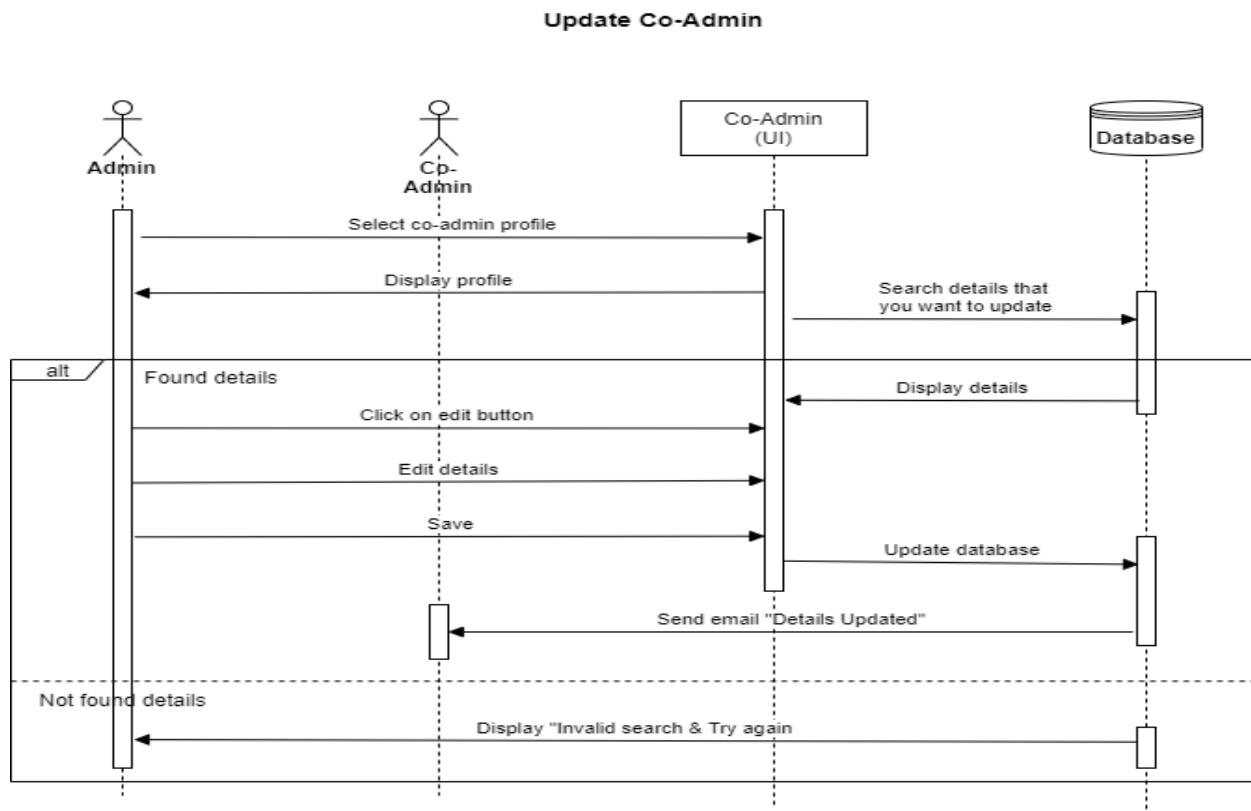
5.3) Sequence Diagrams

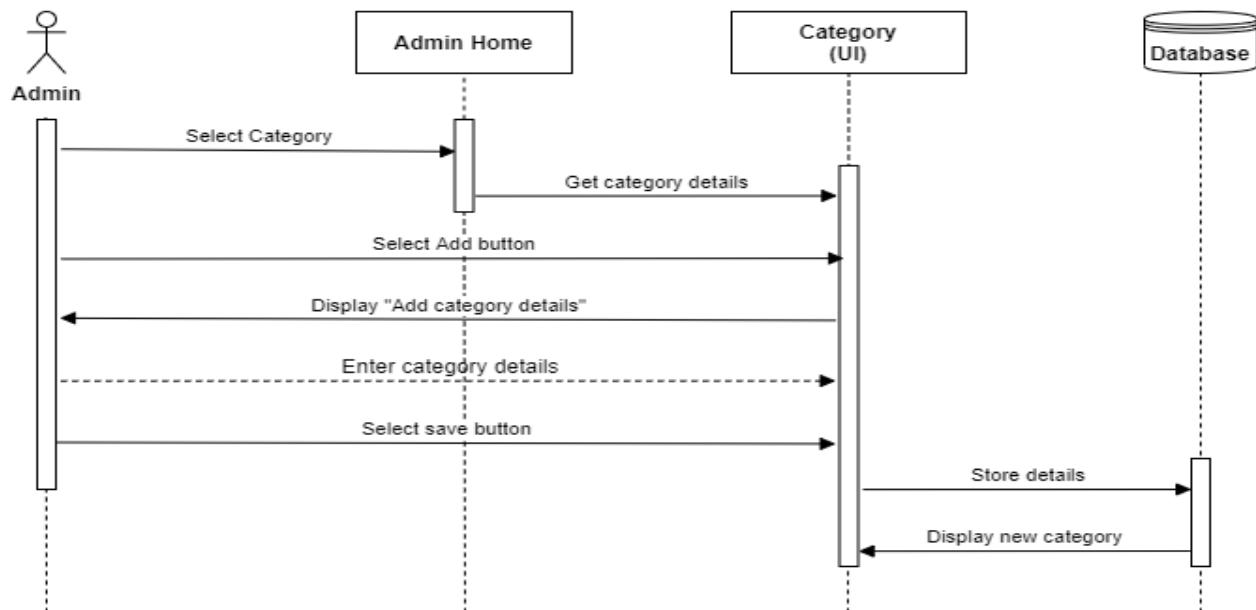
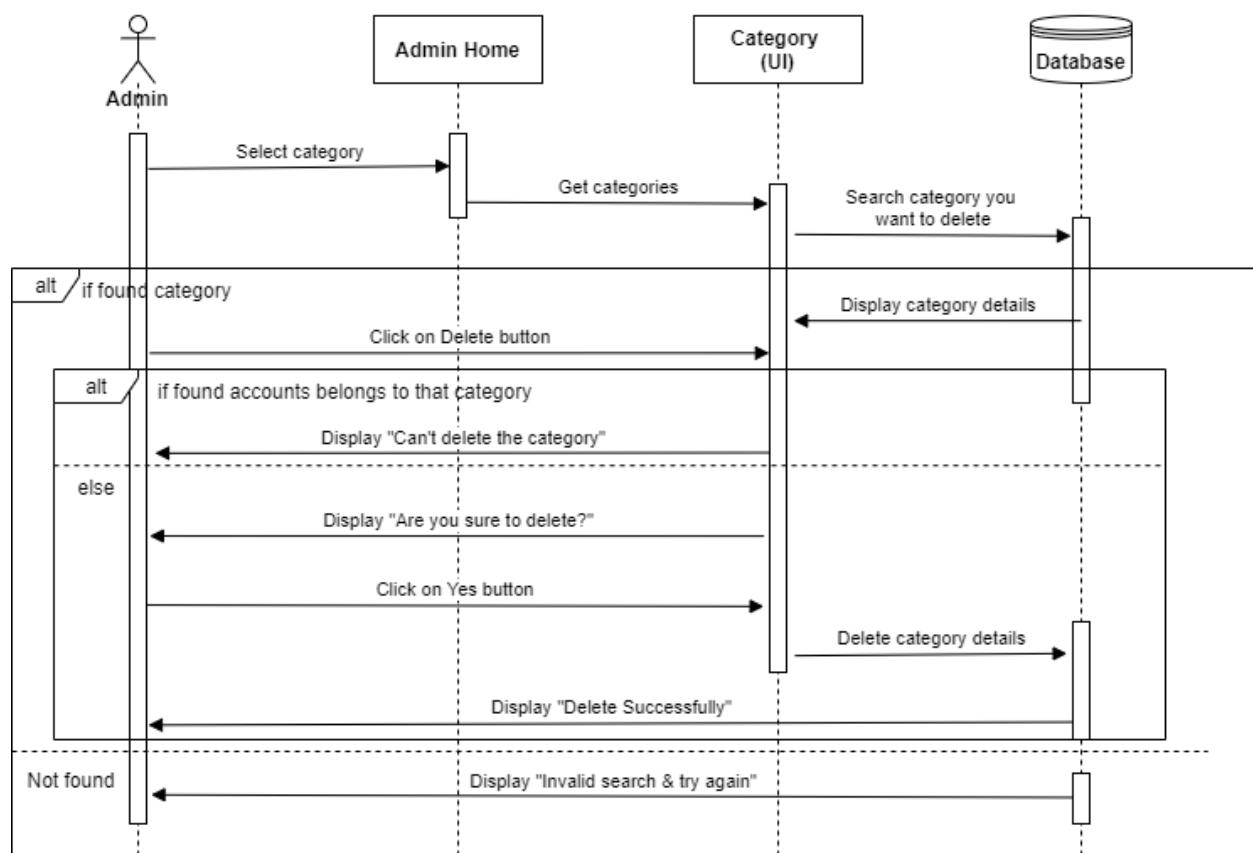


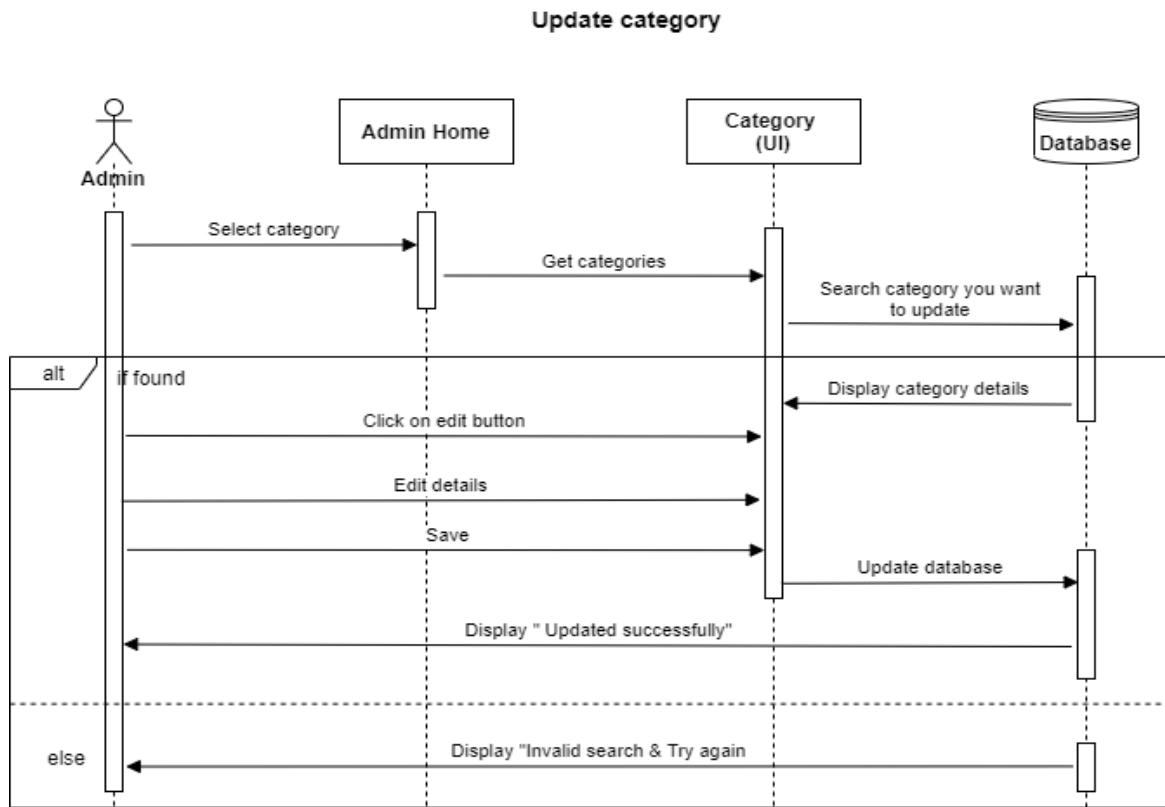
**Logout**



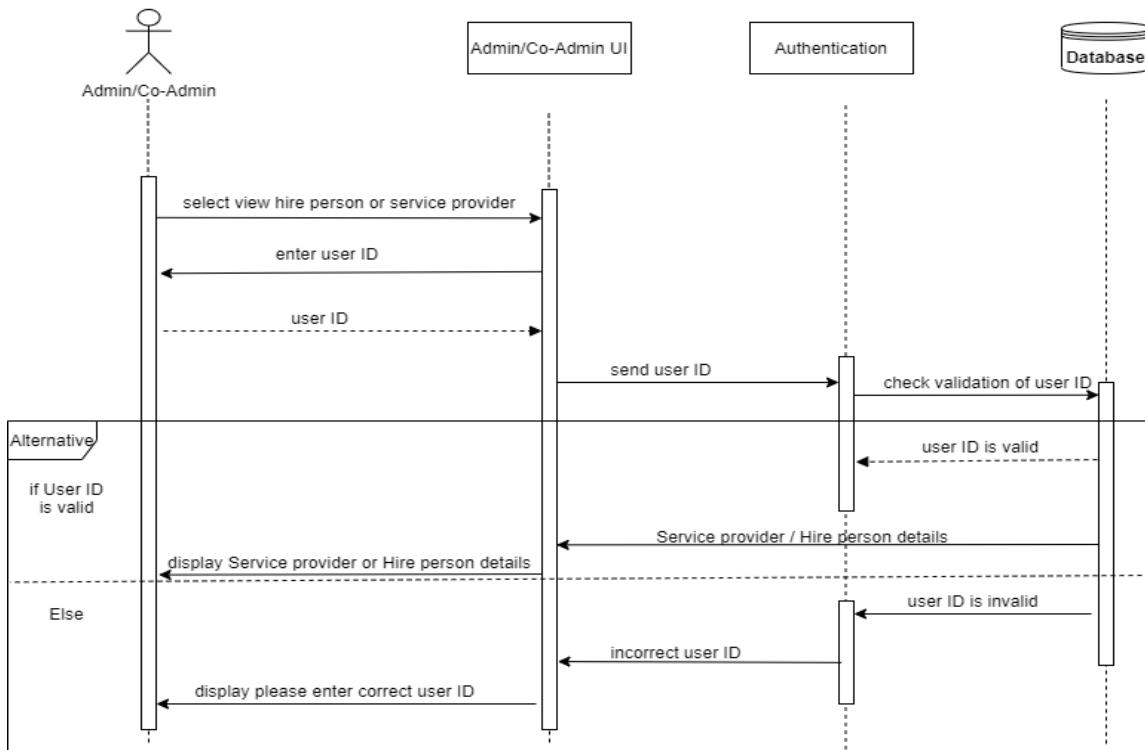




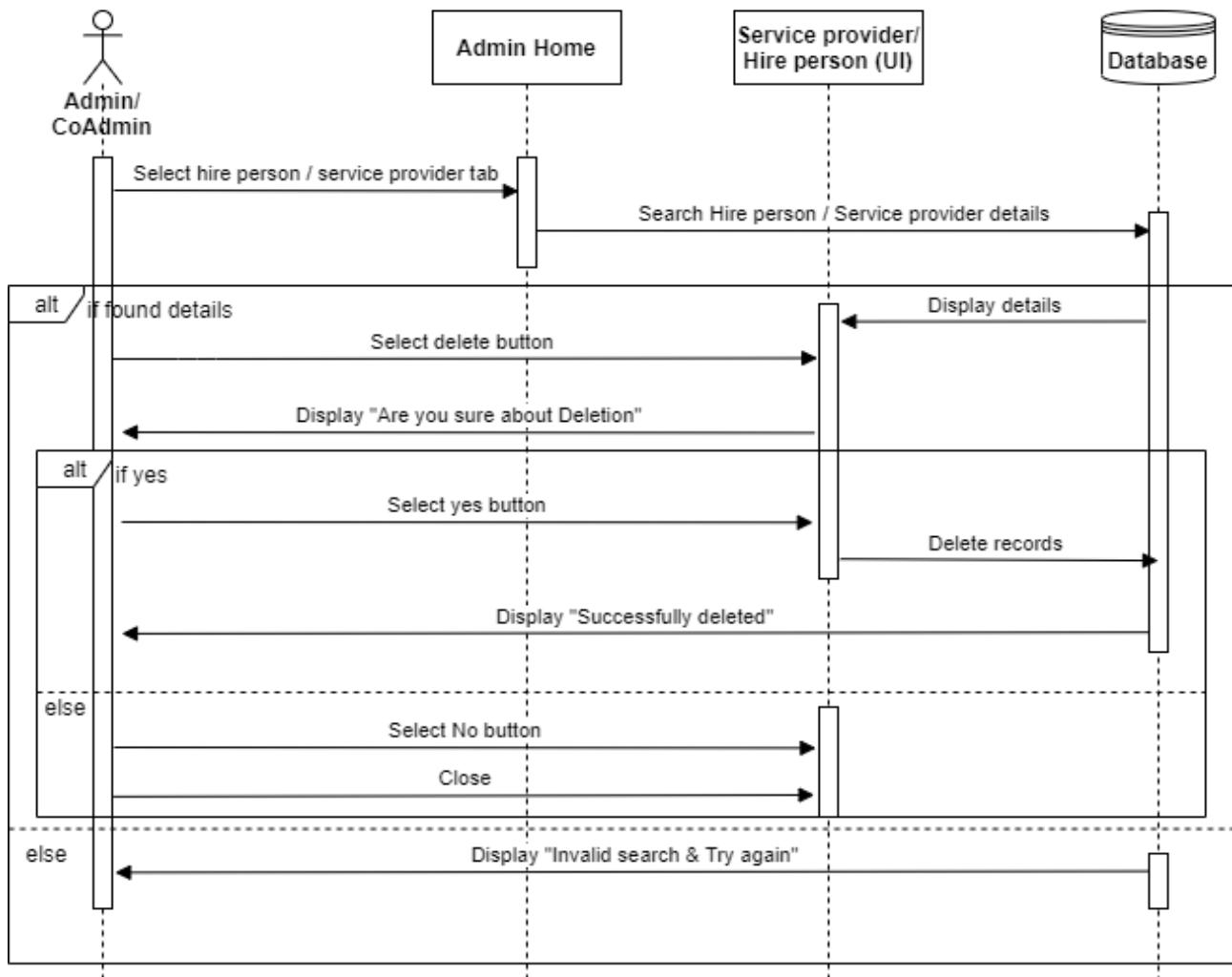
Add category**Delete Category**

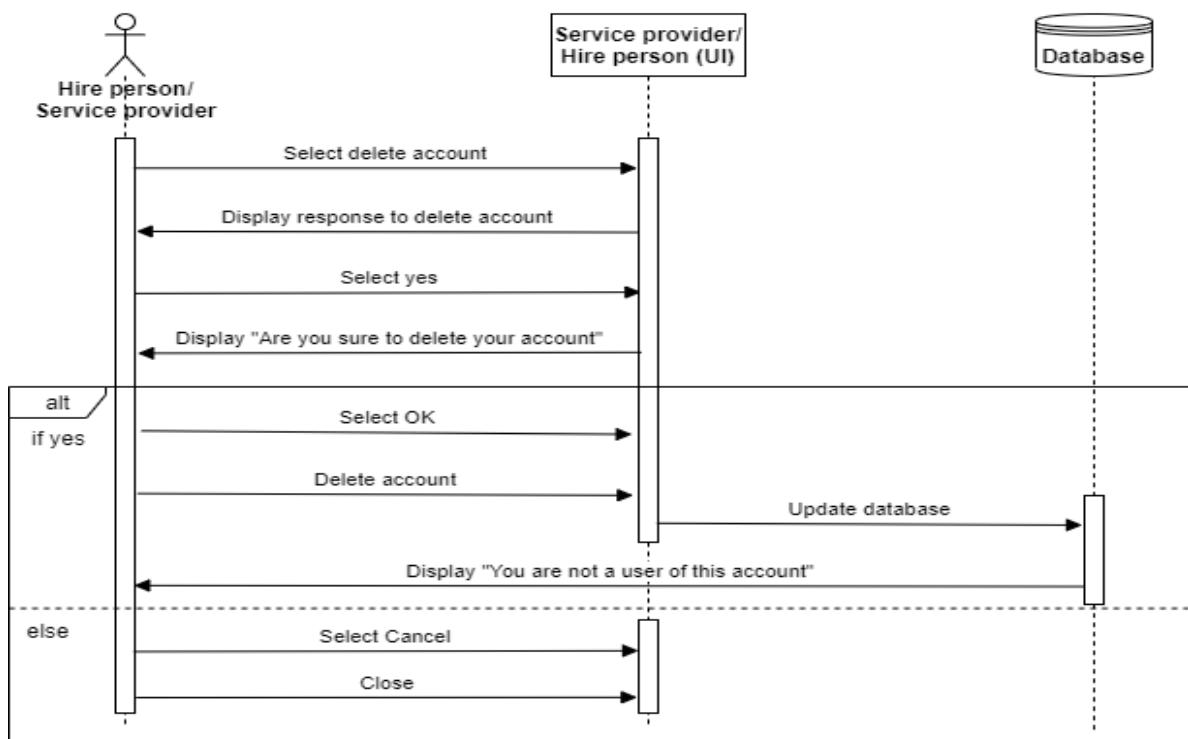
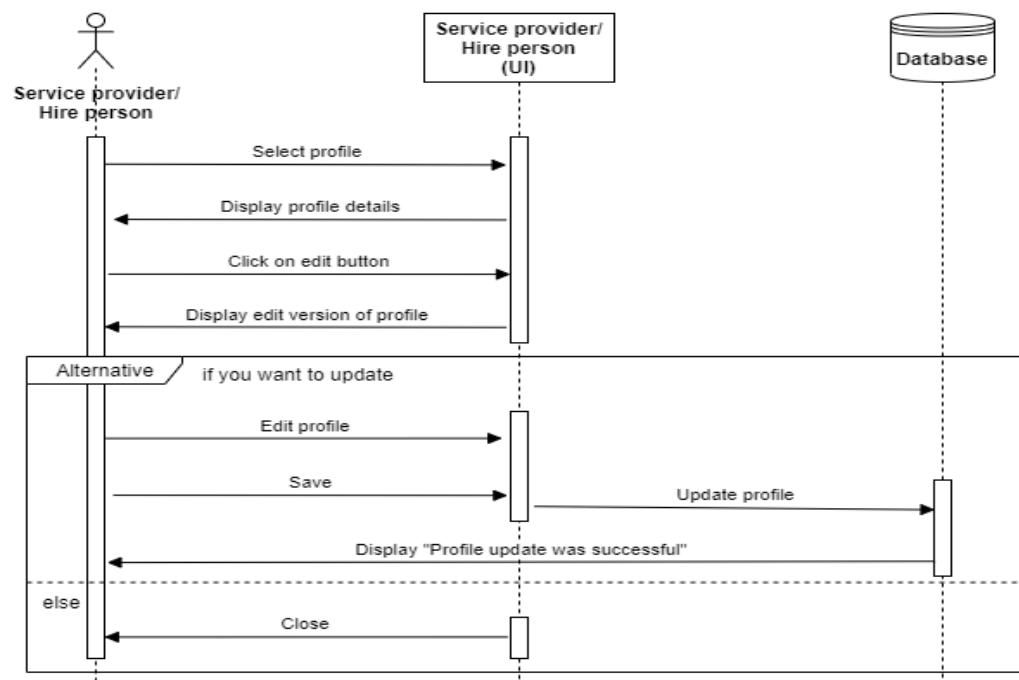


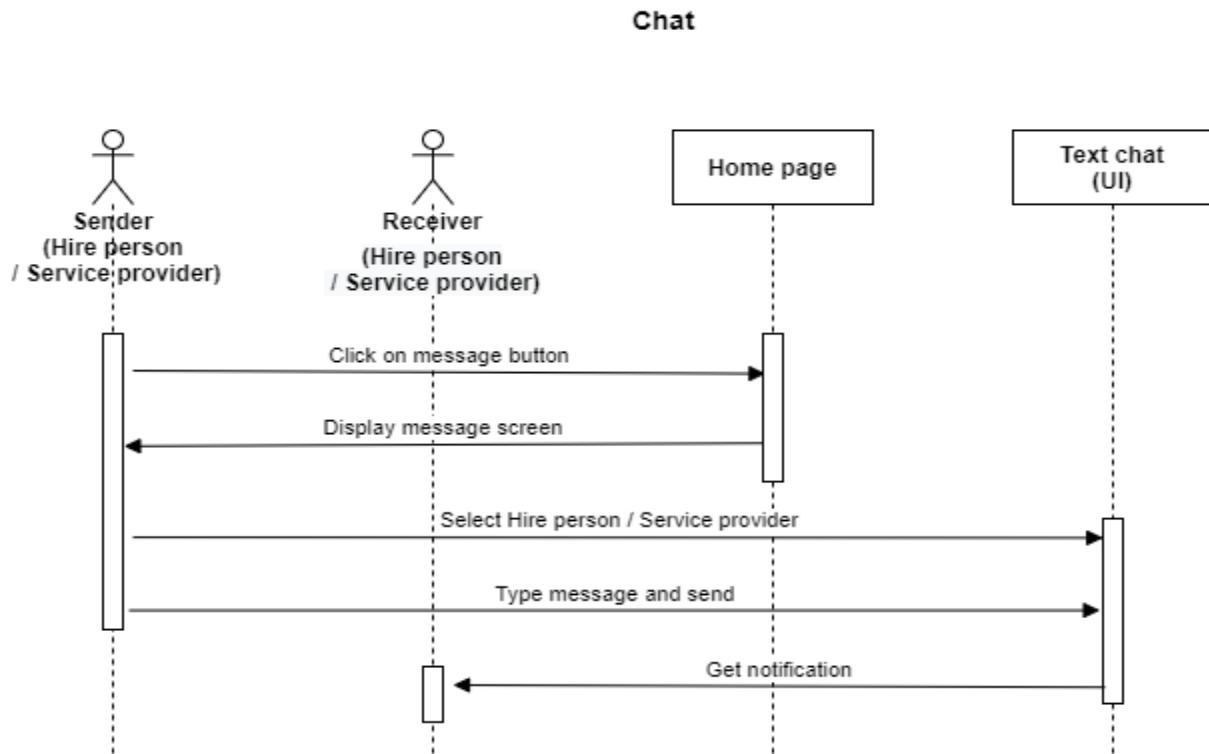
View service provider and Hire person details - Admin / Co-admin



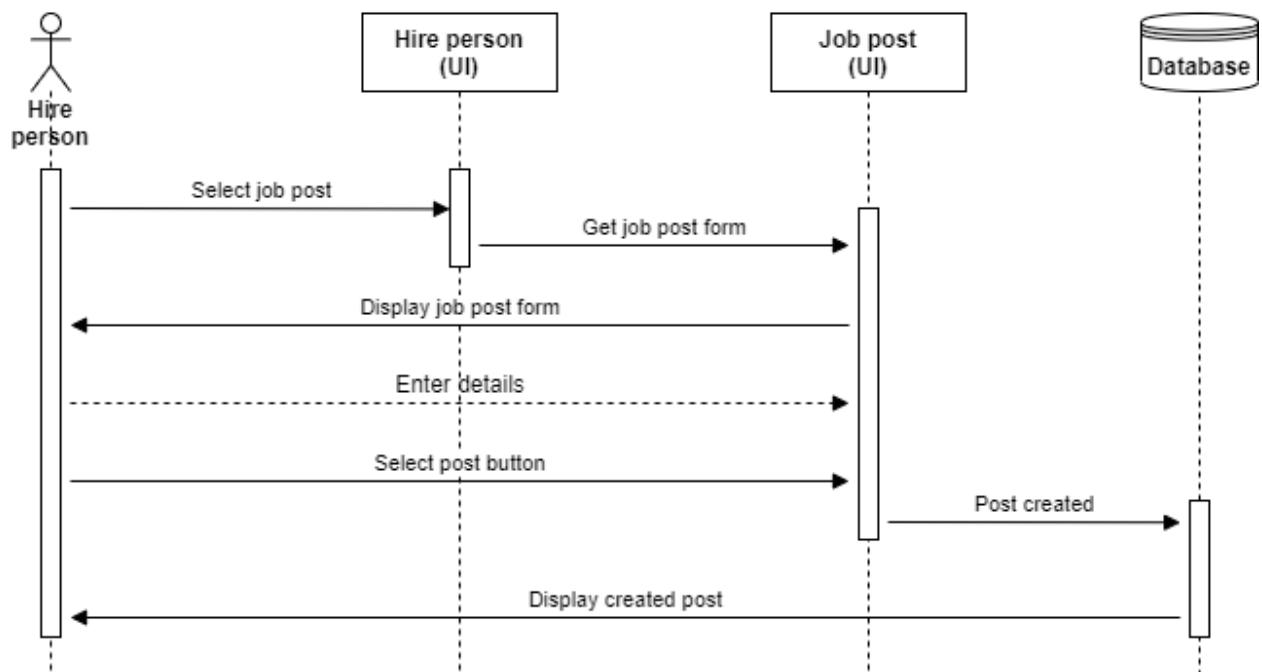
Delete Hire person / service provider

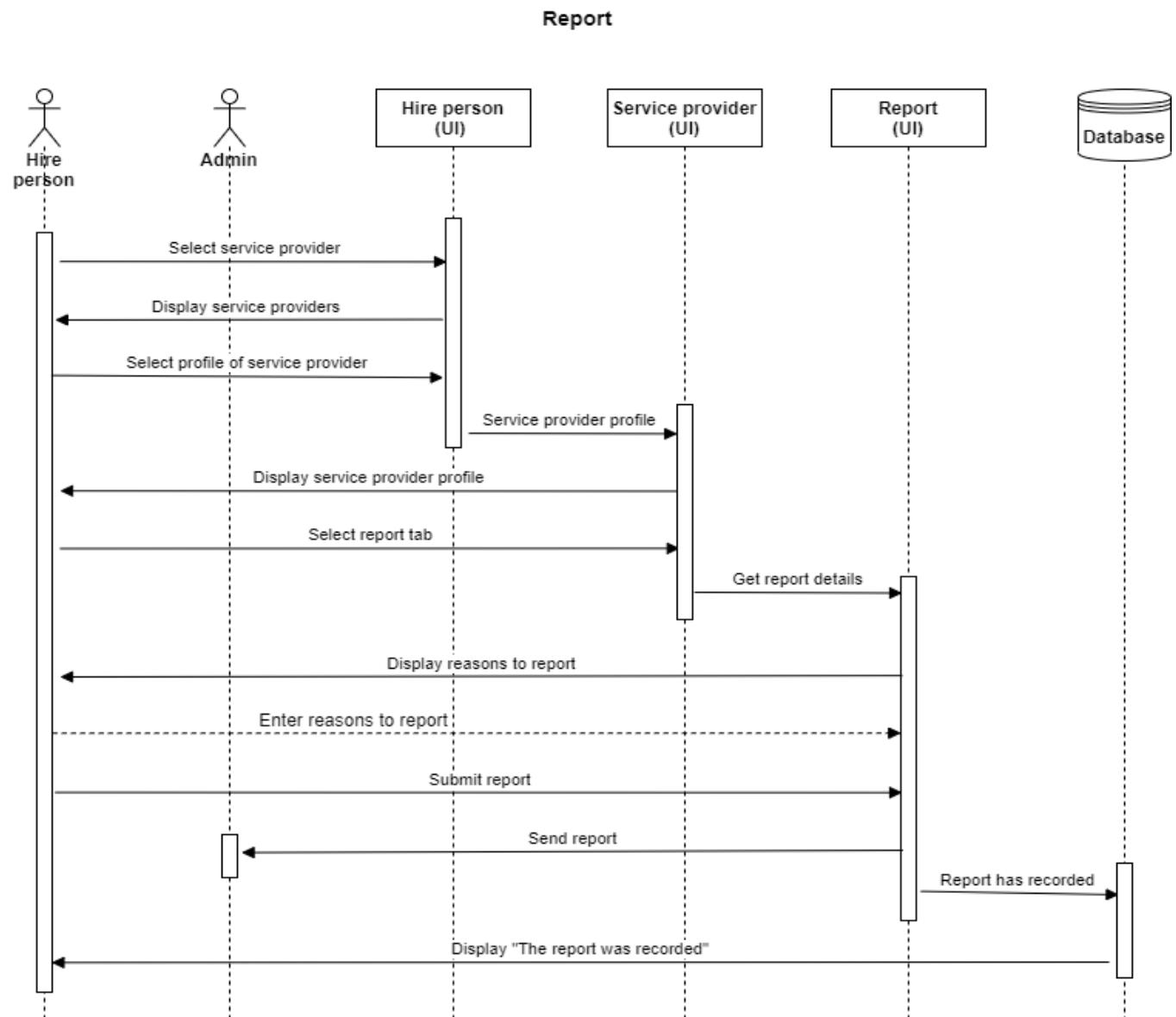


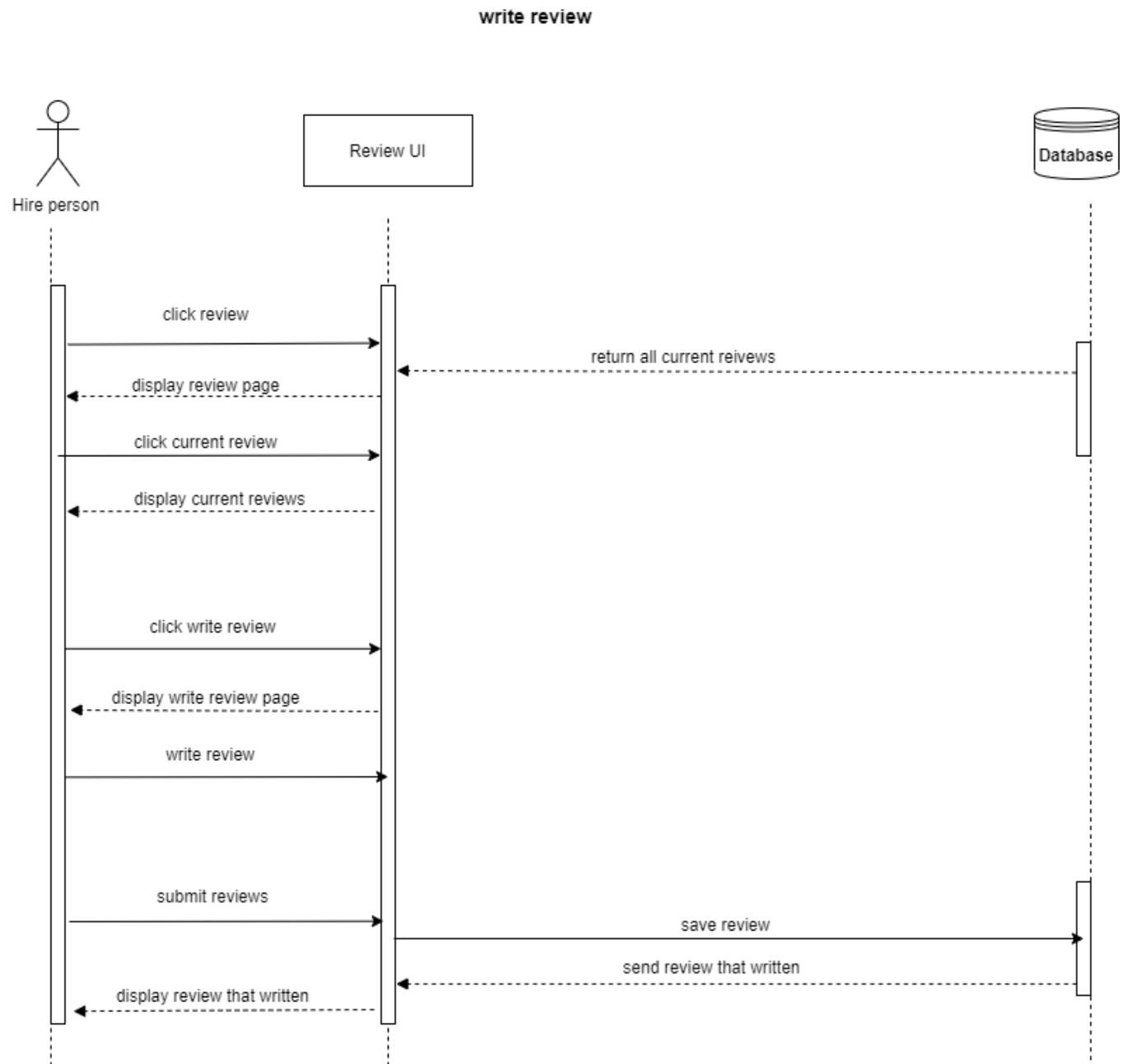
Deactivate the account - Hire person / Service provider**Update profile - Service provider / Hire person**

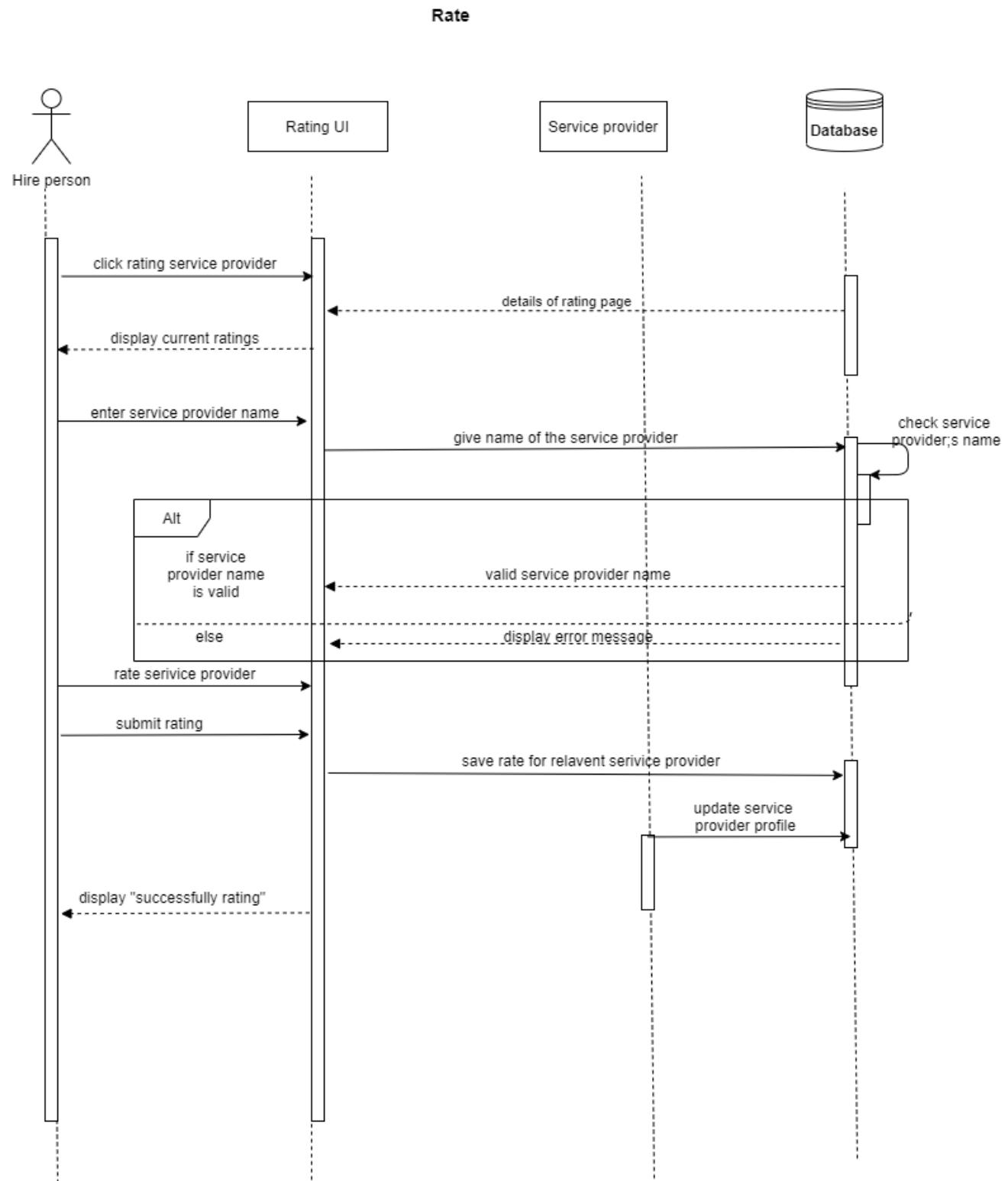


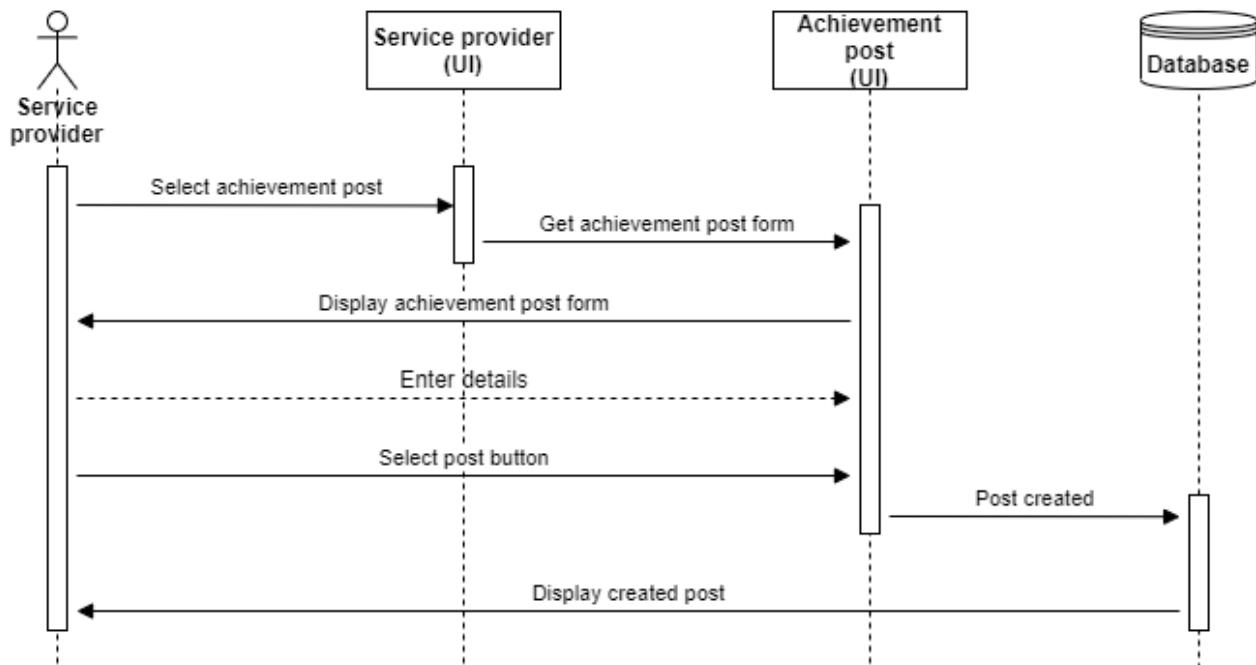
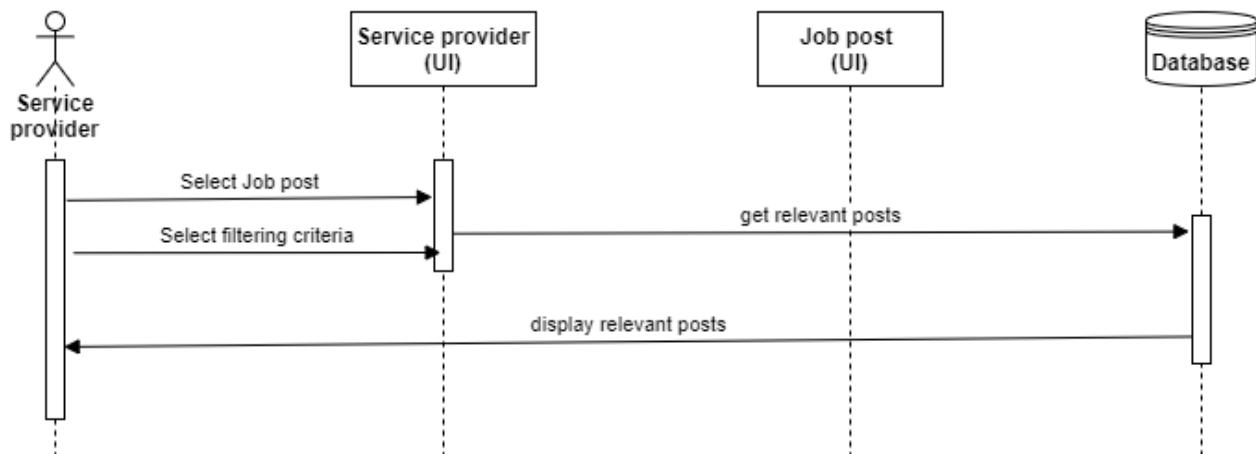
Create Job Post - Hire person

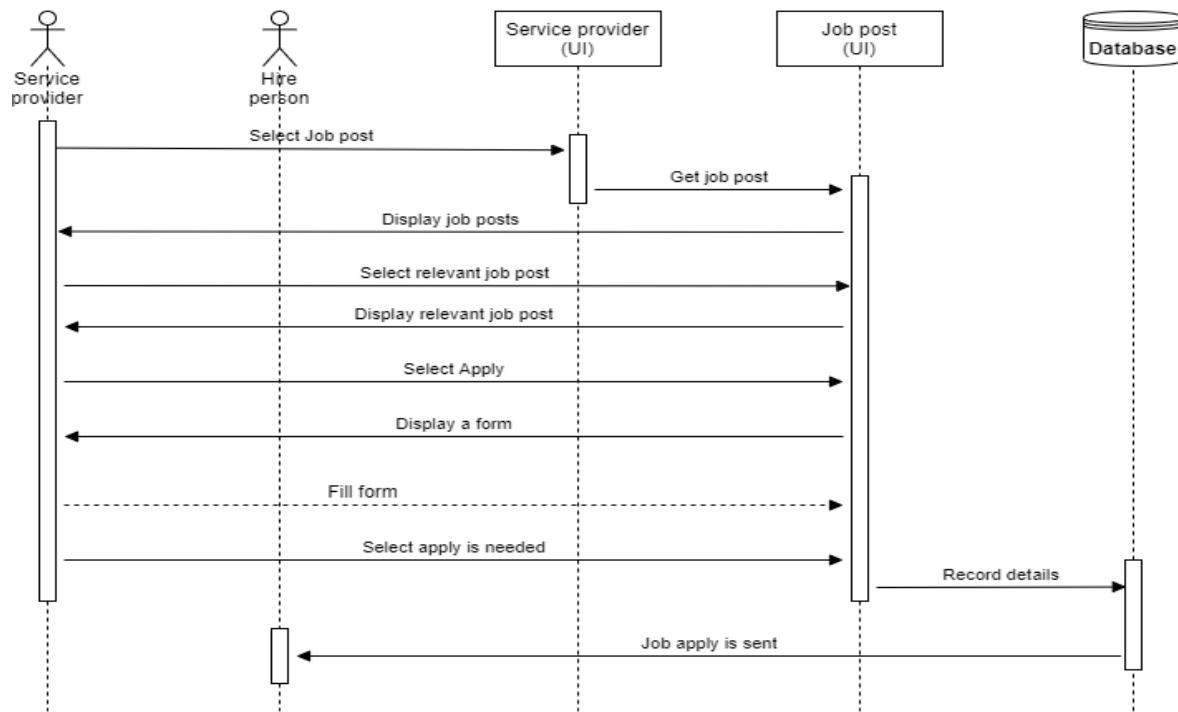
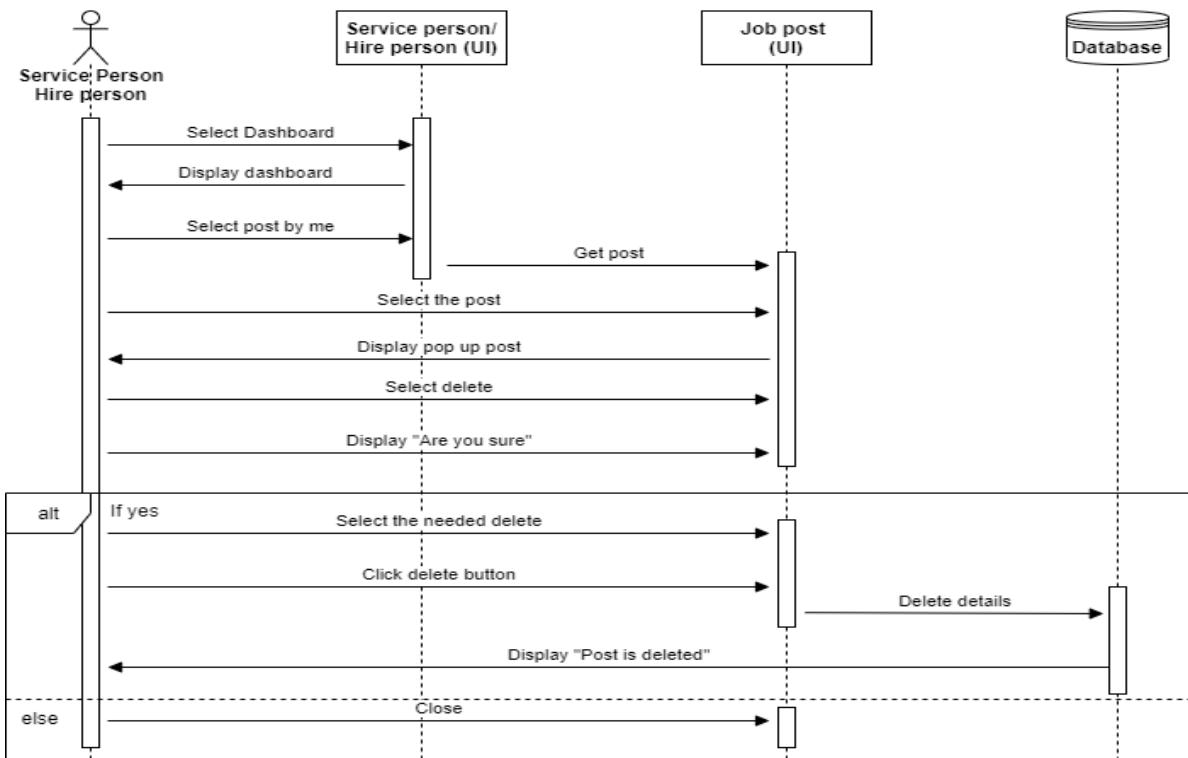


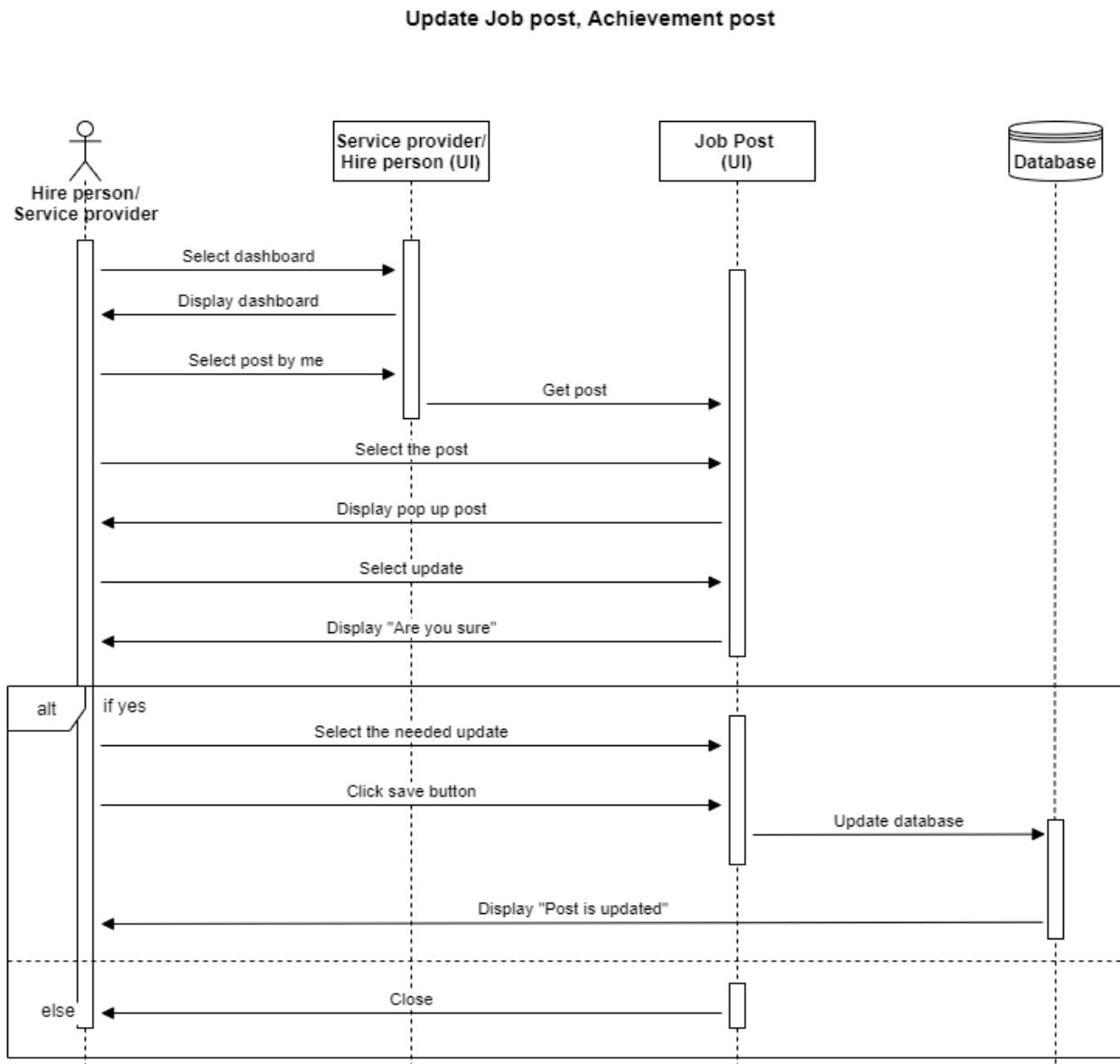


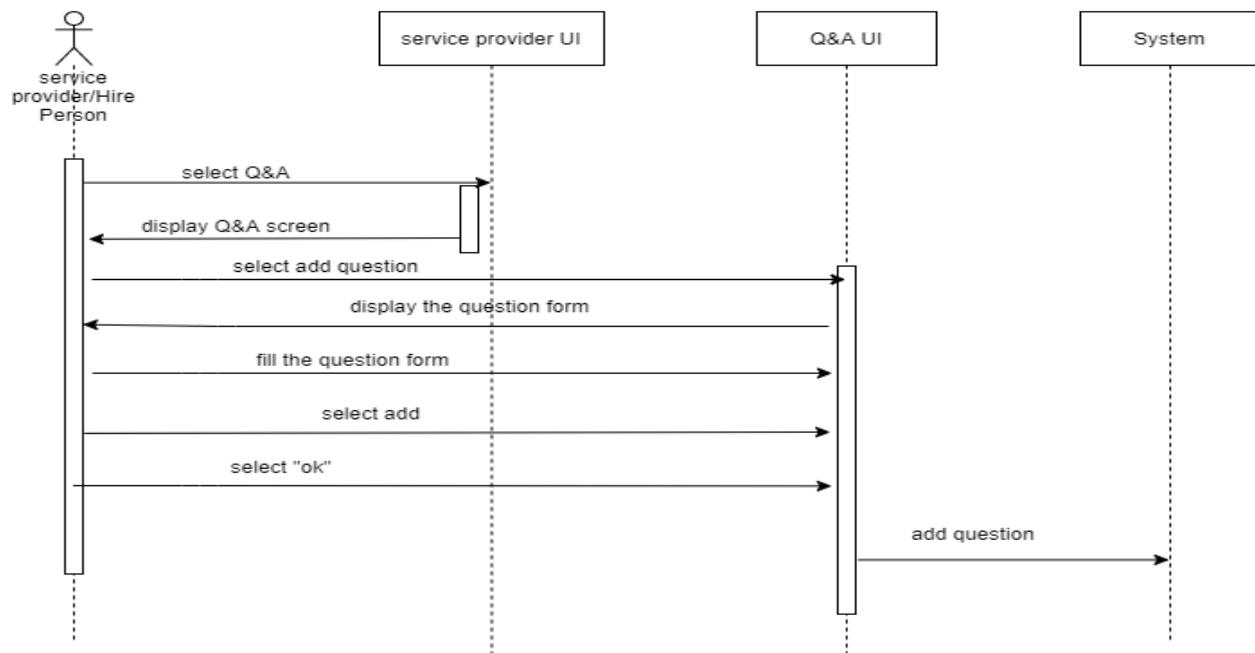
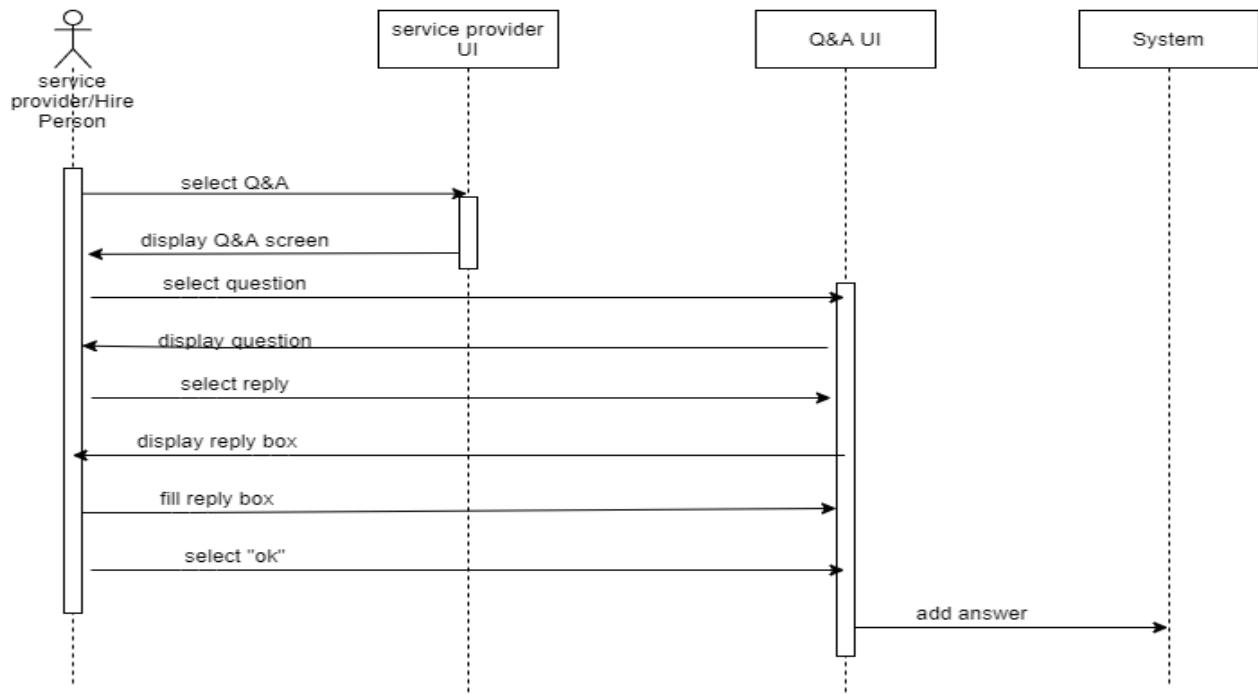


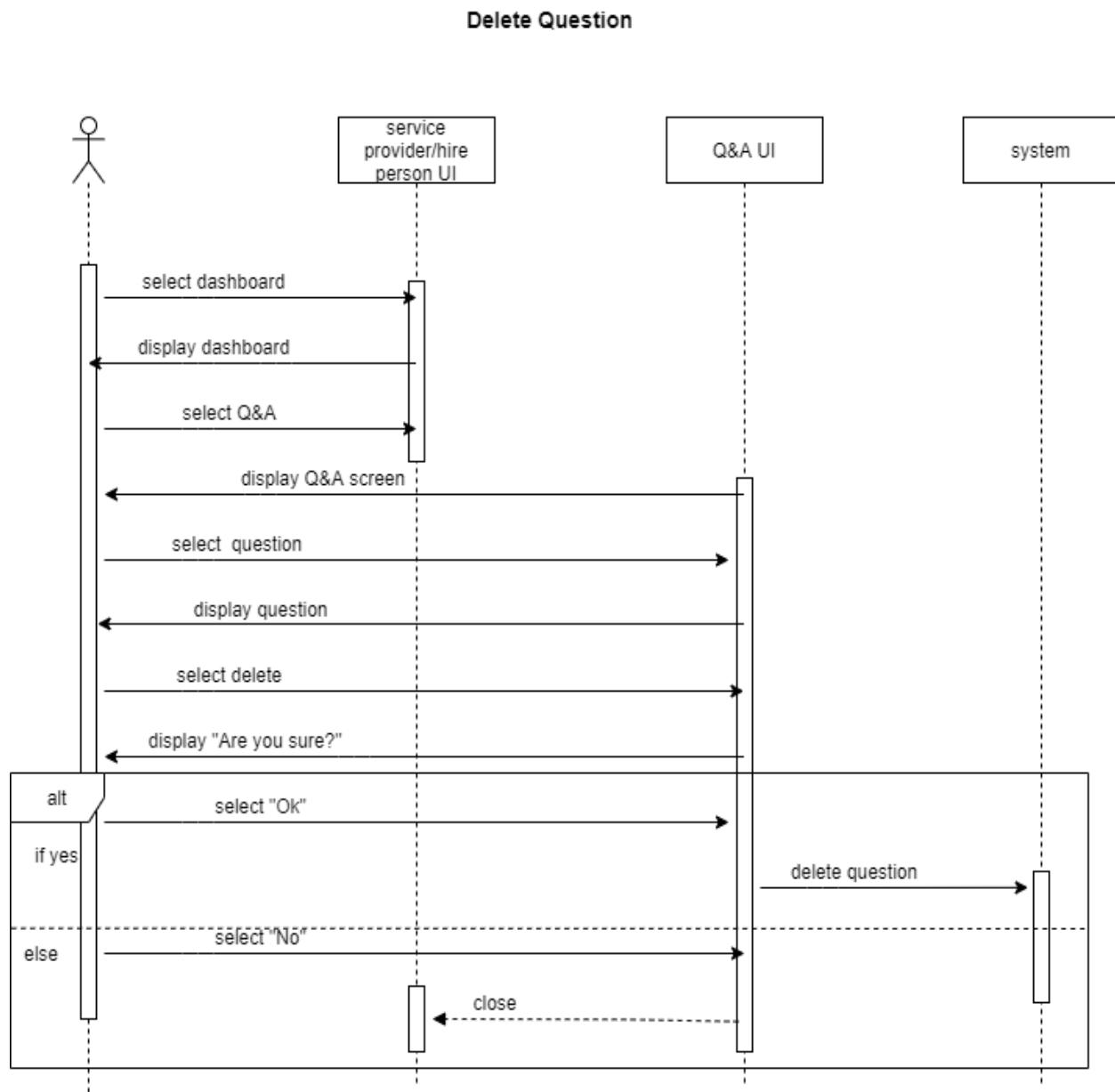


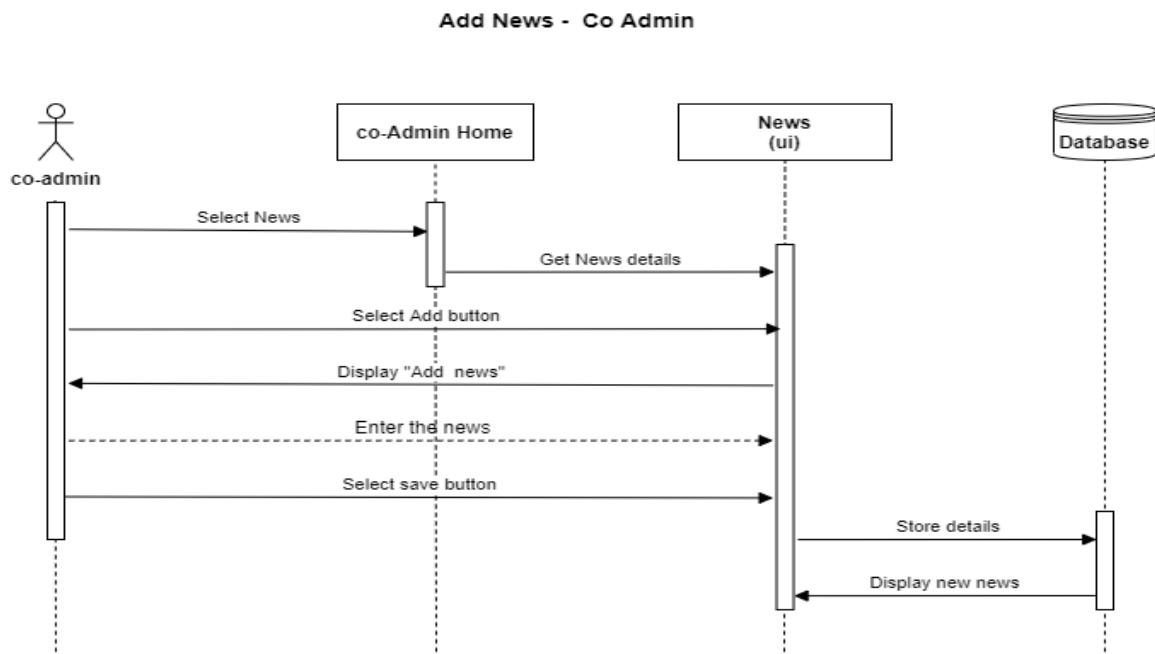
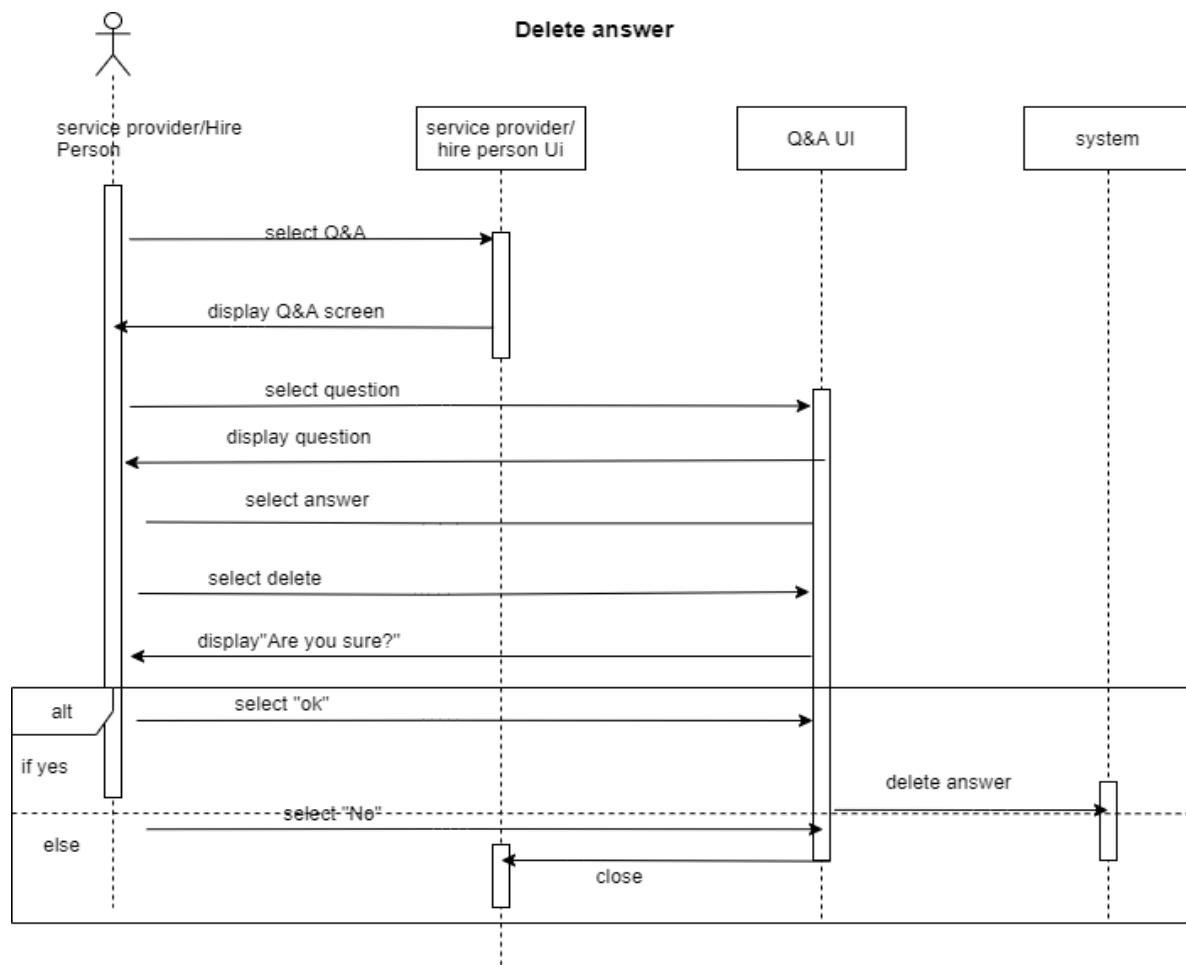
Create achievement post - service provider**View Job post - Service provider**

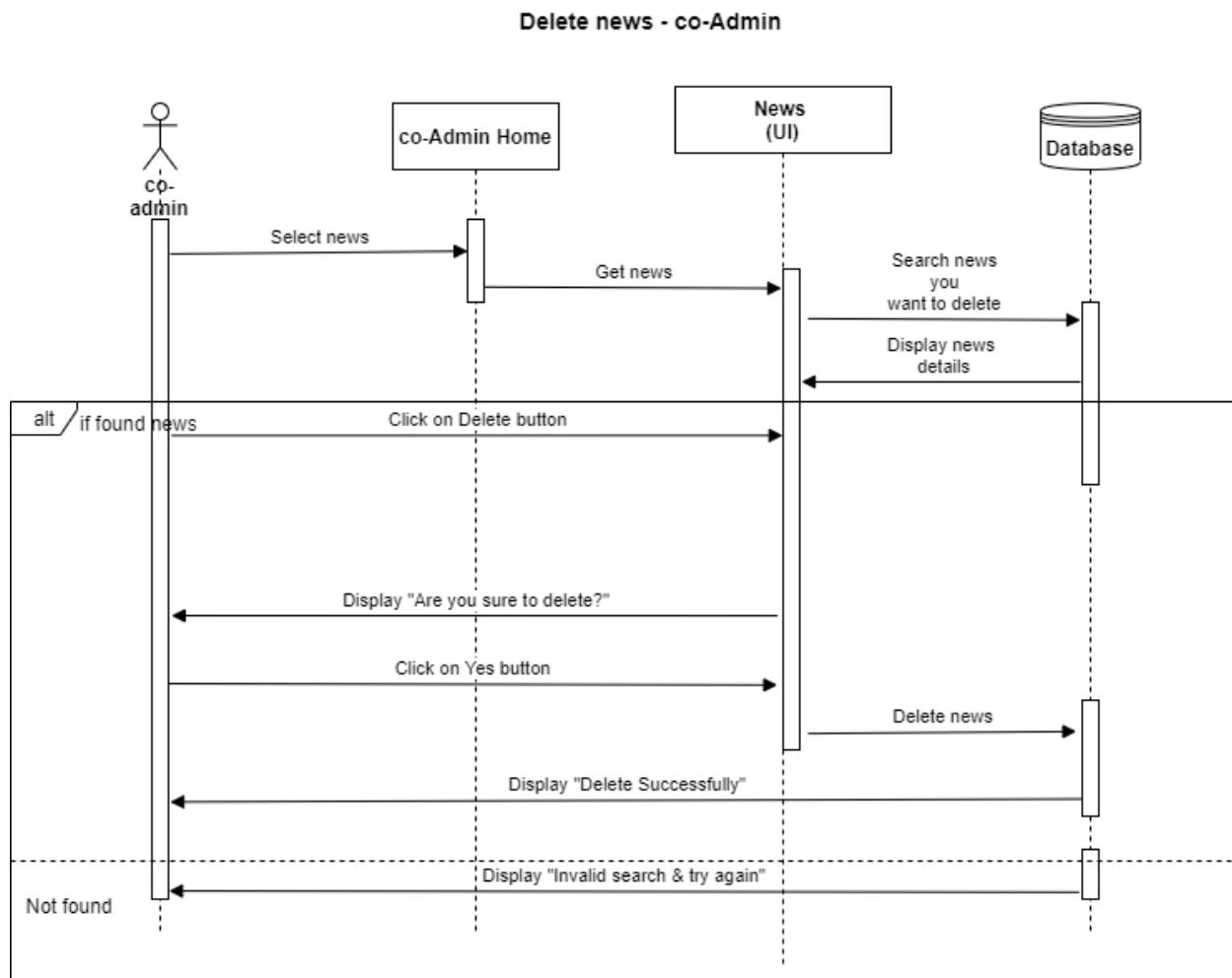
Apply for Job post - Service provider**Delete Job post, Achievement post**

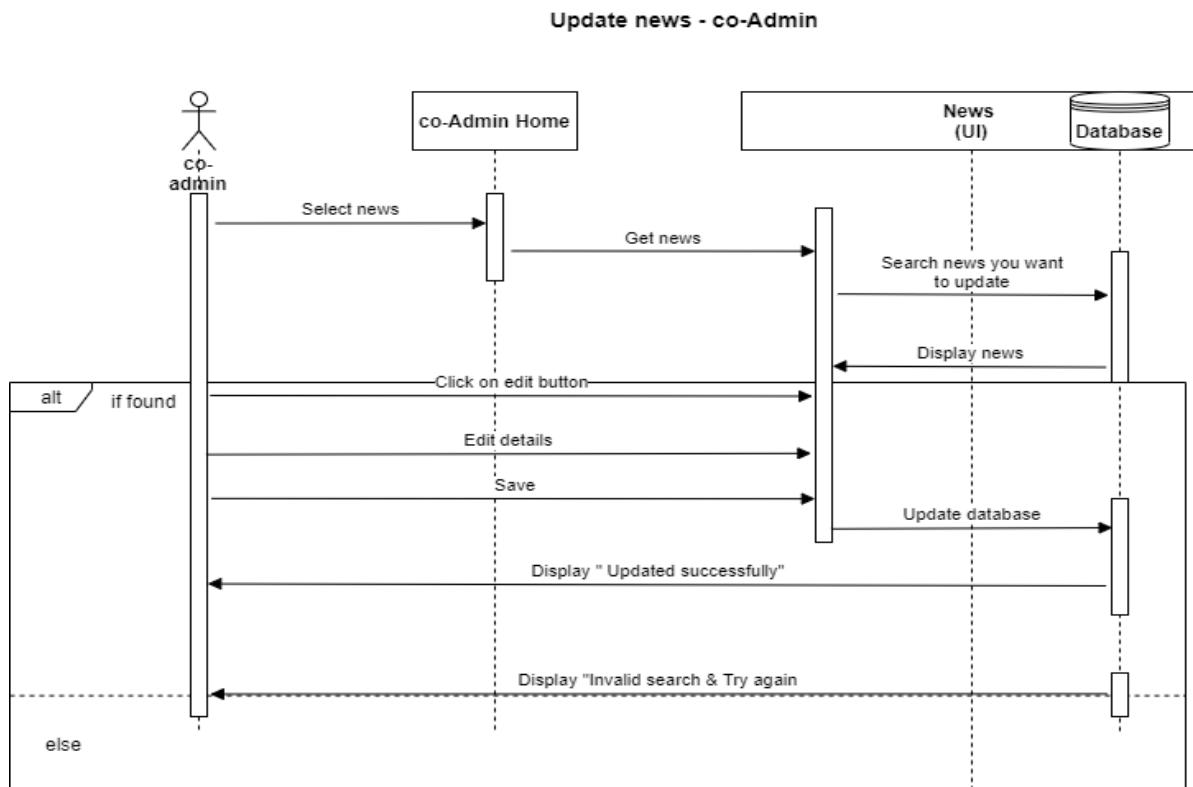


Add Question**Add answer**

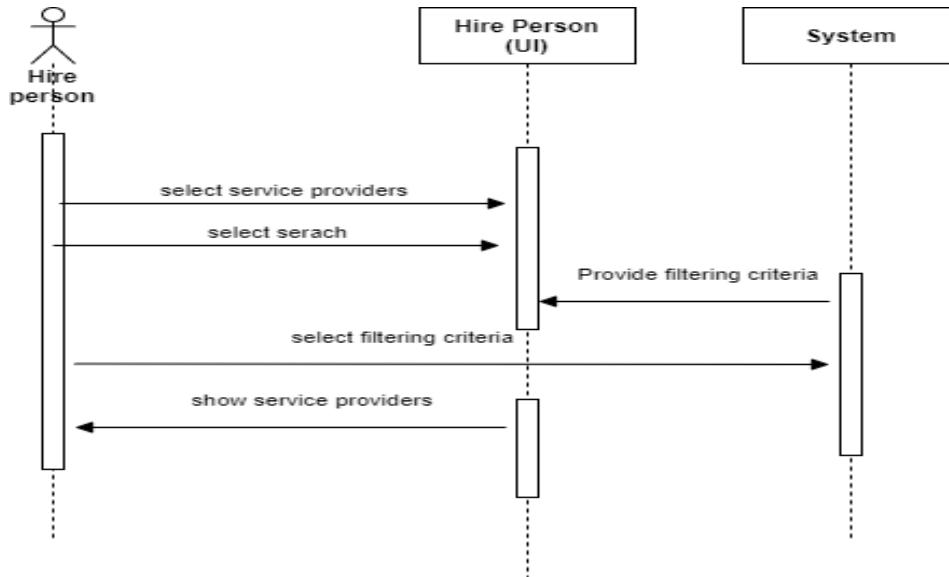


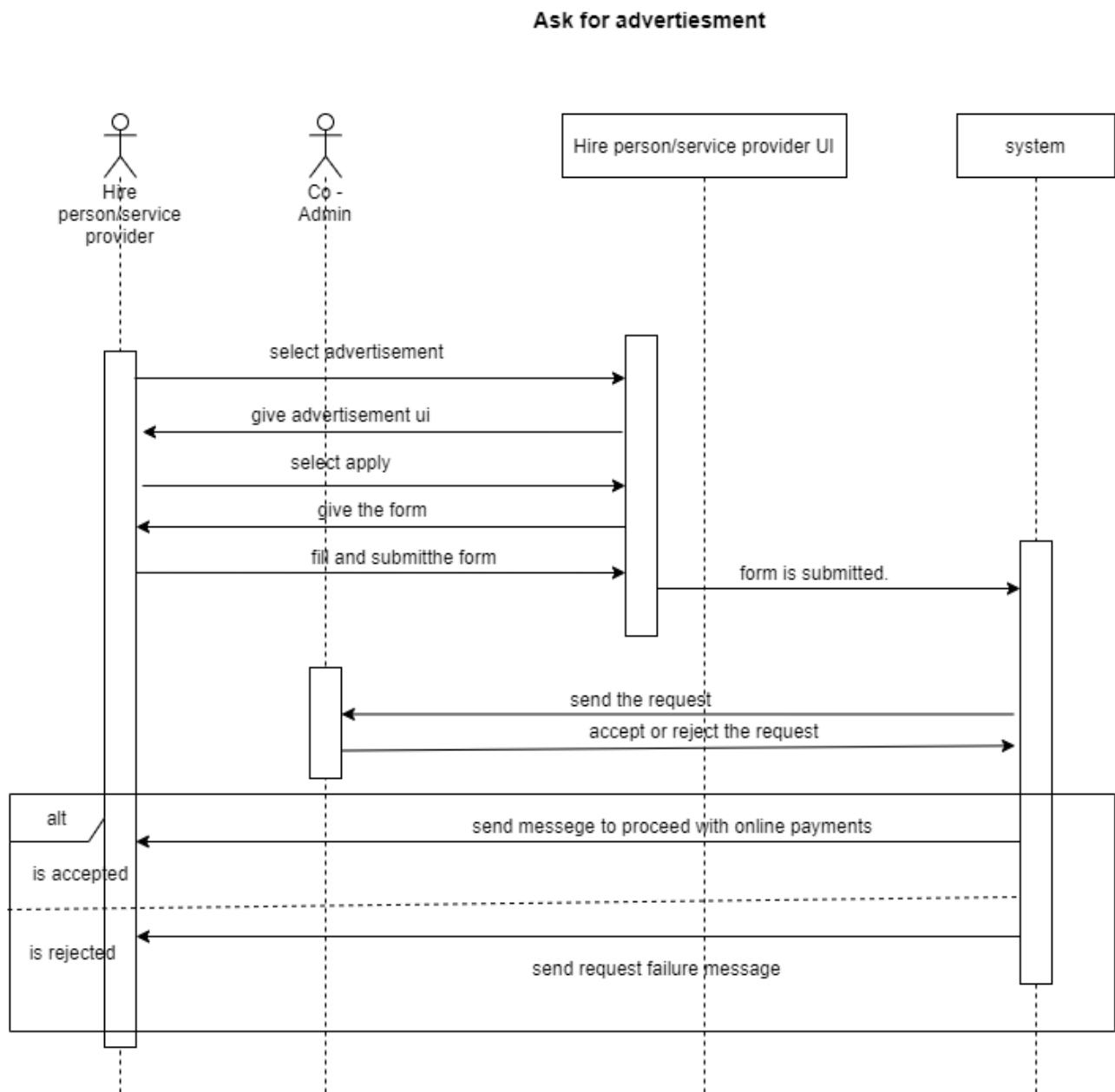


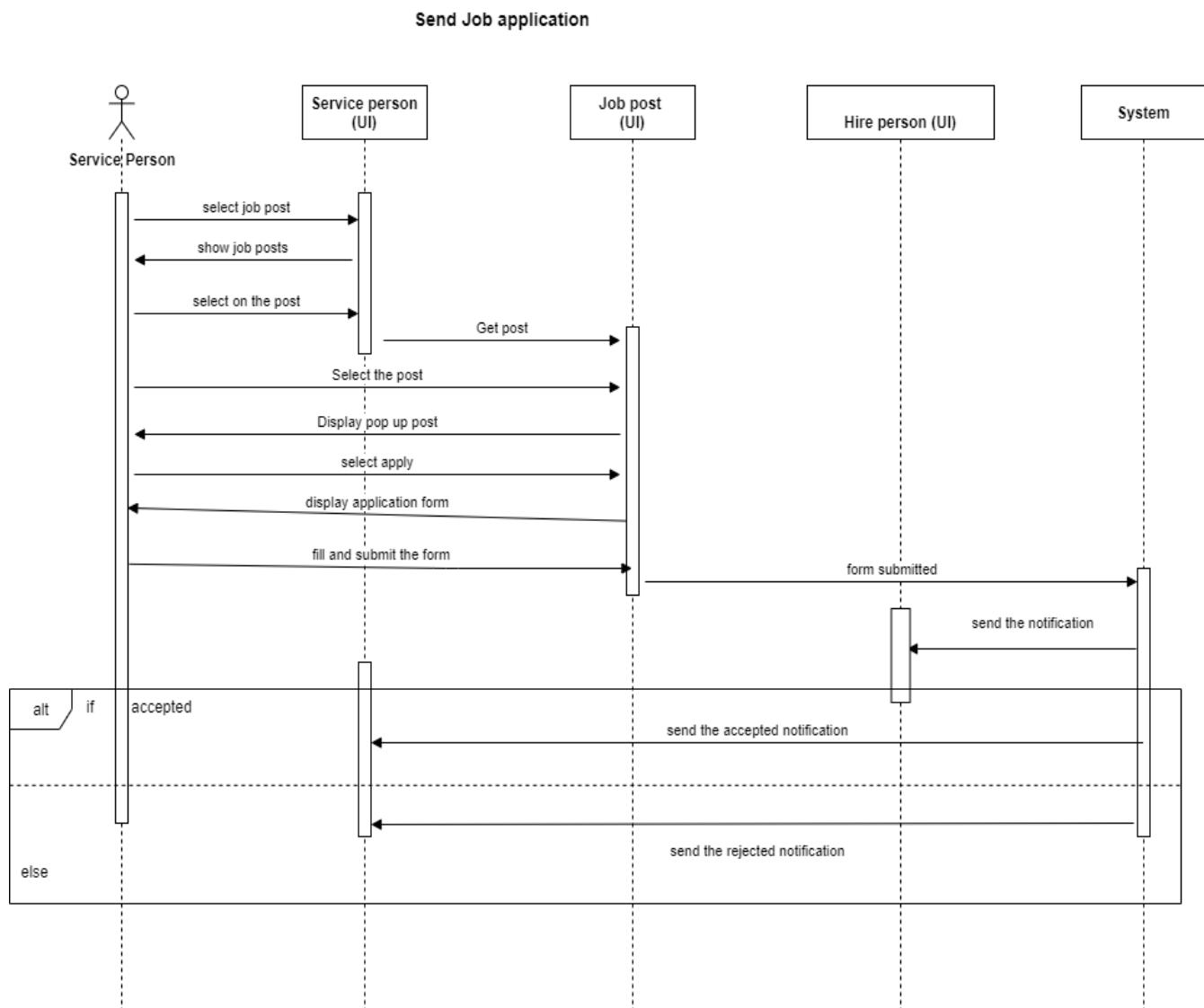


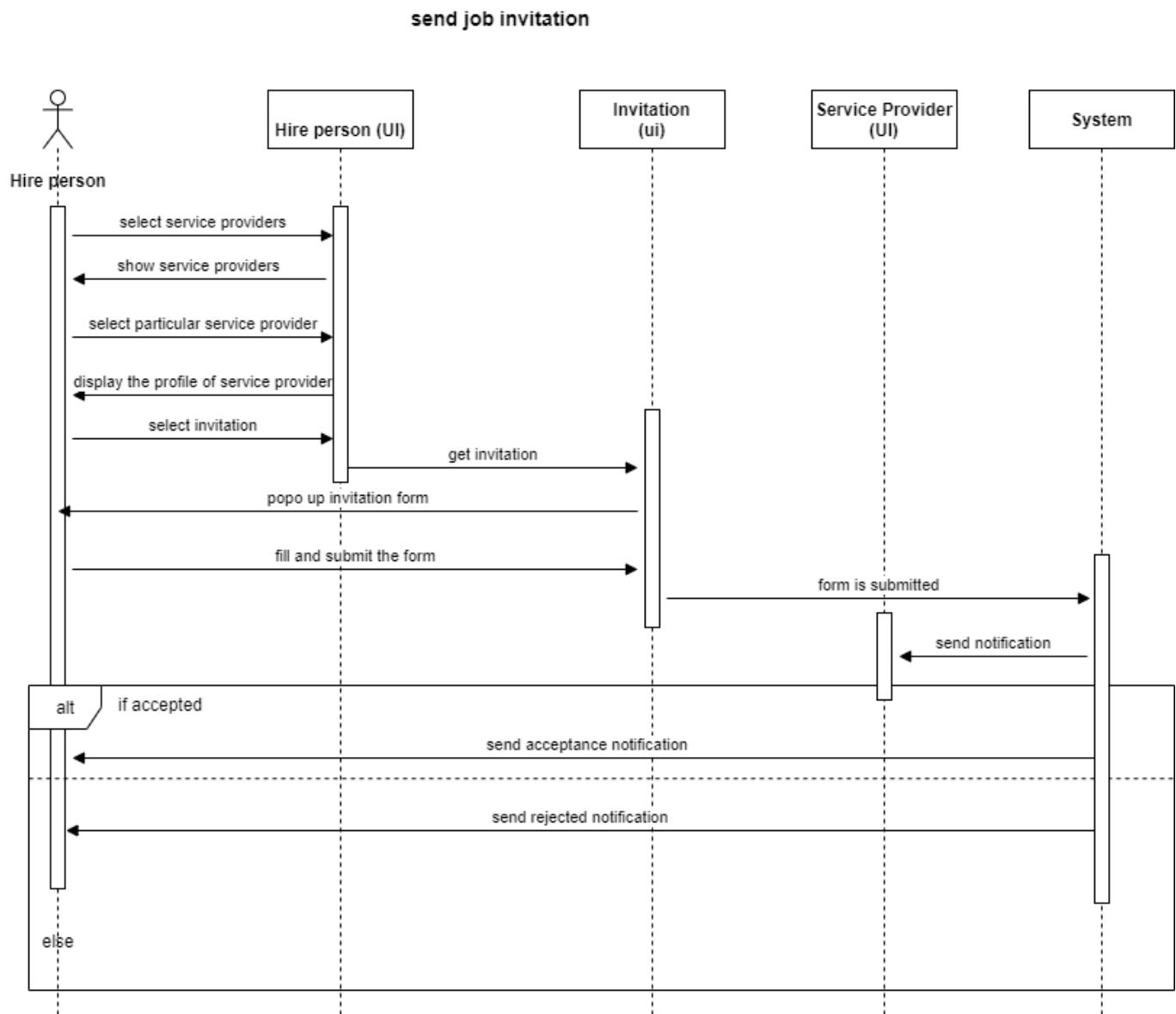


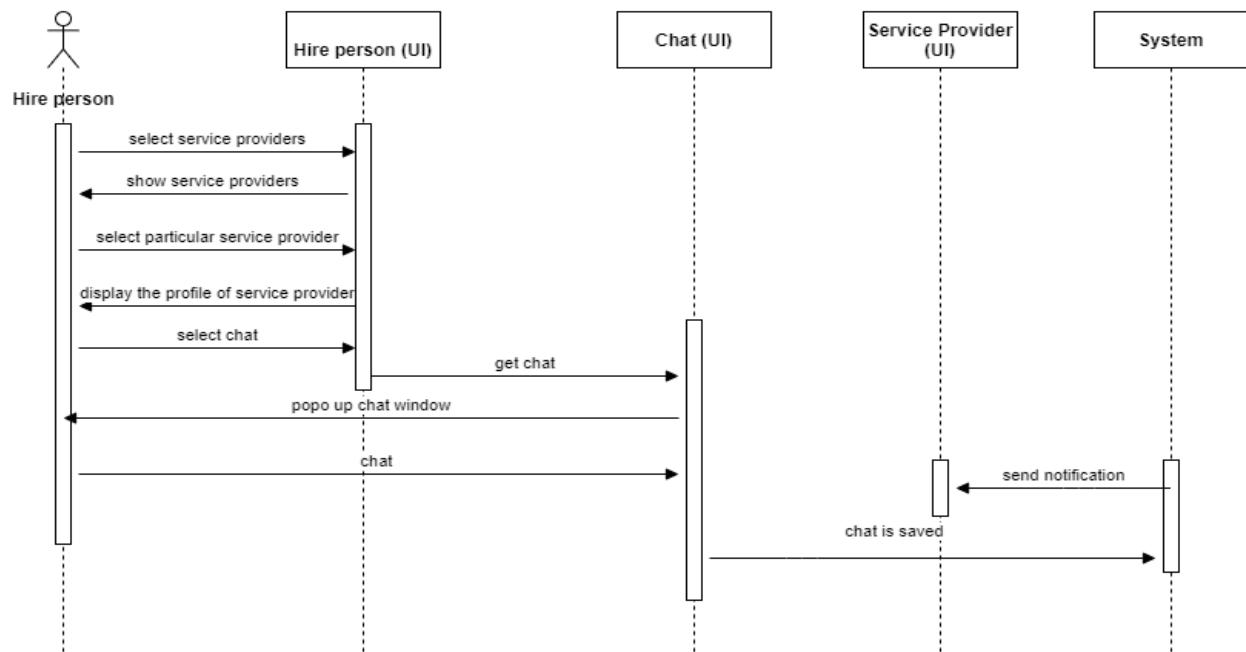
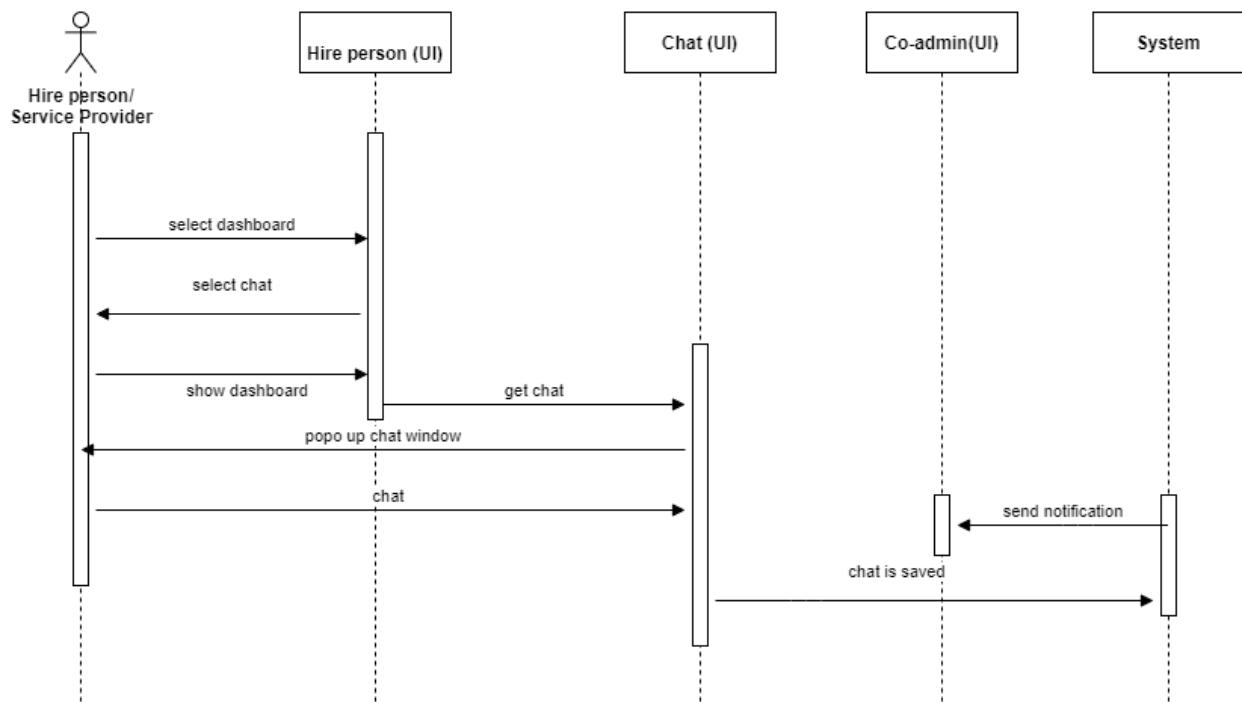
View Service providers - Hire person





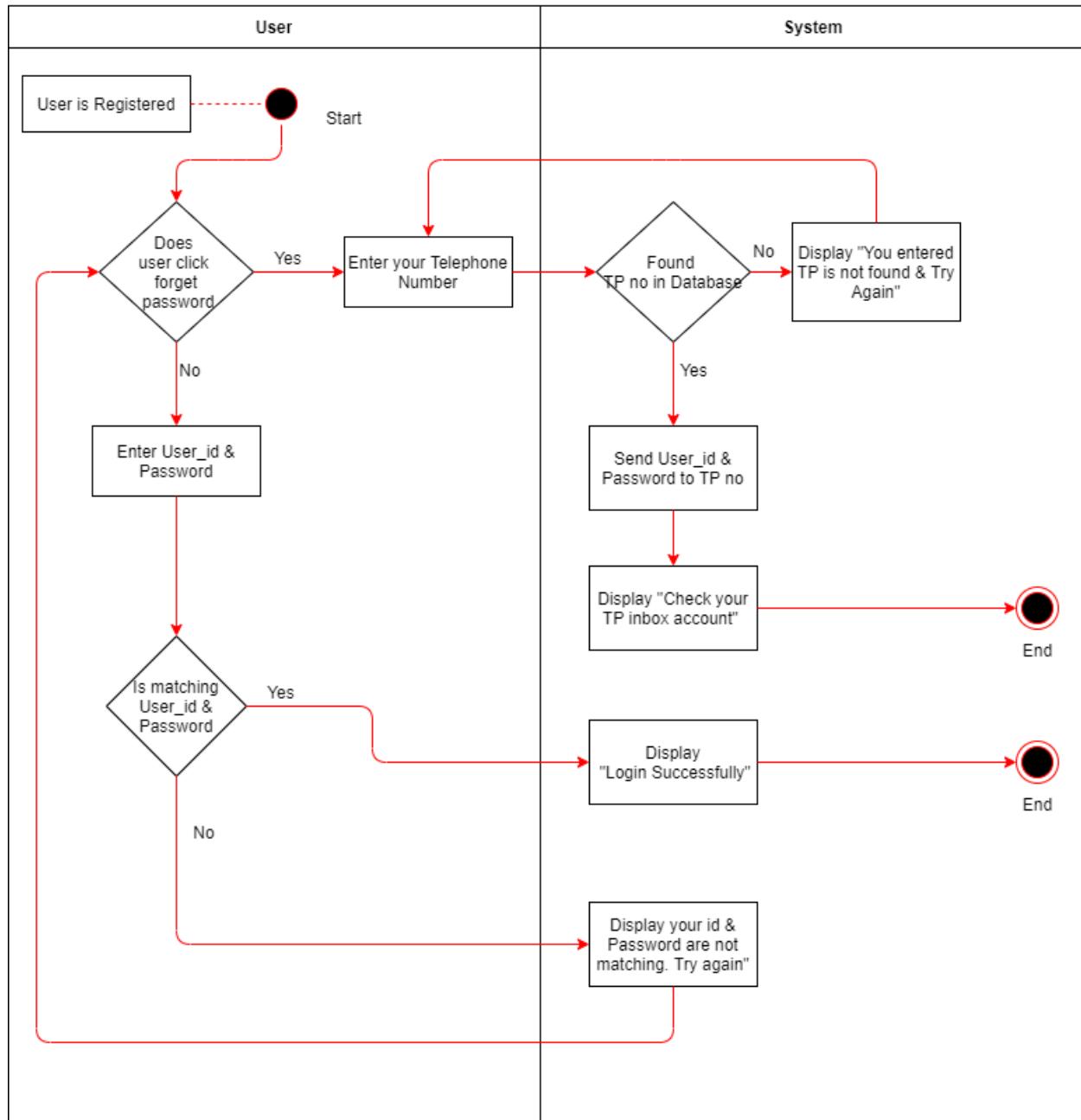


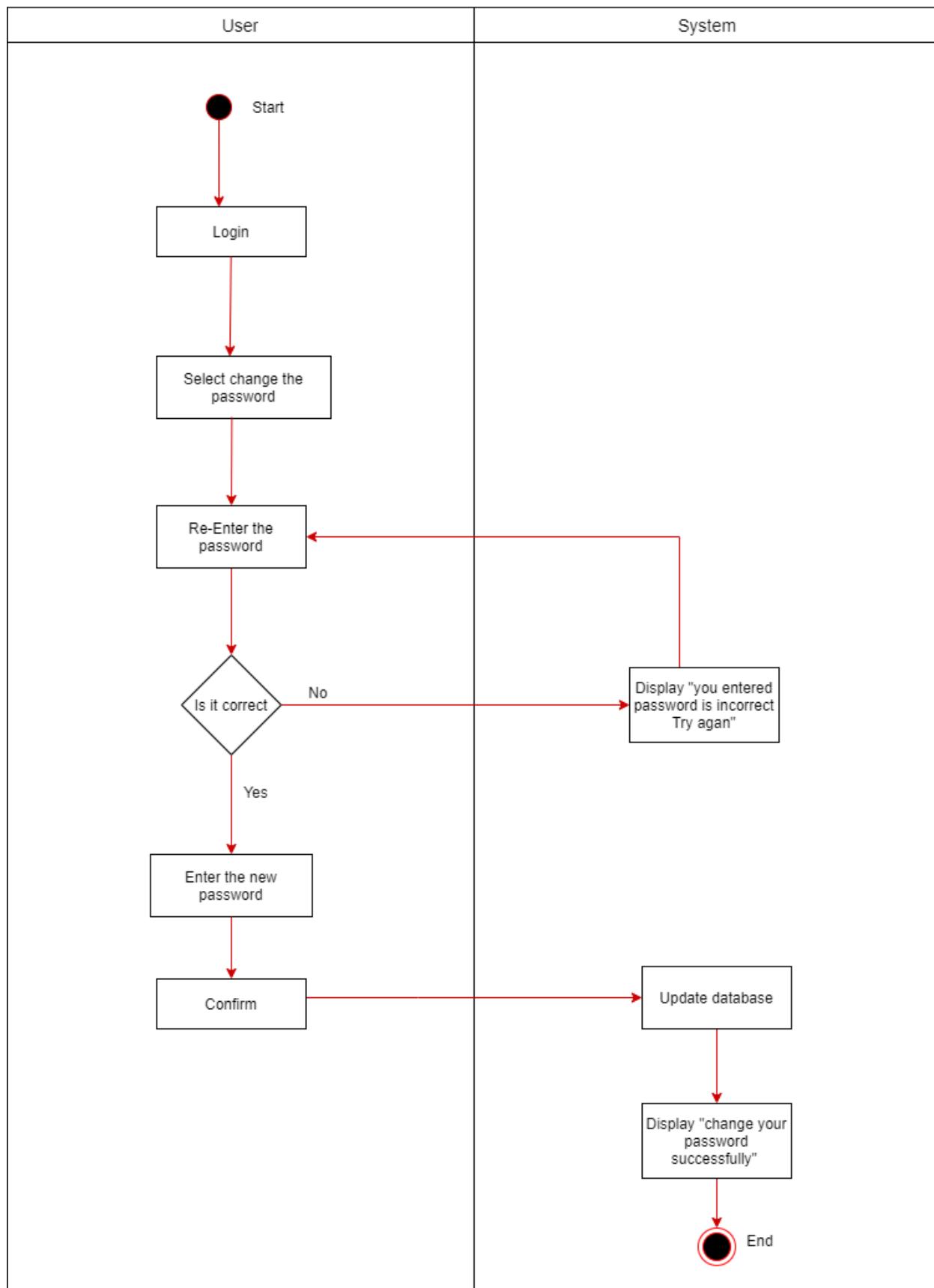


Chat with service provider**Chat with co-admin**

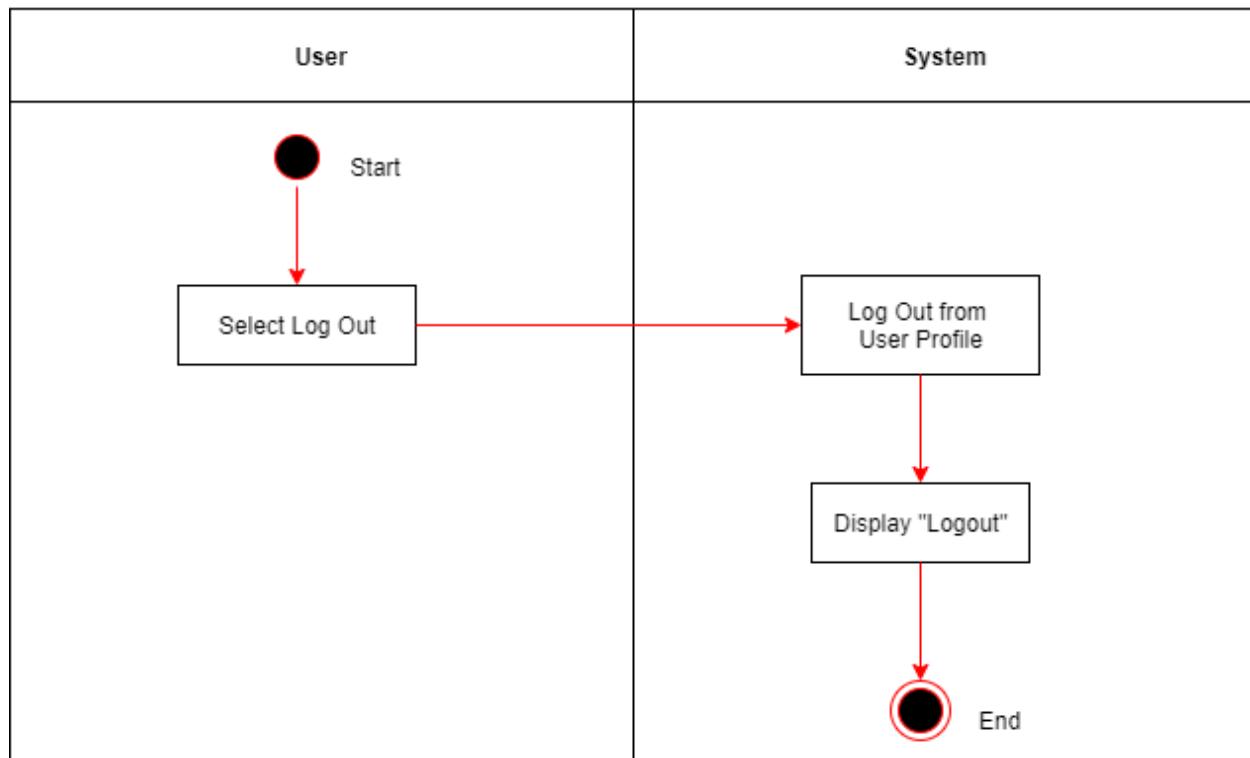
5.4) Activity Diagrams

Login - All Users

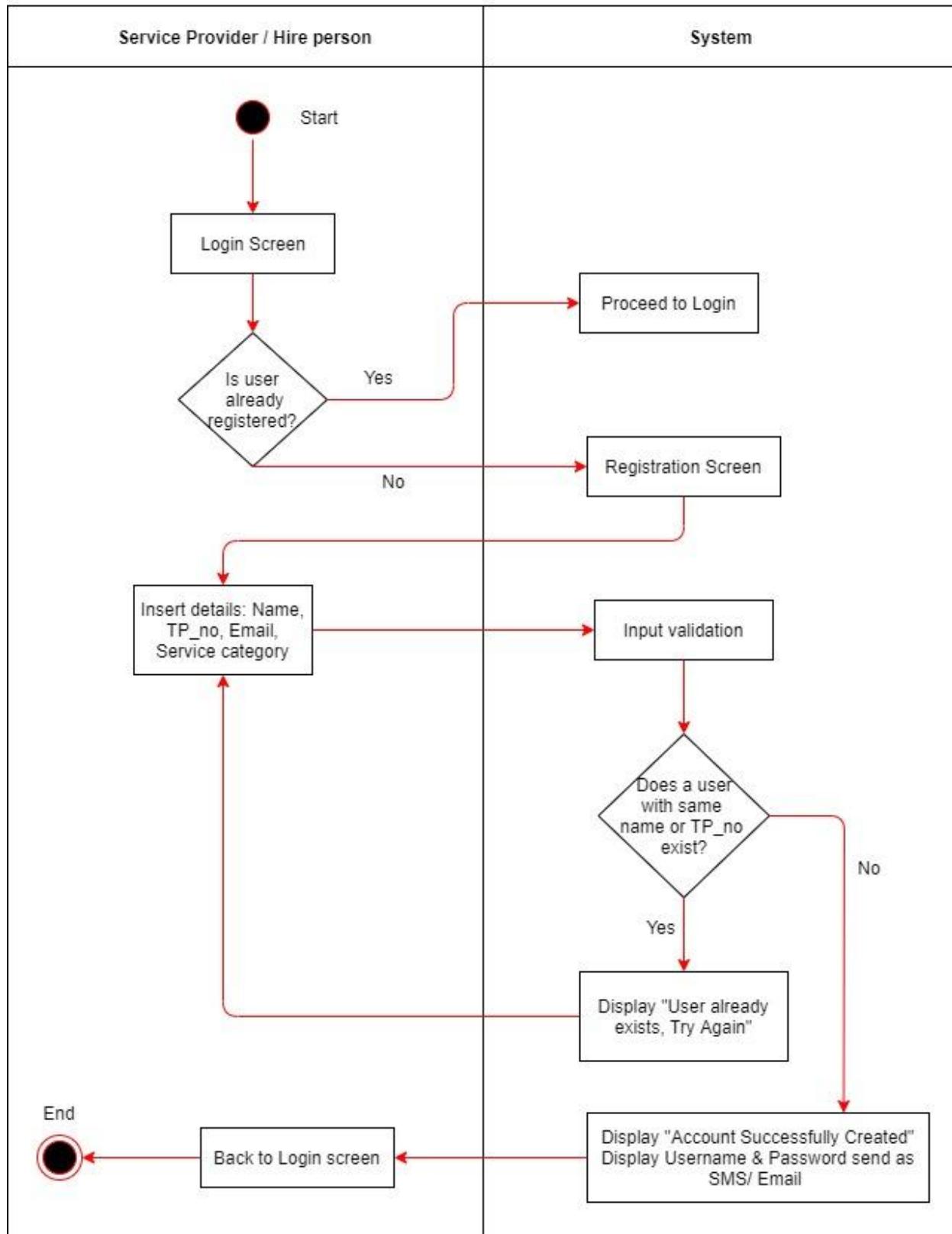


Change Login Password

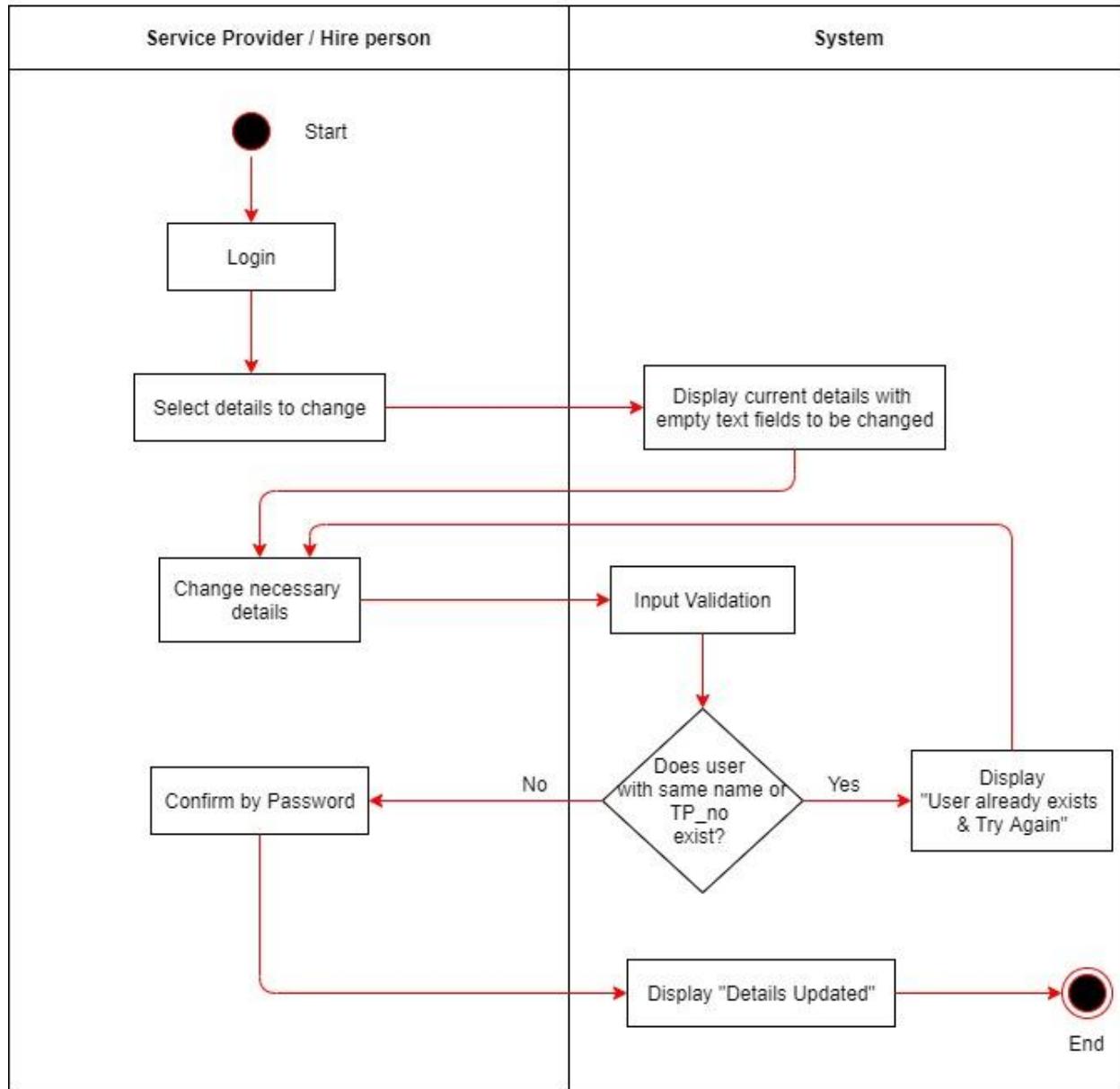
Logout - ALL User



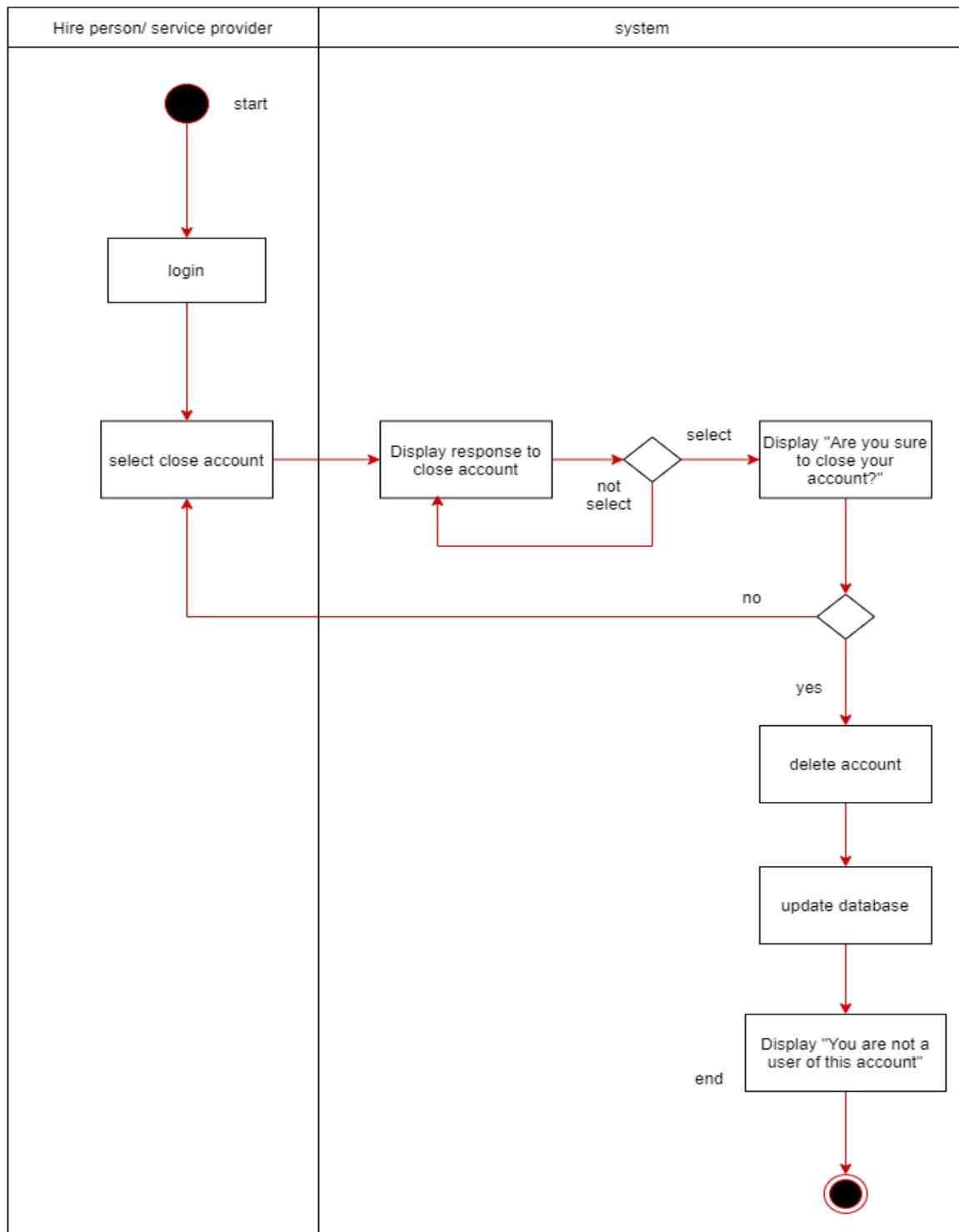
Register - Service Provider or Hire person

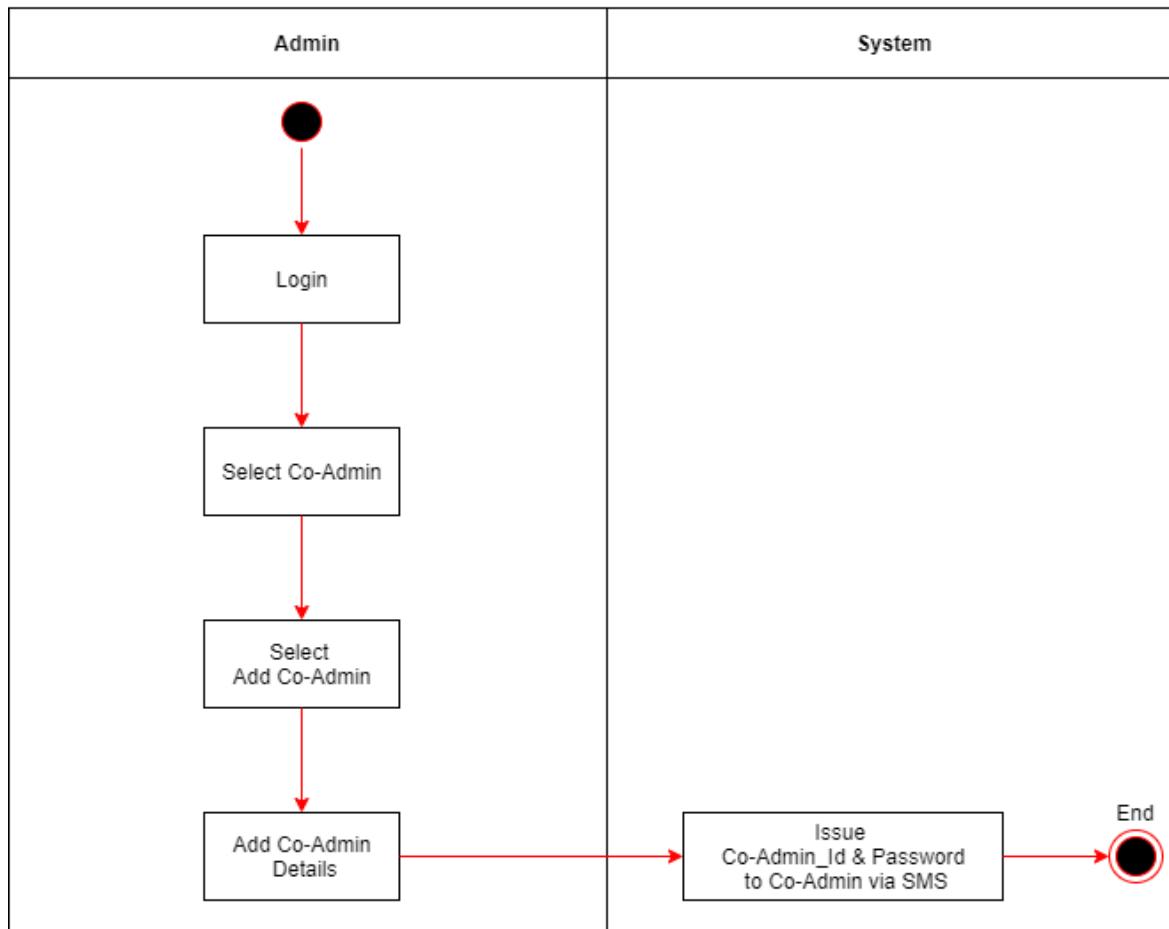


Update Profile - Service Provider or Hire person

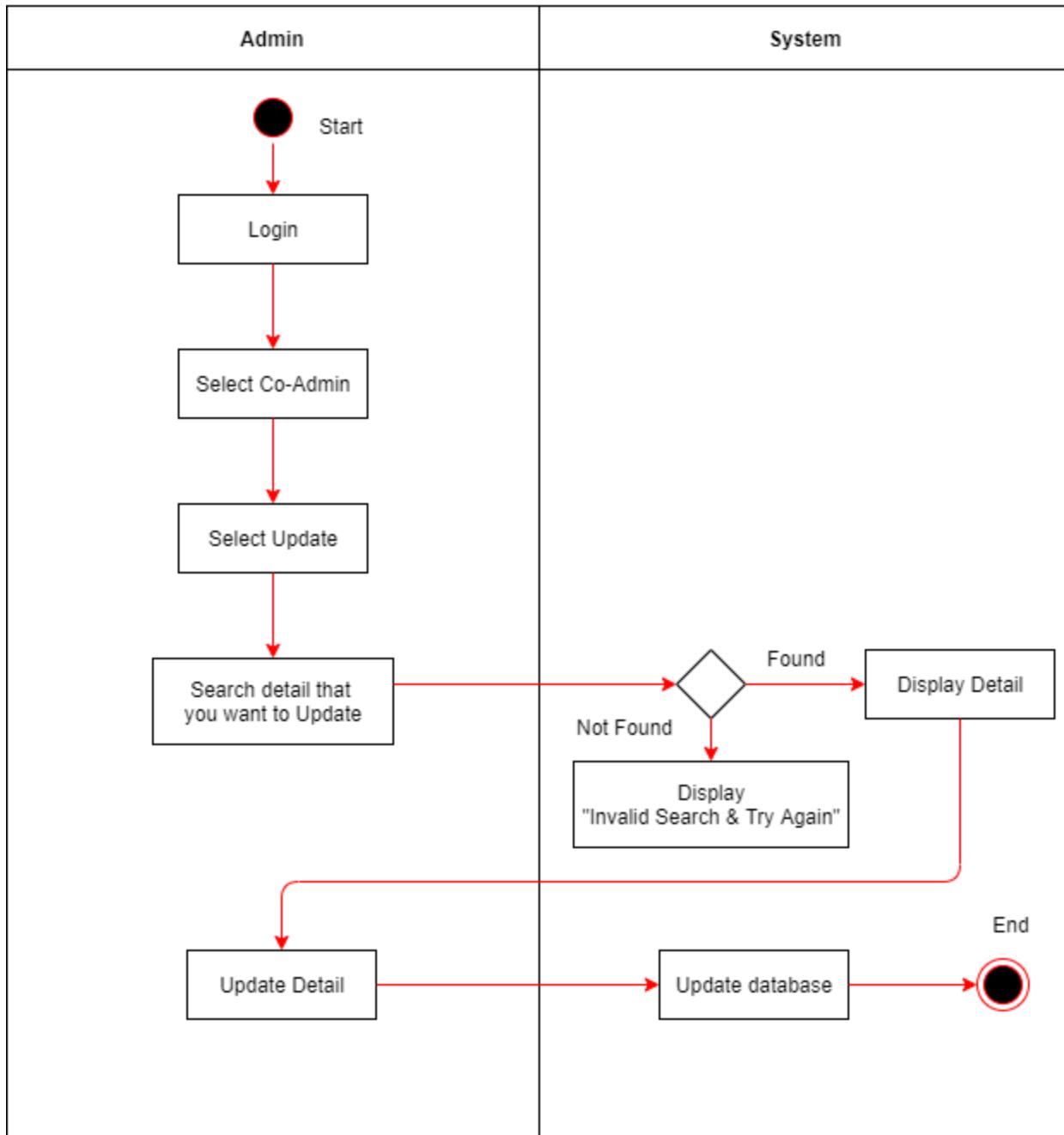


Deactivate the account - Hire person / service provider

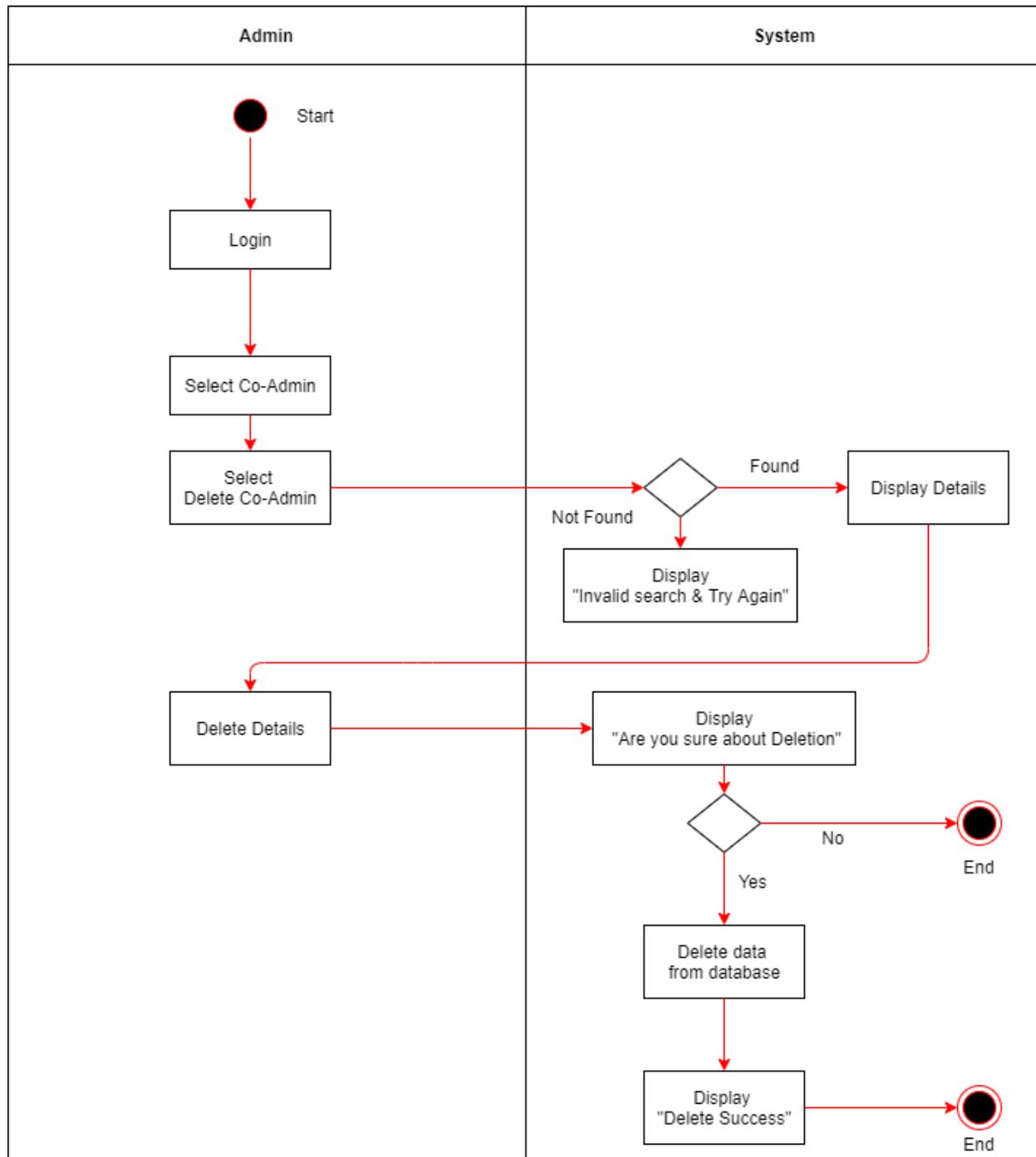


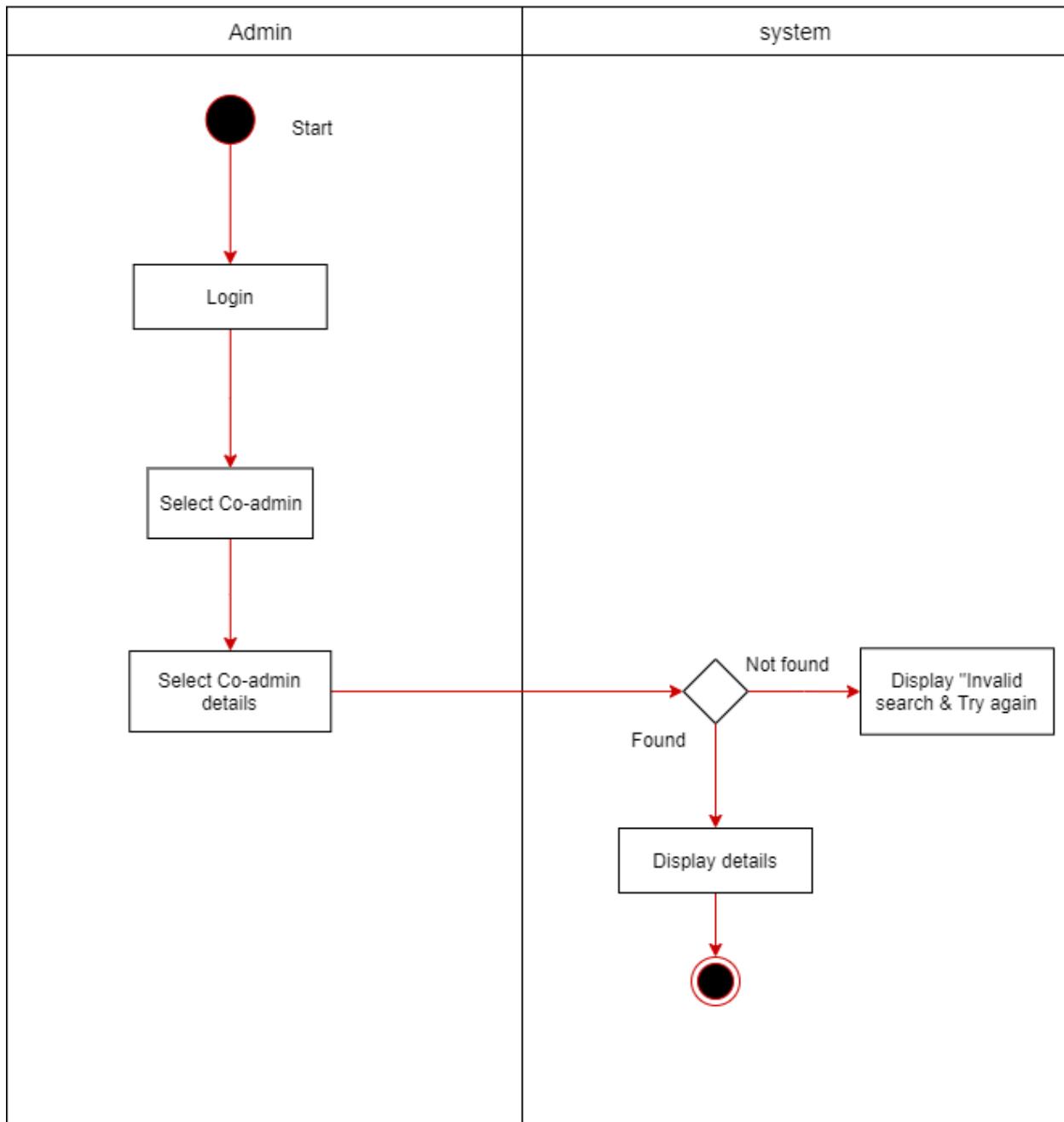
Add Co-Admin - Admin

Update Co-Admin - Admin

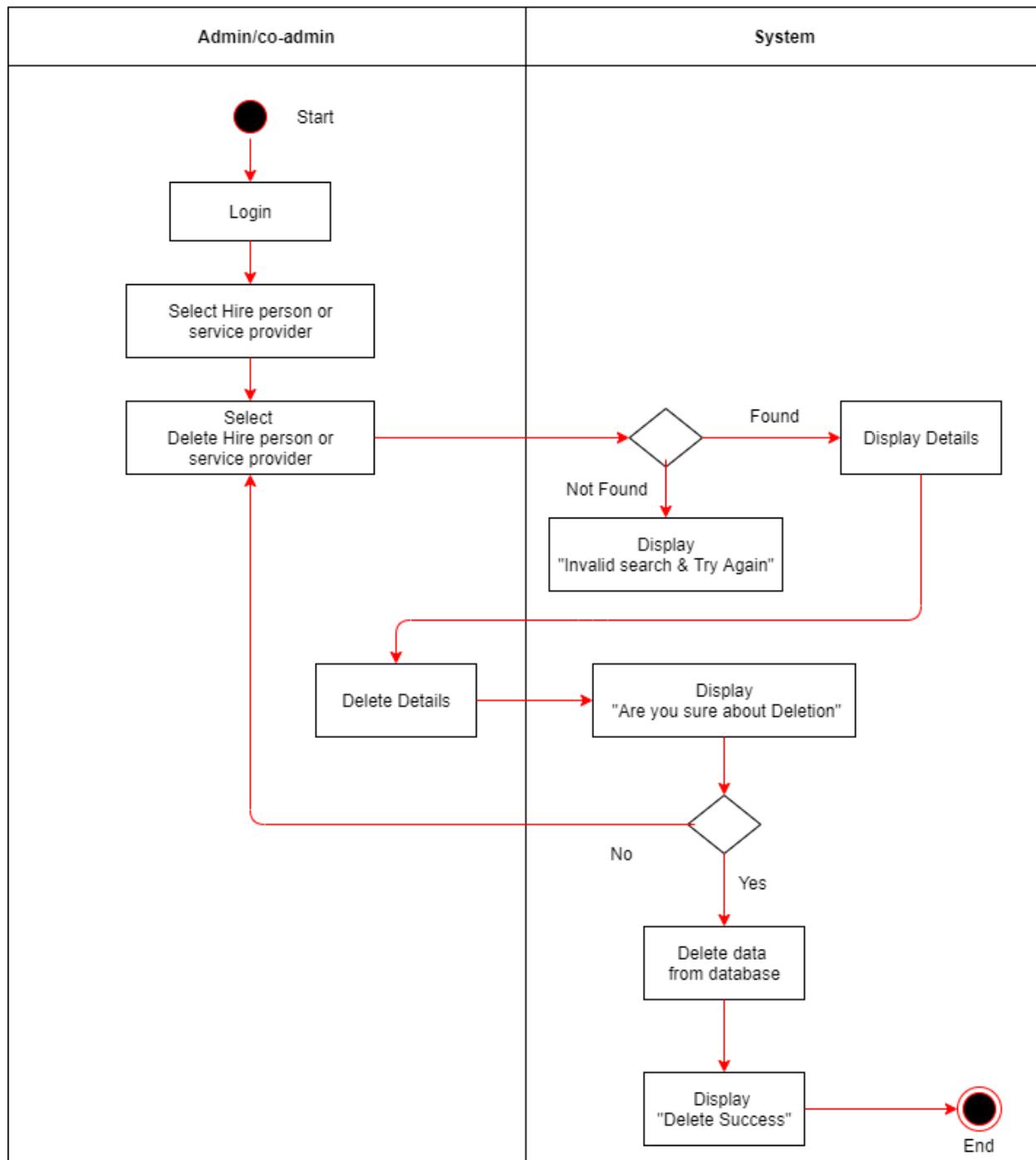


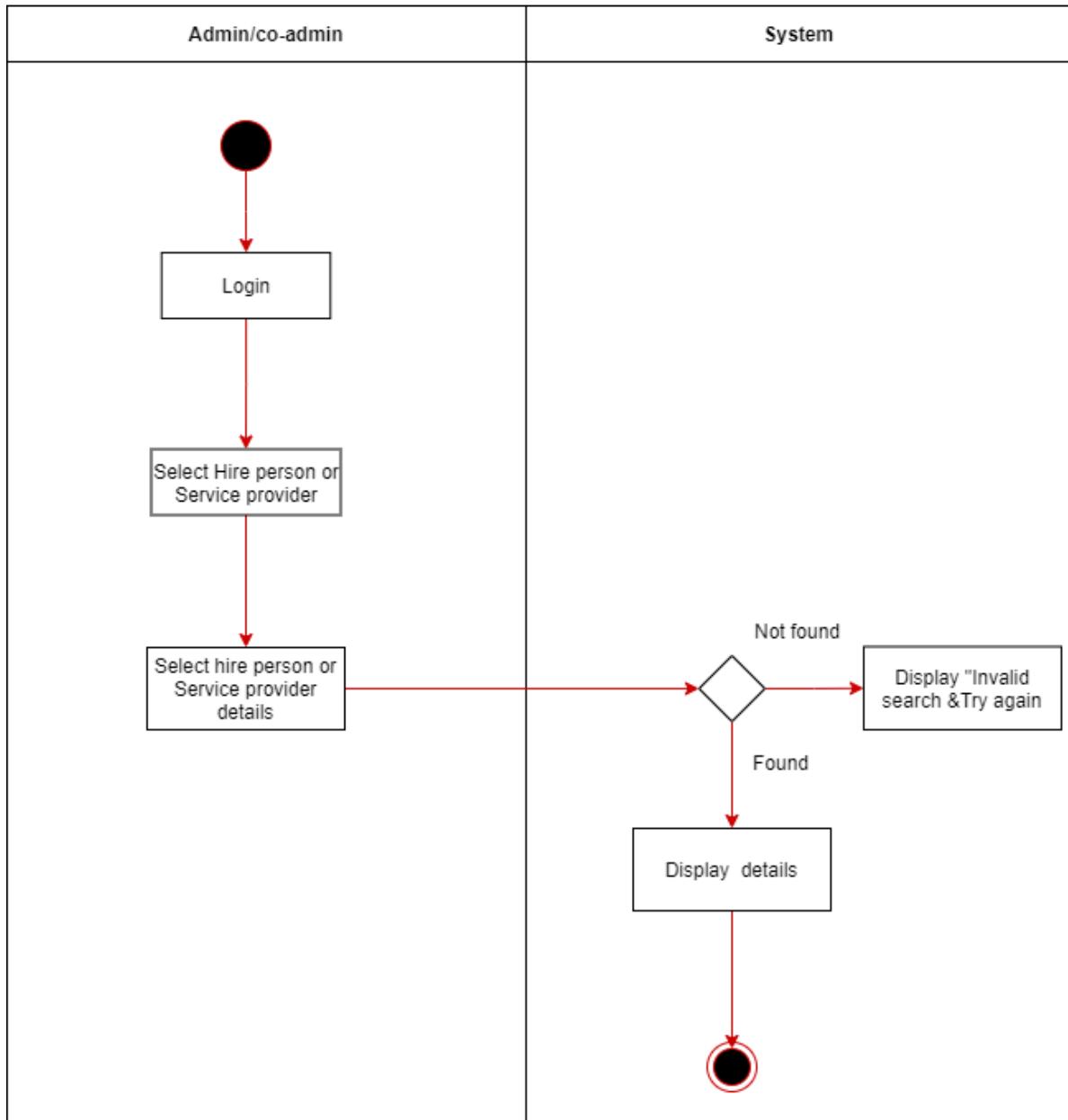
Delete Co-Admin - Admin

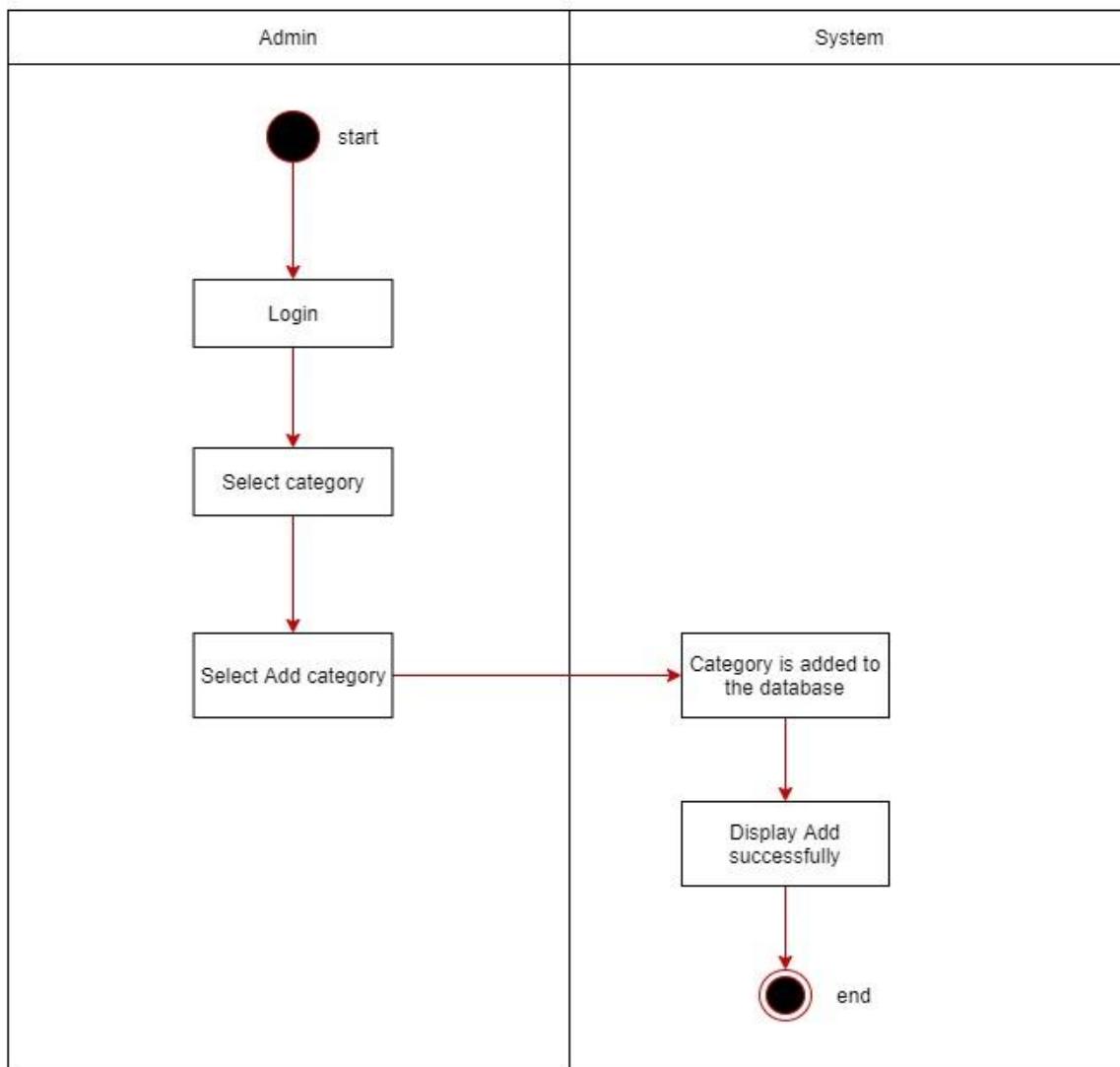


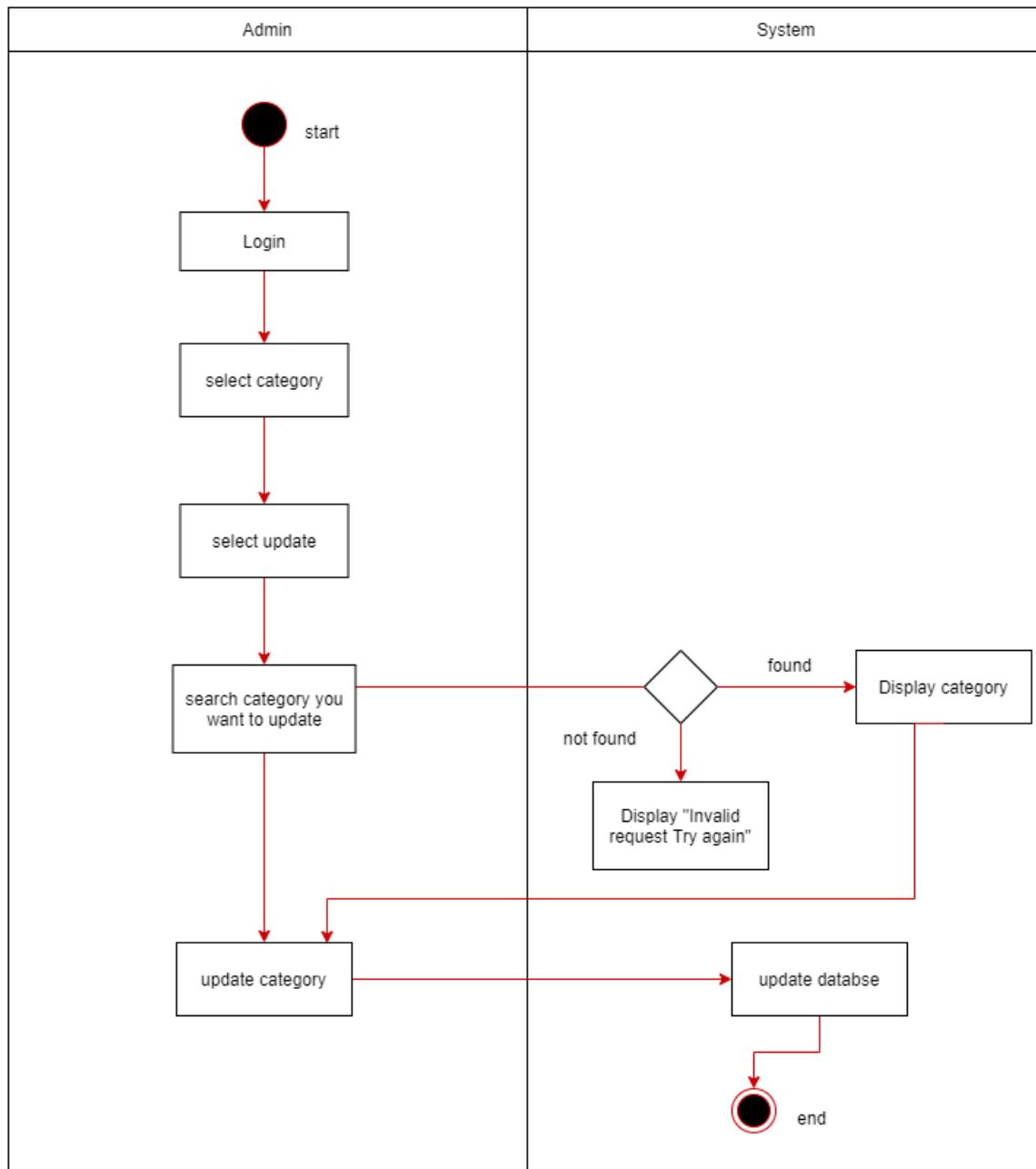
View co-admin details - Admin

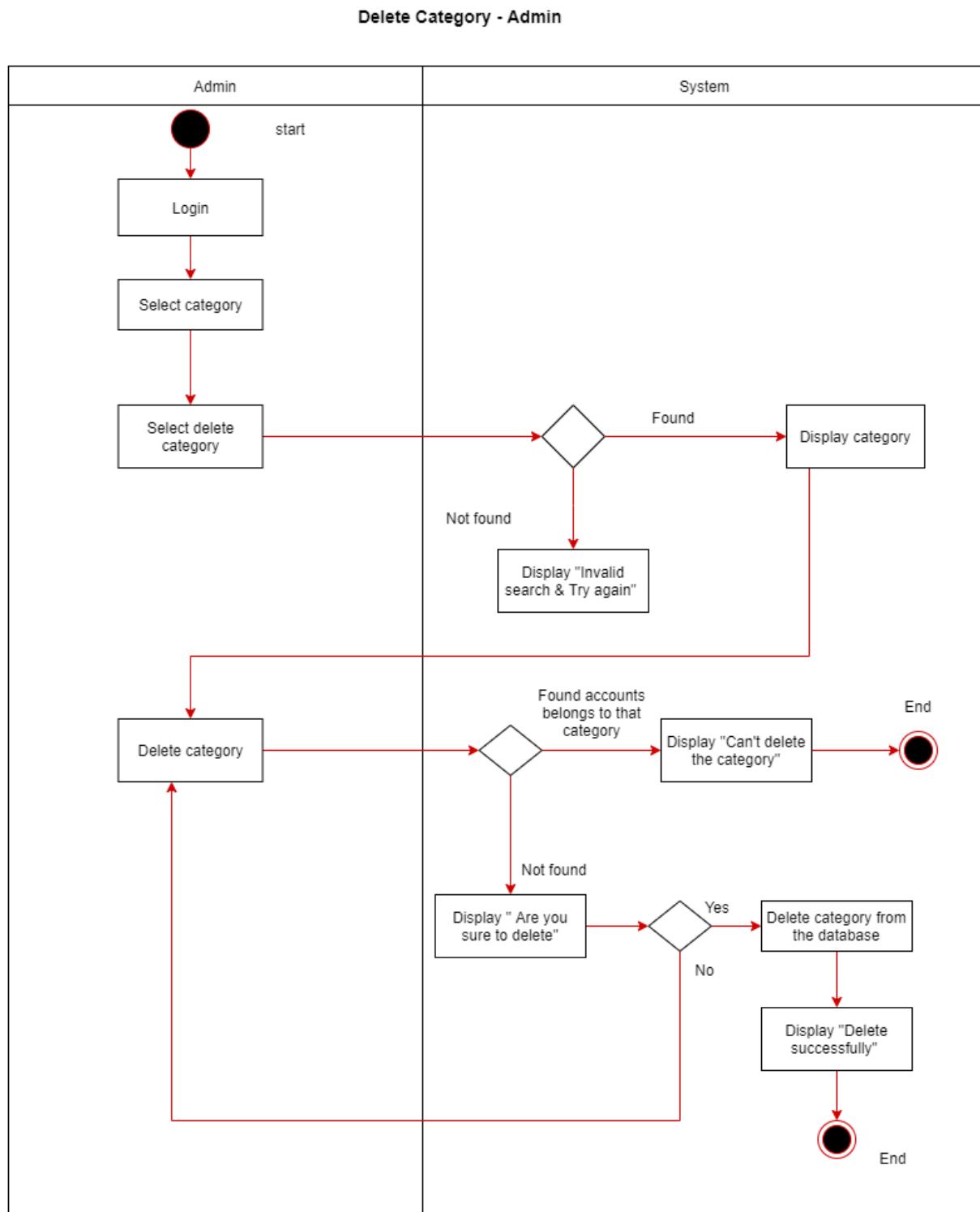
Delete Hire person or service provider - Admin,co-admin

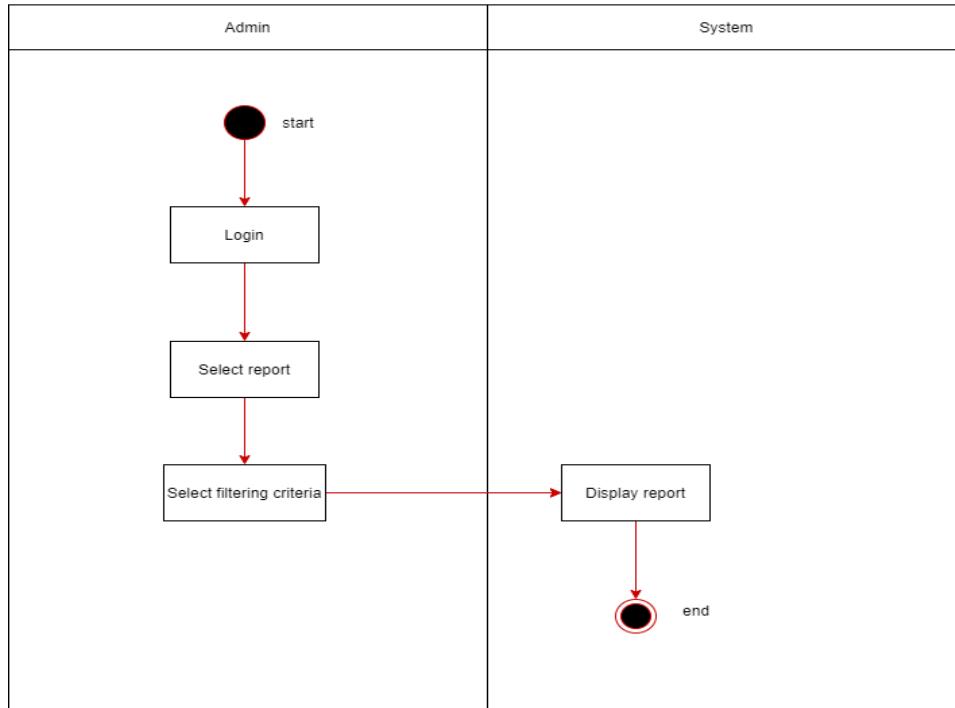
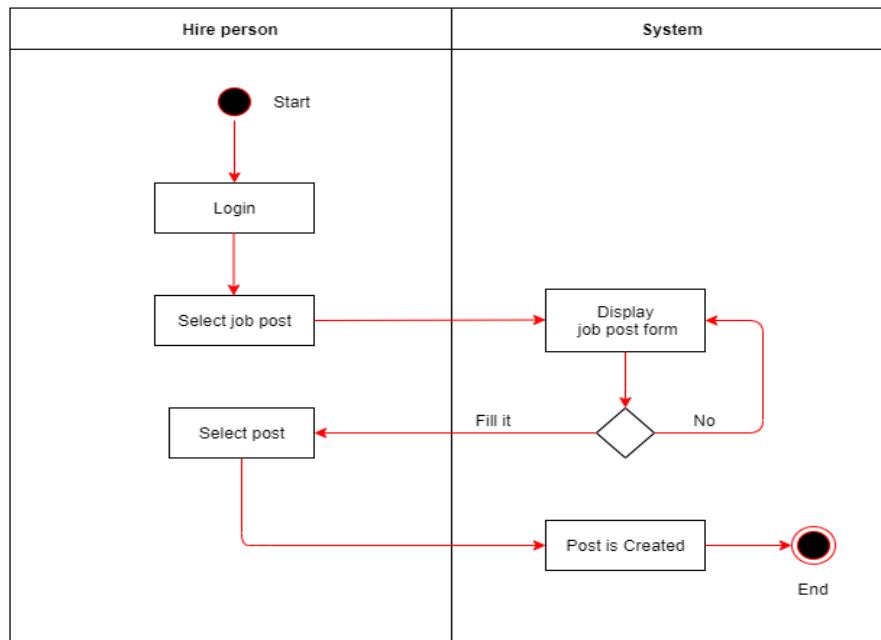


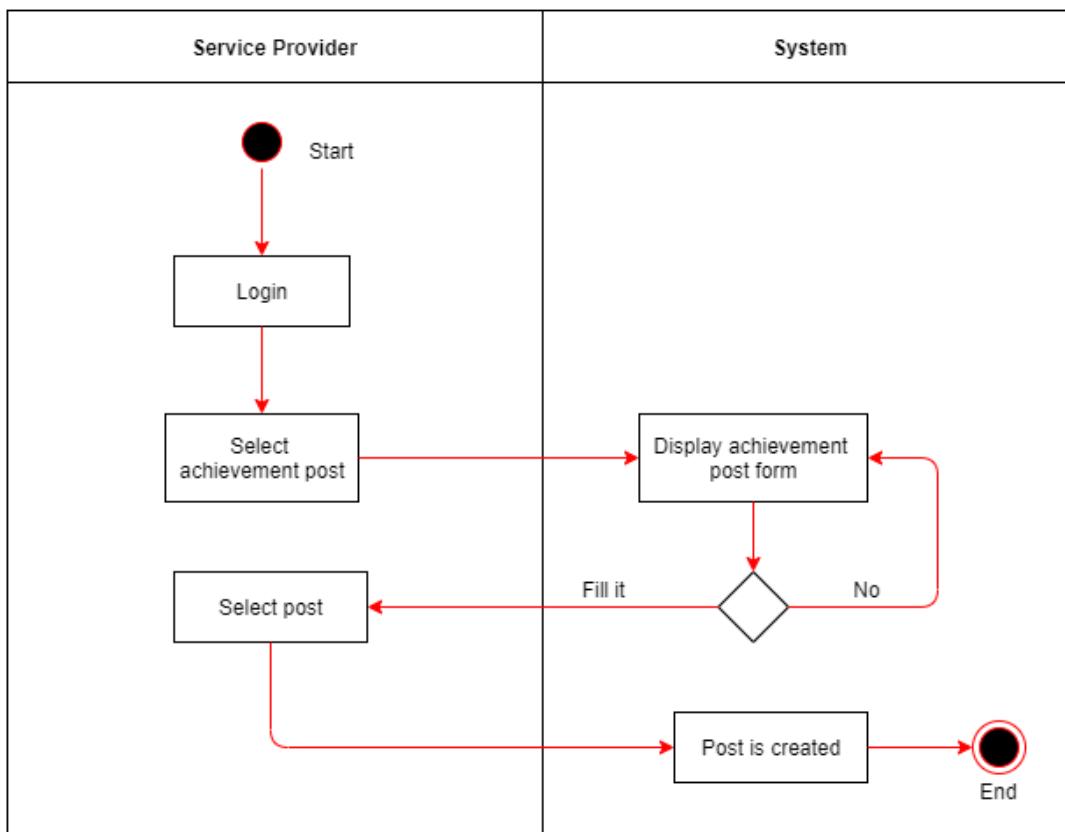
View Hire person/ Service provider details - Admin/co-admin

Add category - Admin

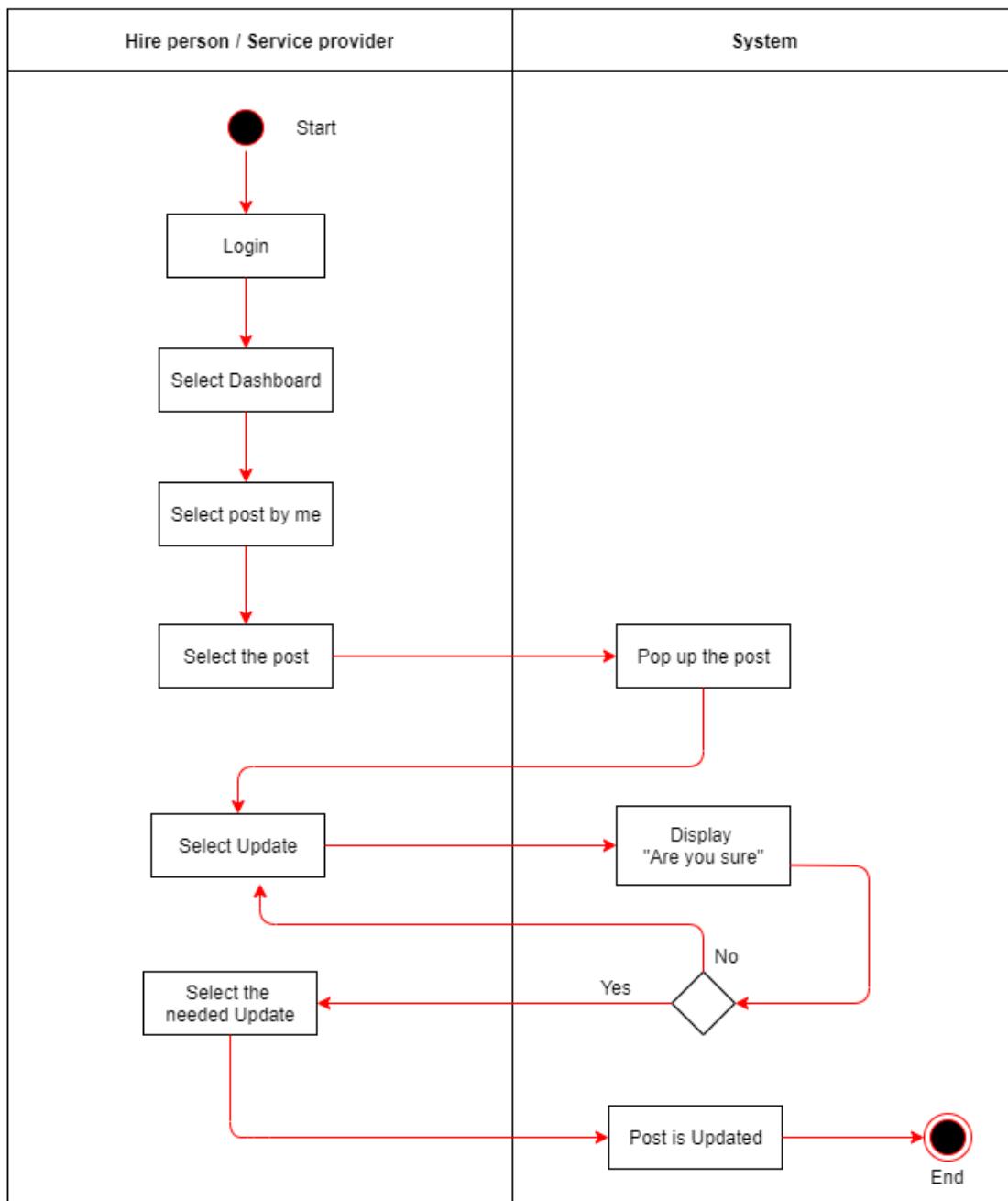
Update category - Admin



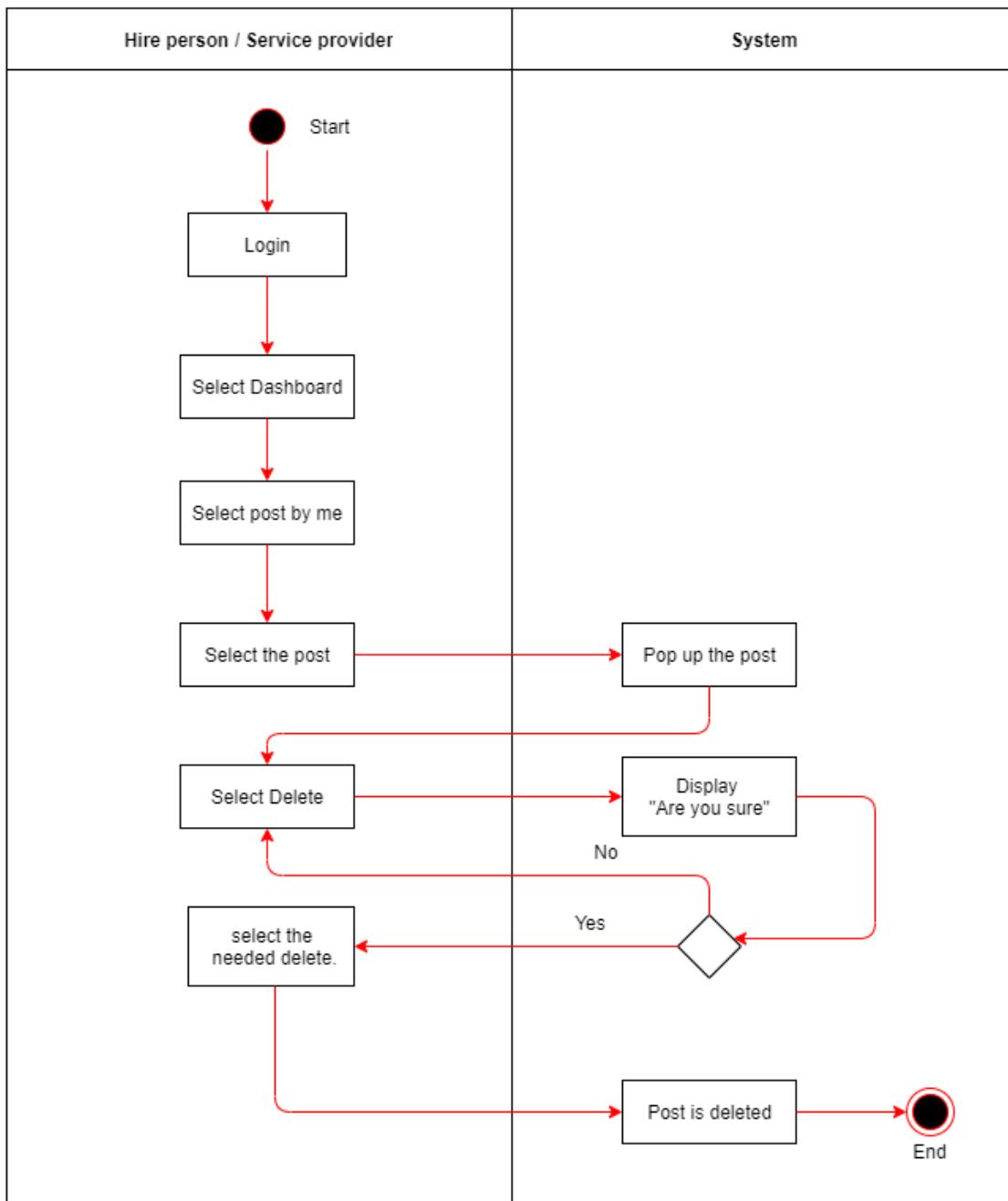
view insights - Admin**Create Job Post - Hire Person**

Create Achievement Post - Service provider

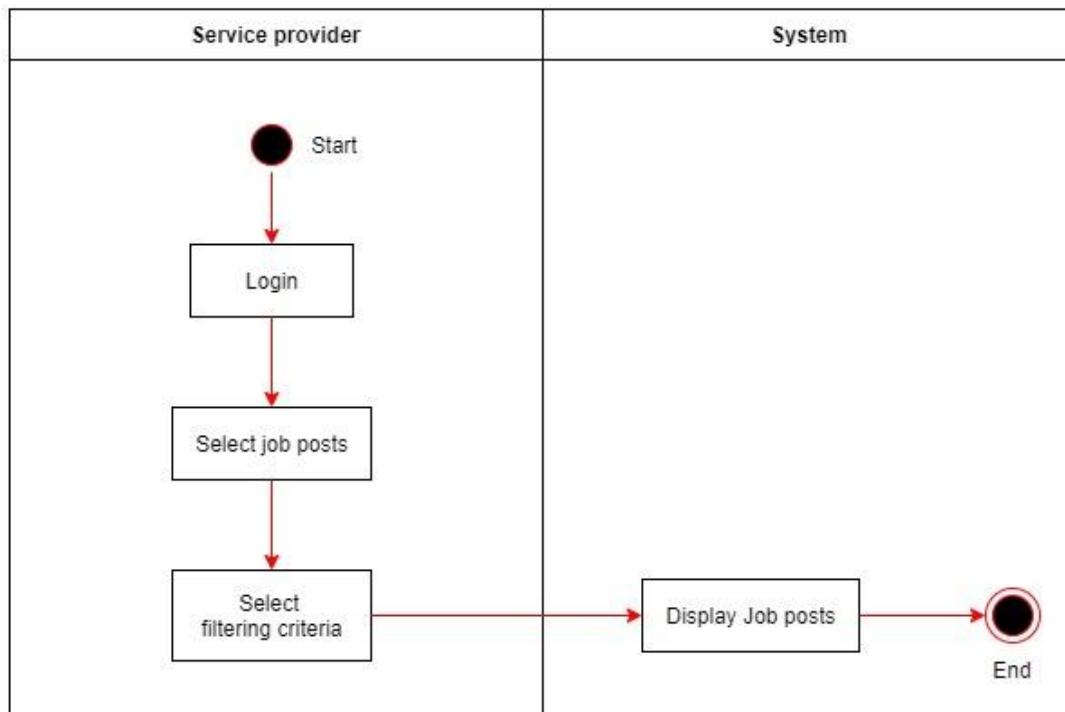
Update Job Post, Achievement Post



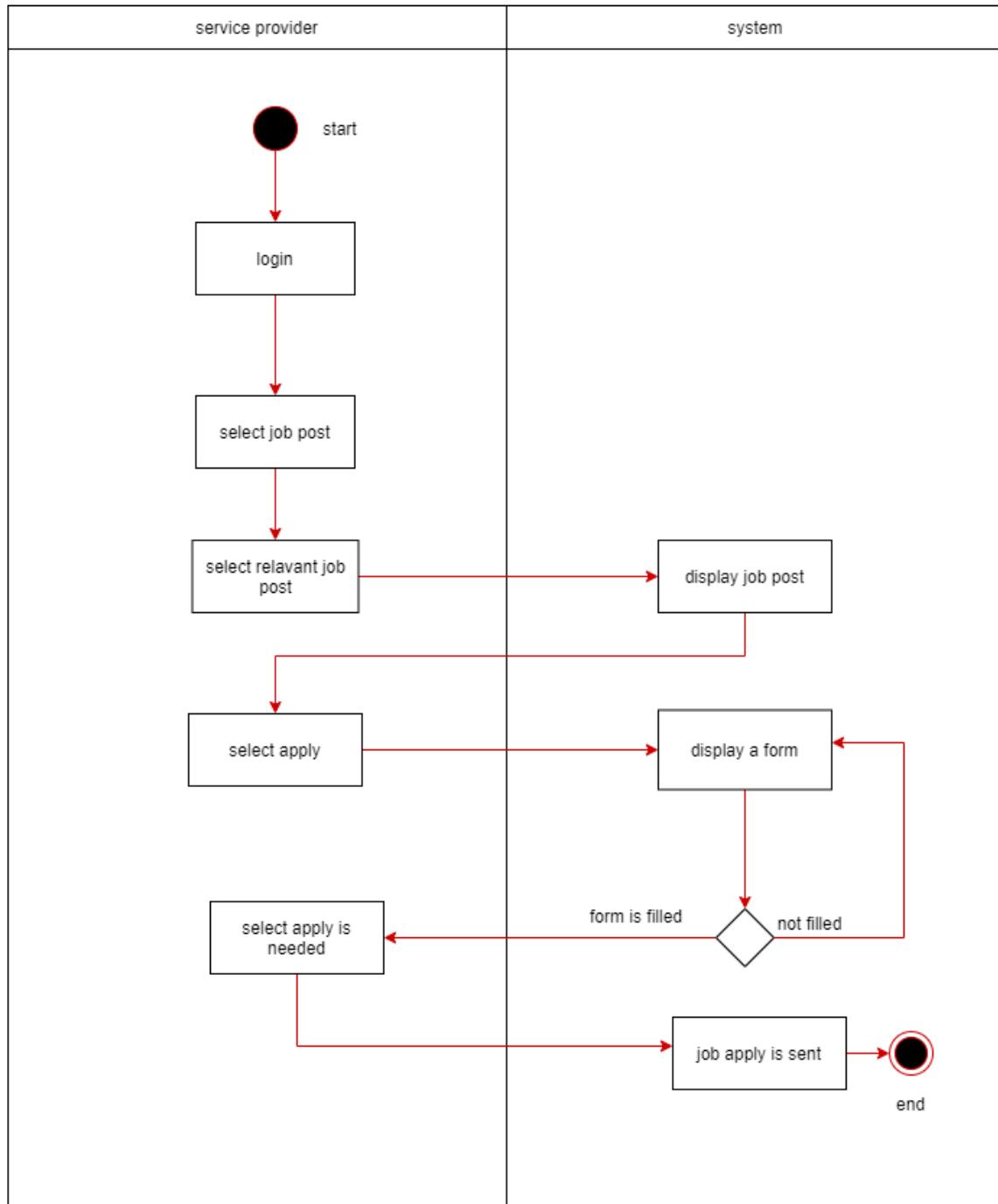
Delete Job Post, Achievement Post

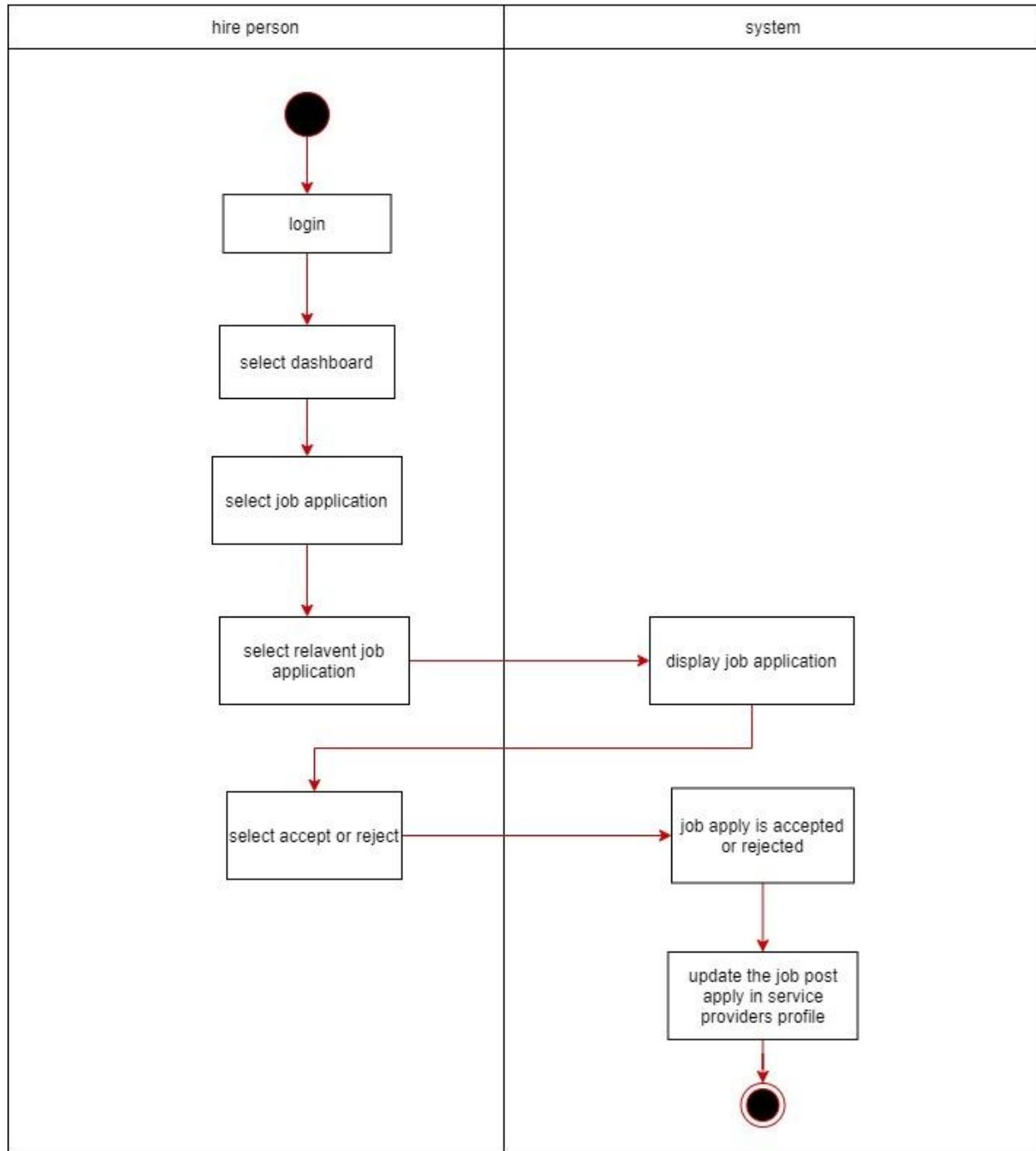


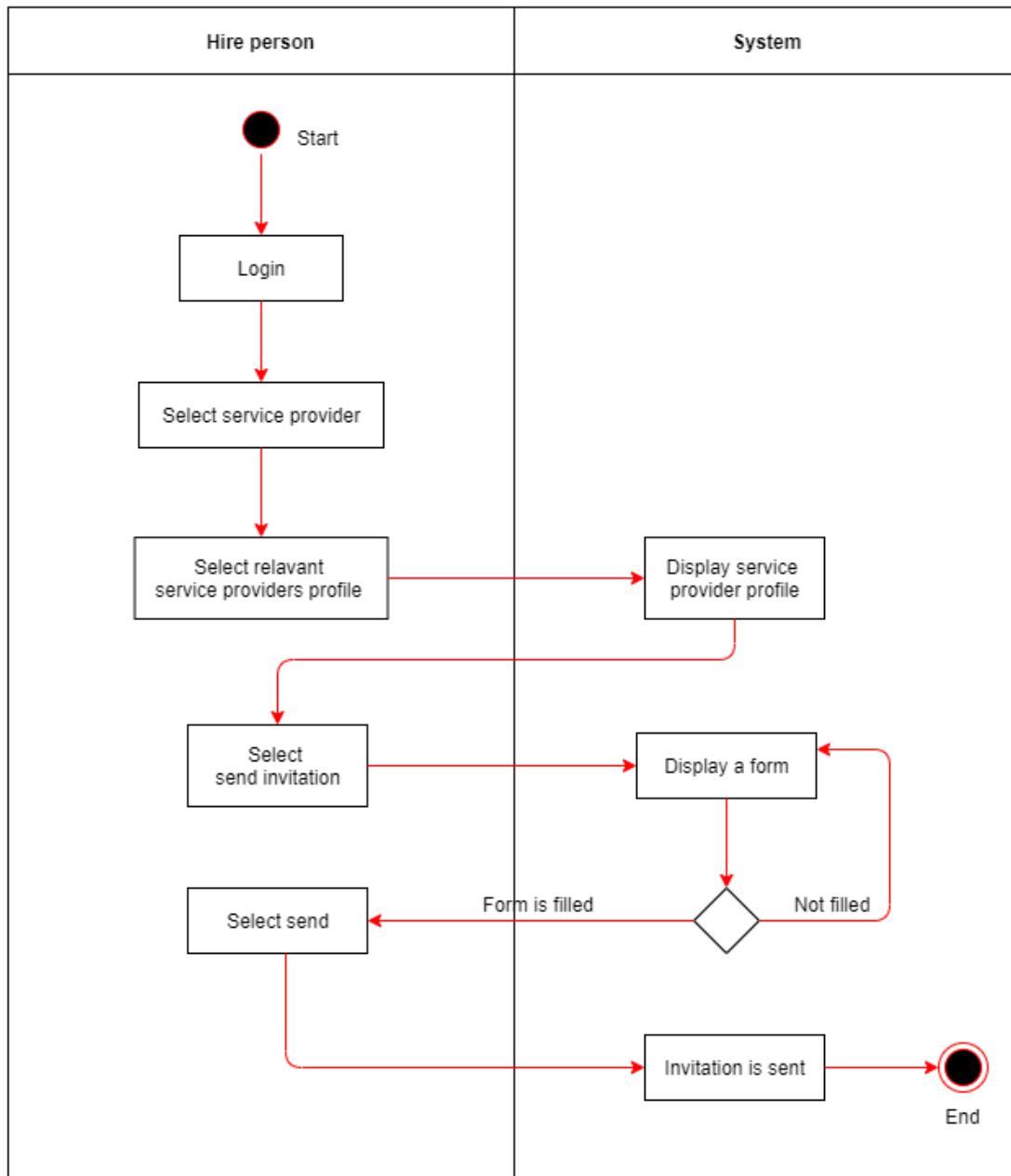
View Job Post - Service Providers

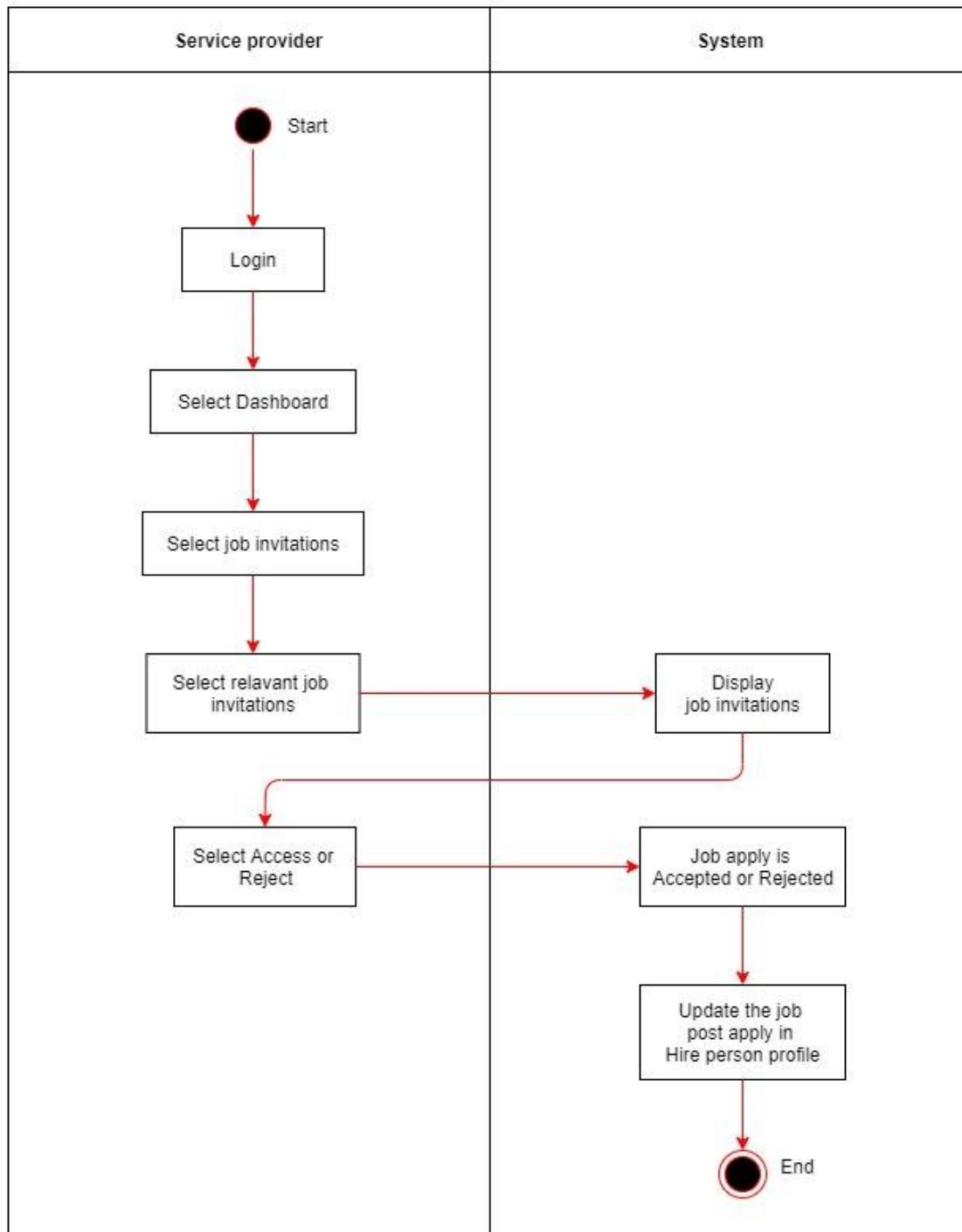


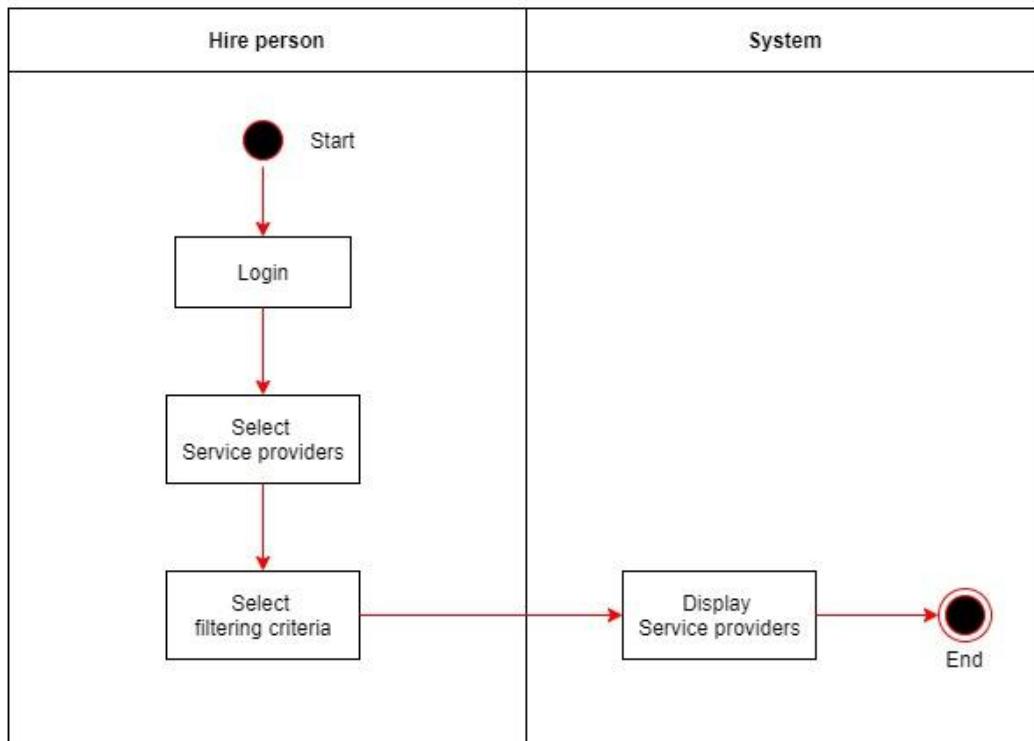
Apply for job post - service provider

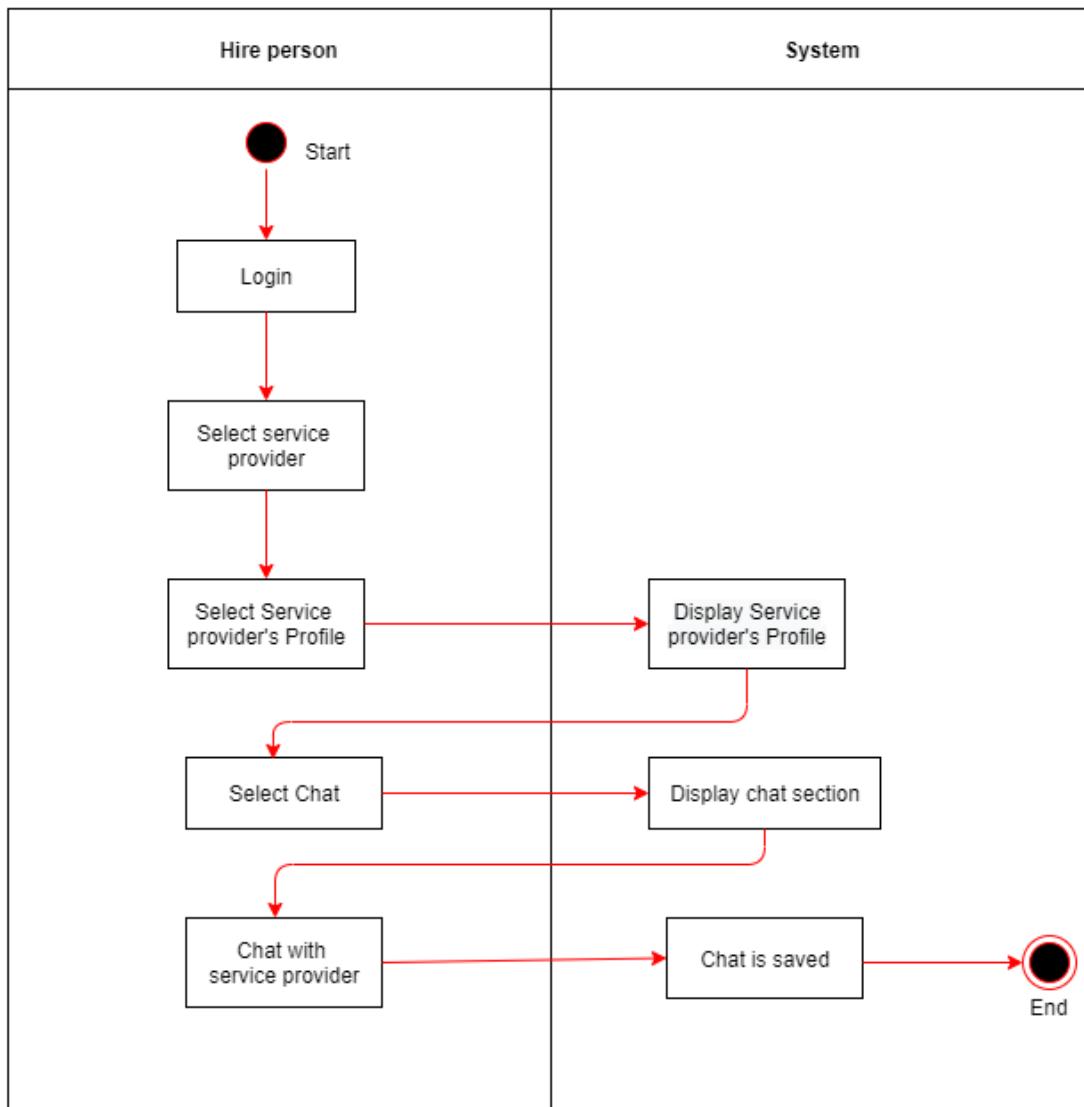


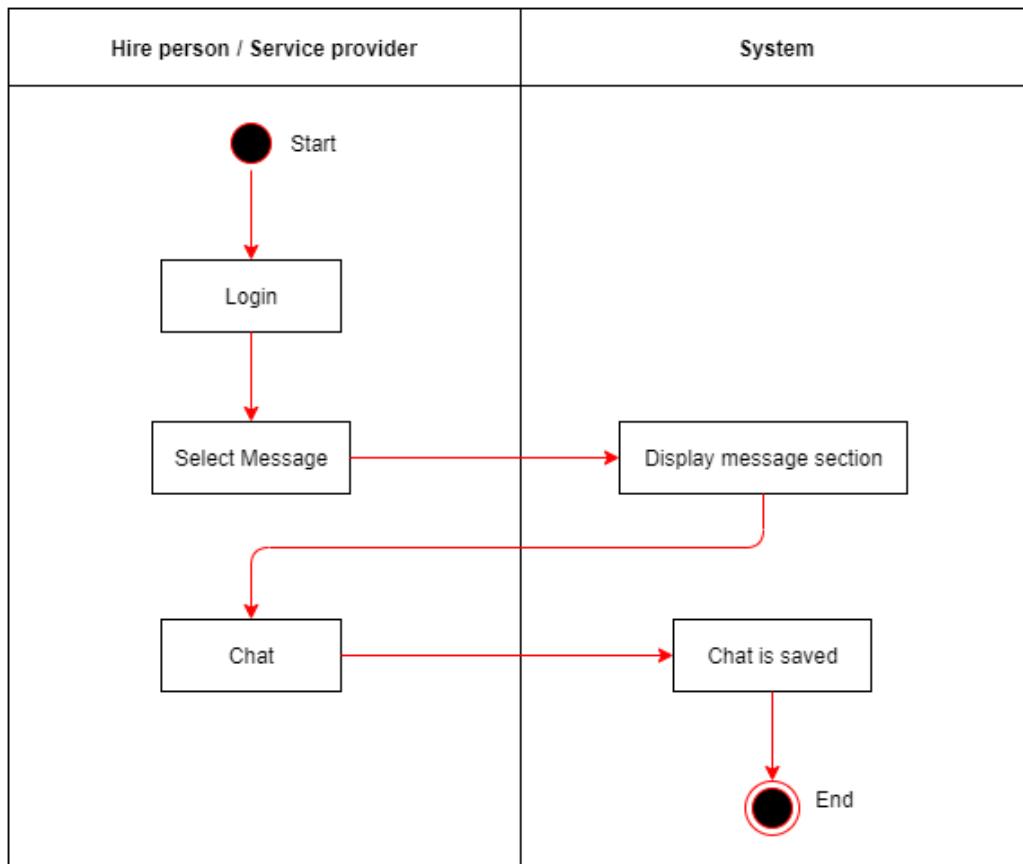
Accept or reject job apply for a post - hire person

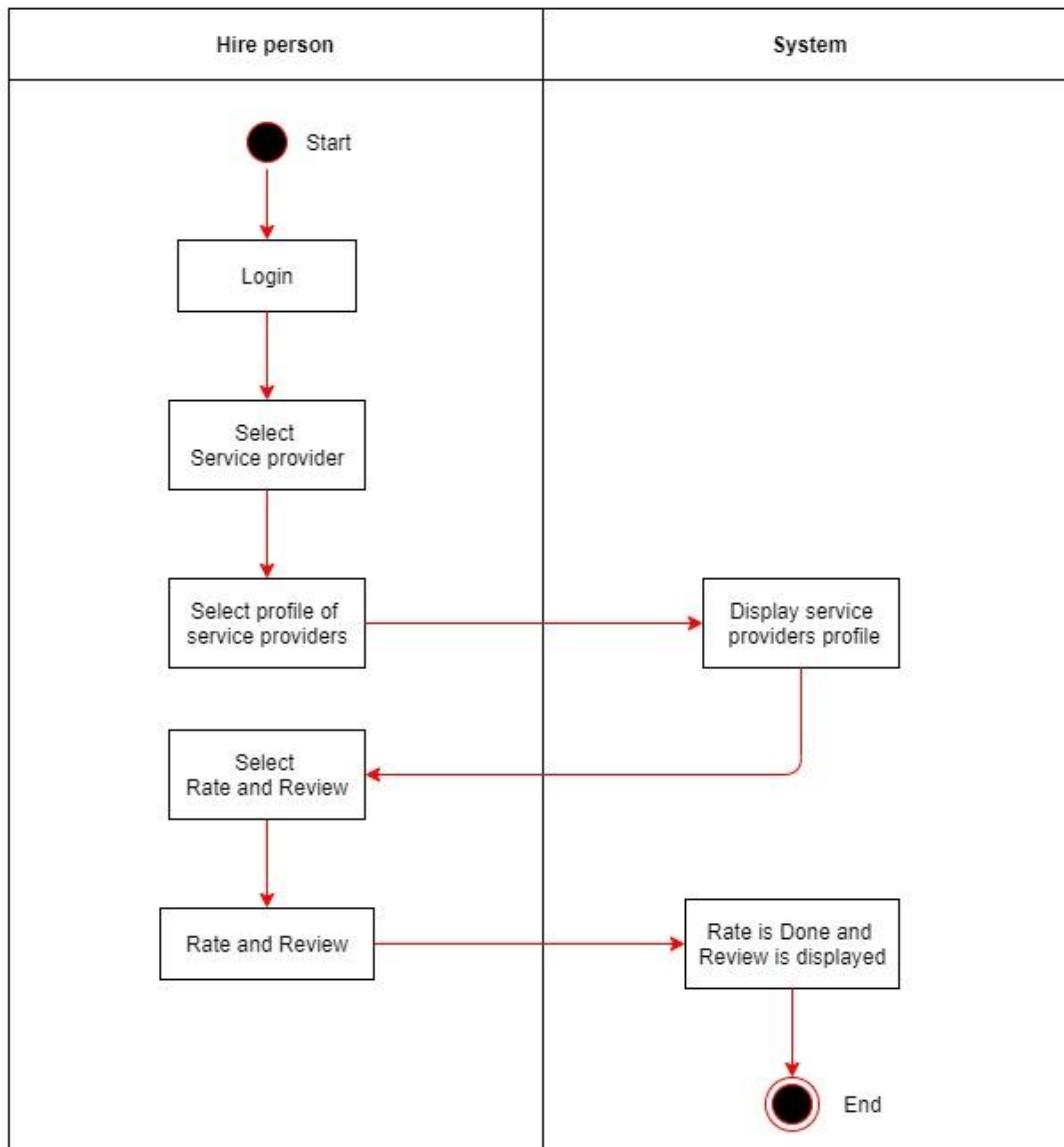
Send Invitation for the Service Provider - Hire Person

Accept or Reject Job Invitation - Service Provider

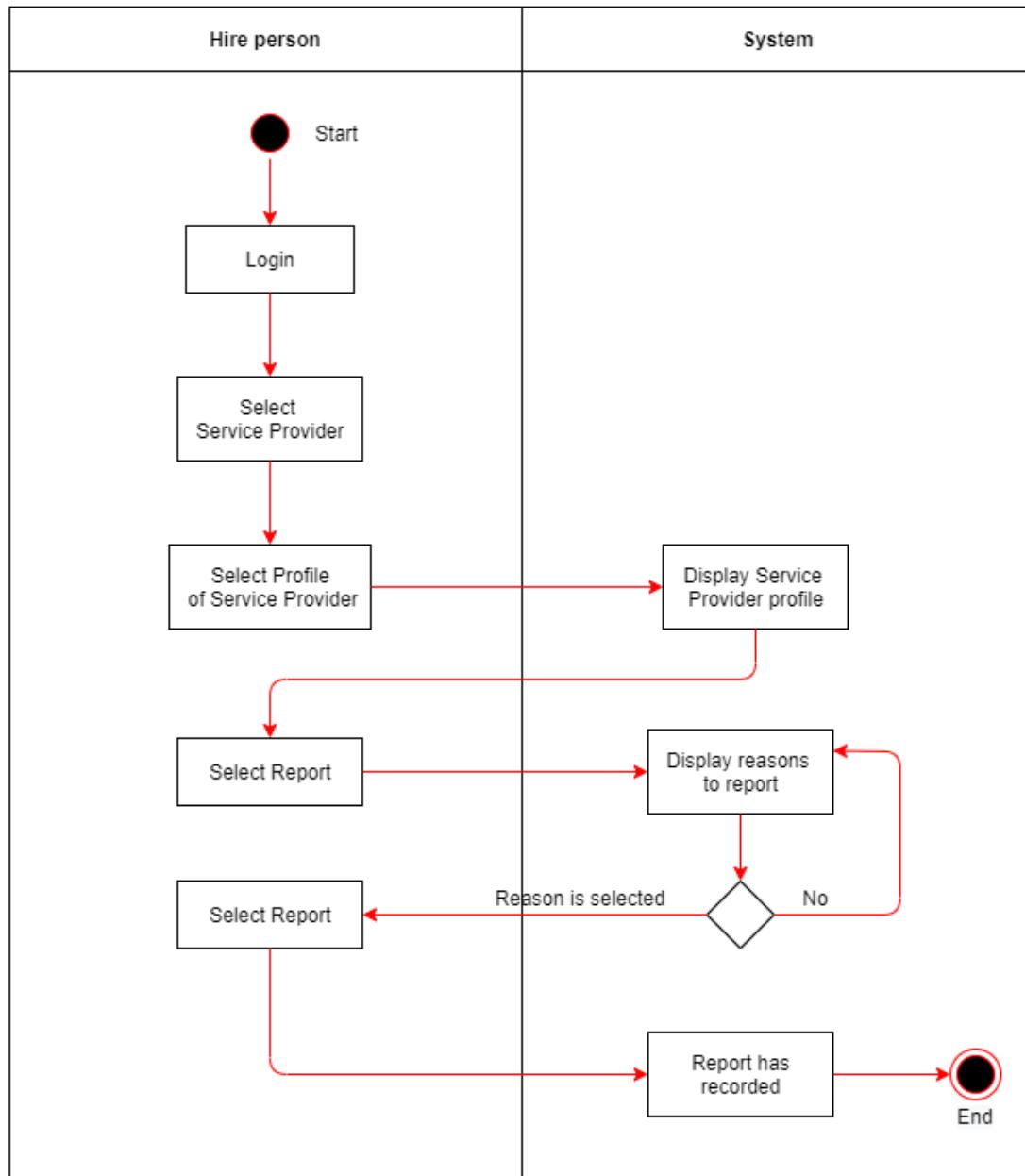
View Service Providers - Hire Person

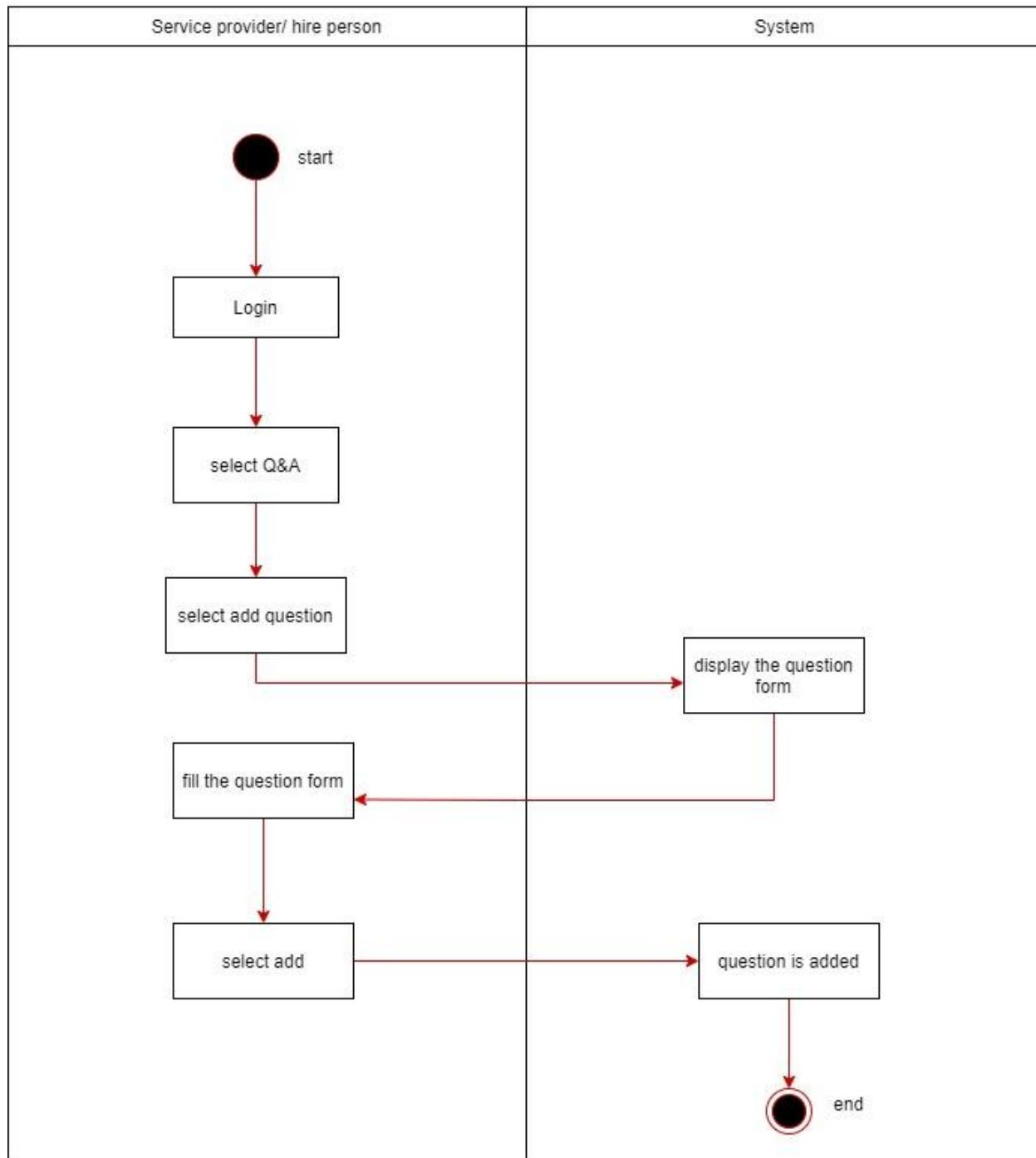
Chat with Service Provider - Hire Person

Chat with Co-Admin - Hire Person or Service provider

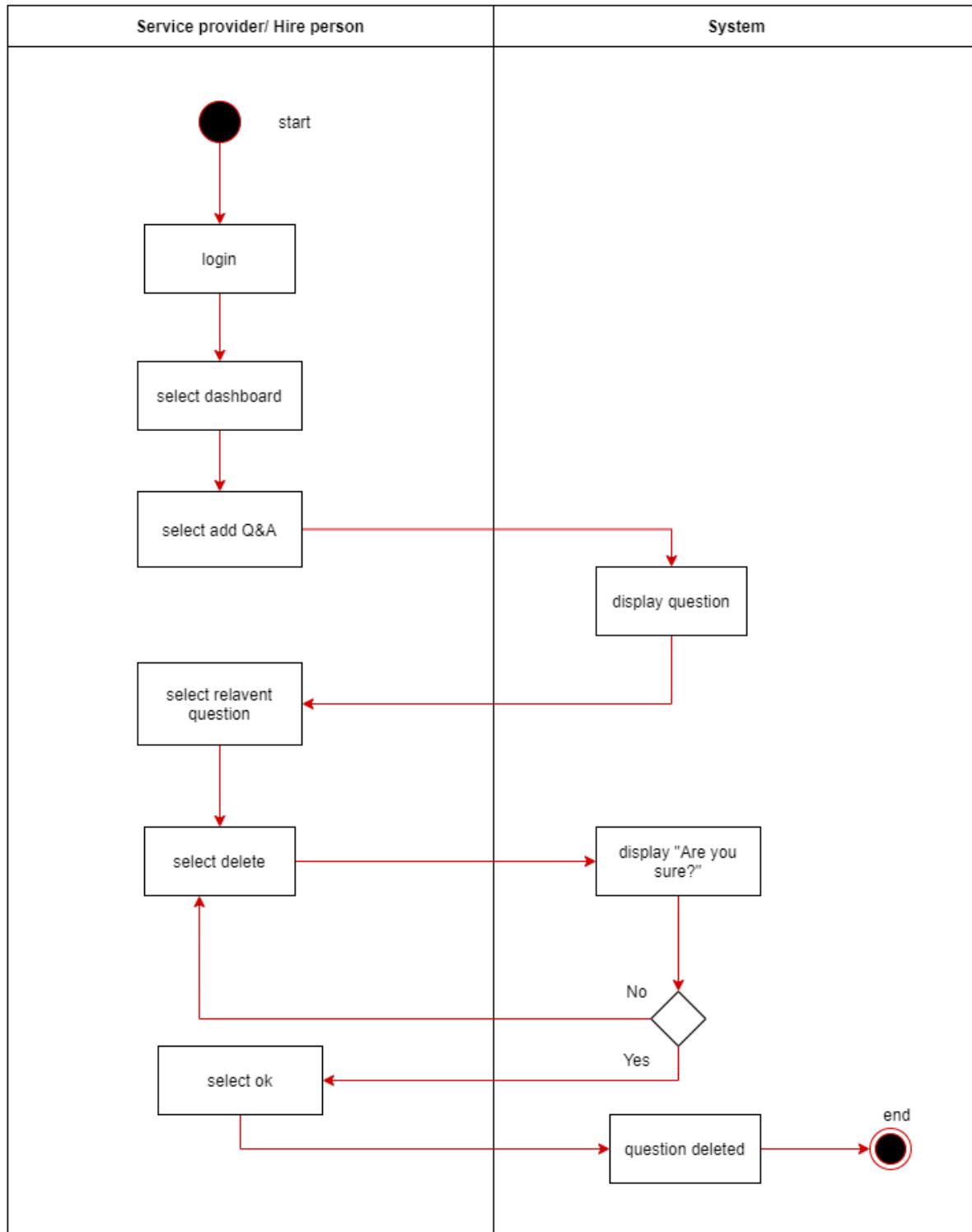
Rate and Review Service Providers - Hire Person

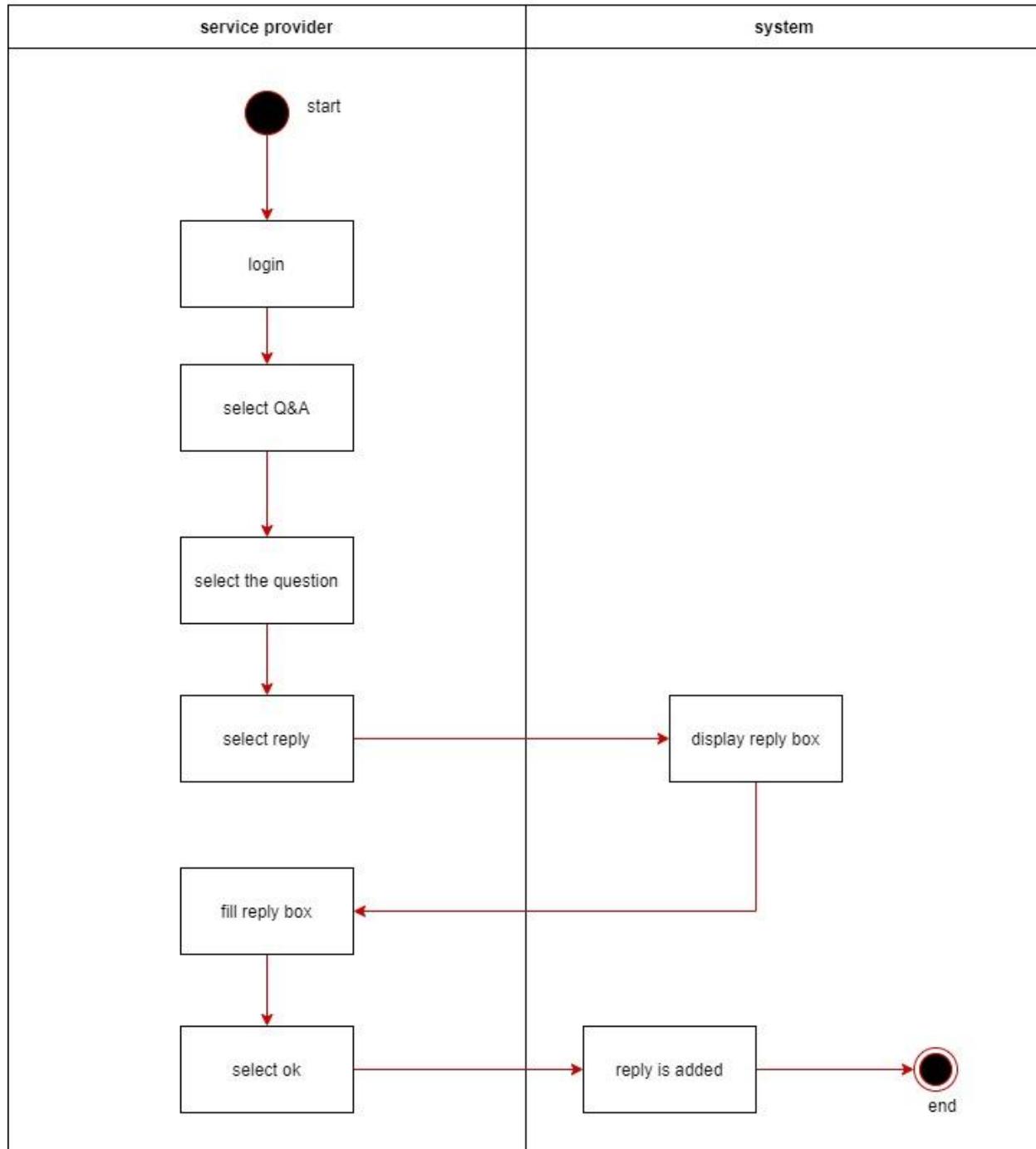
Report Service Provider - Hire Person

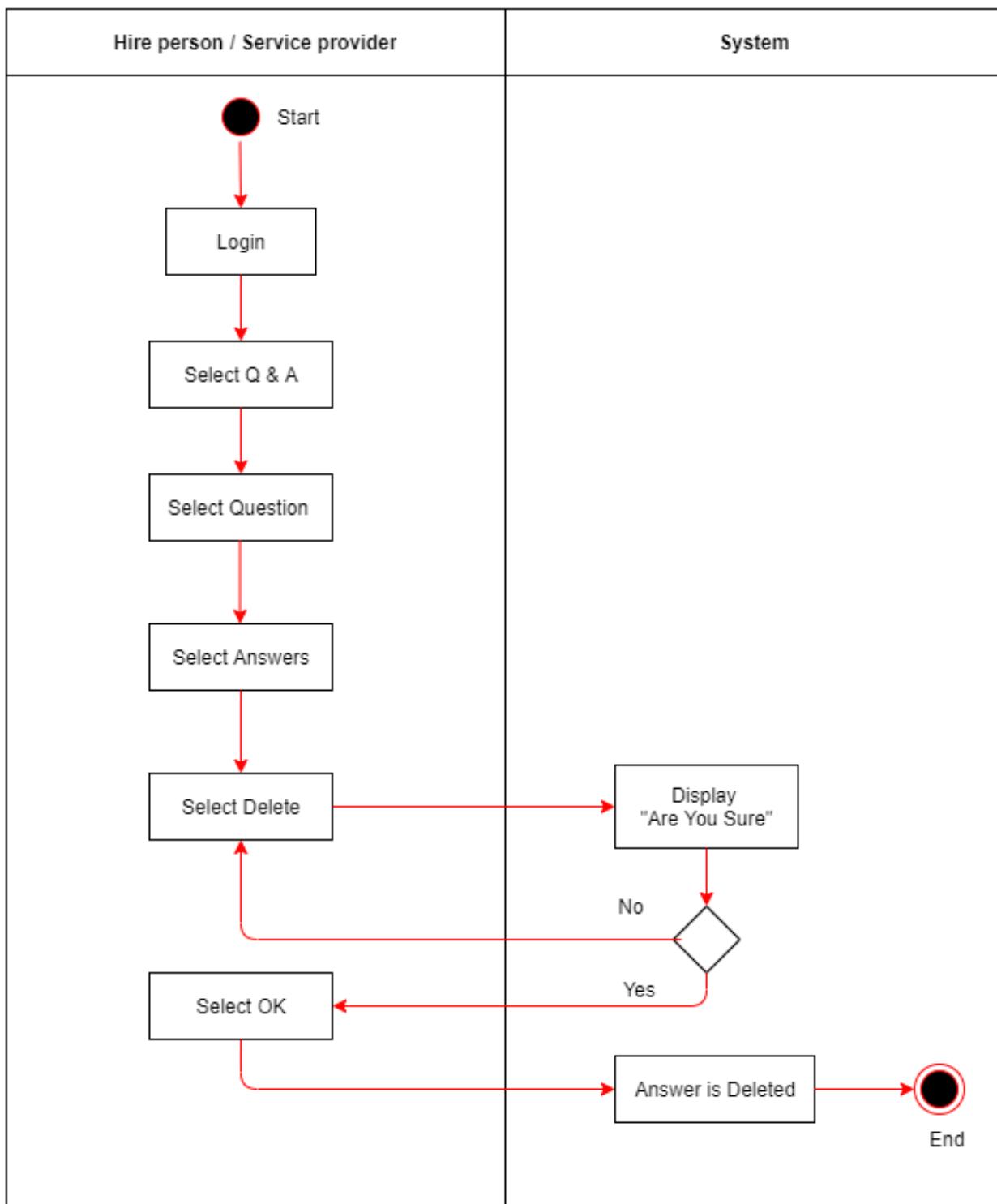


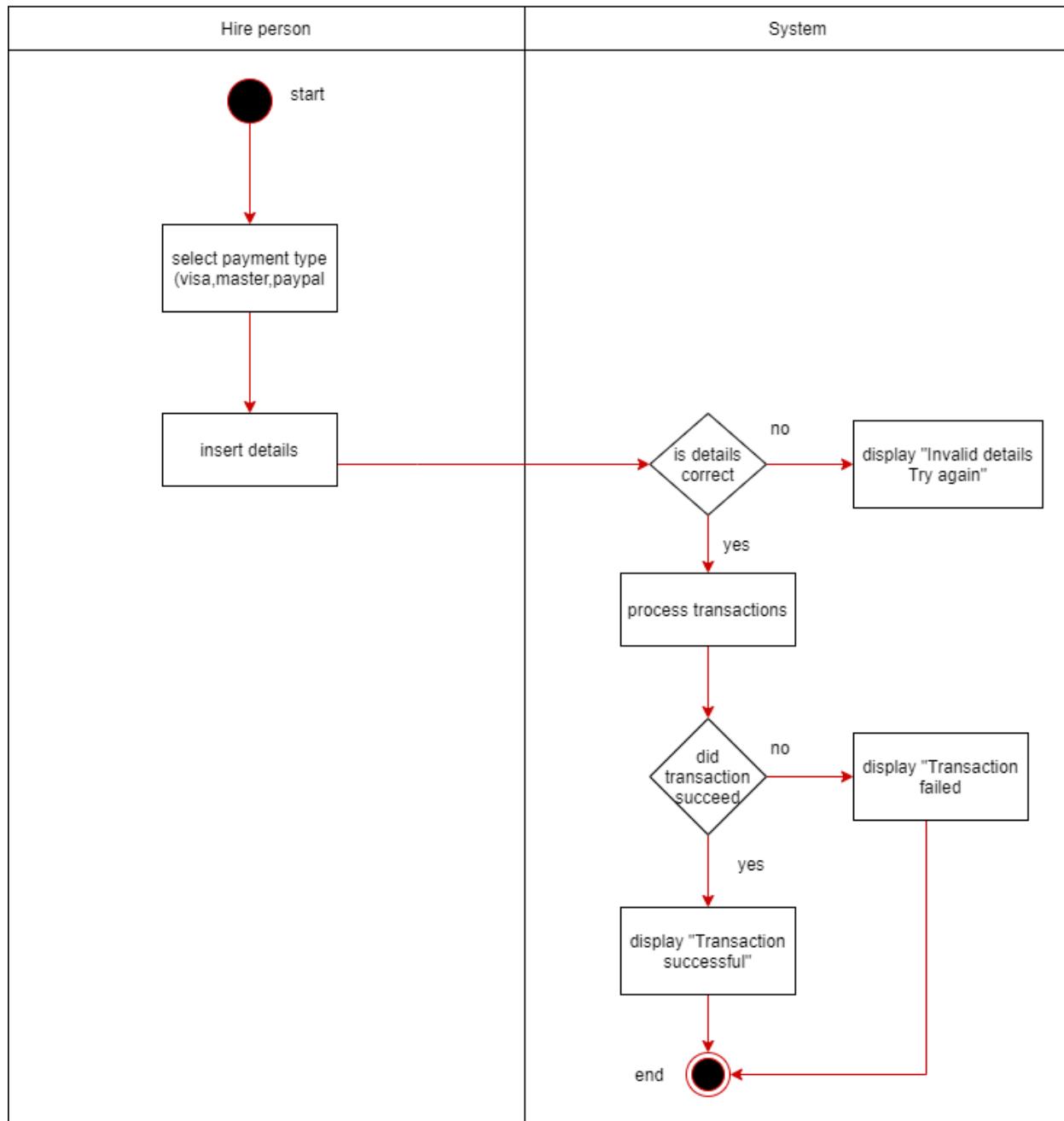
Add Question - Service provider, Hire person

Delete question - Service provider, Hire person

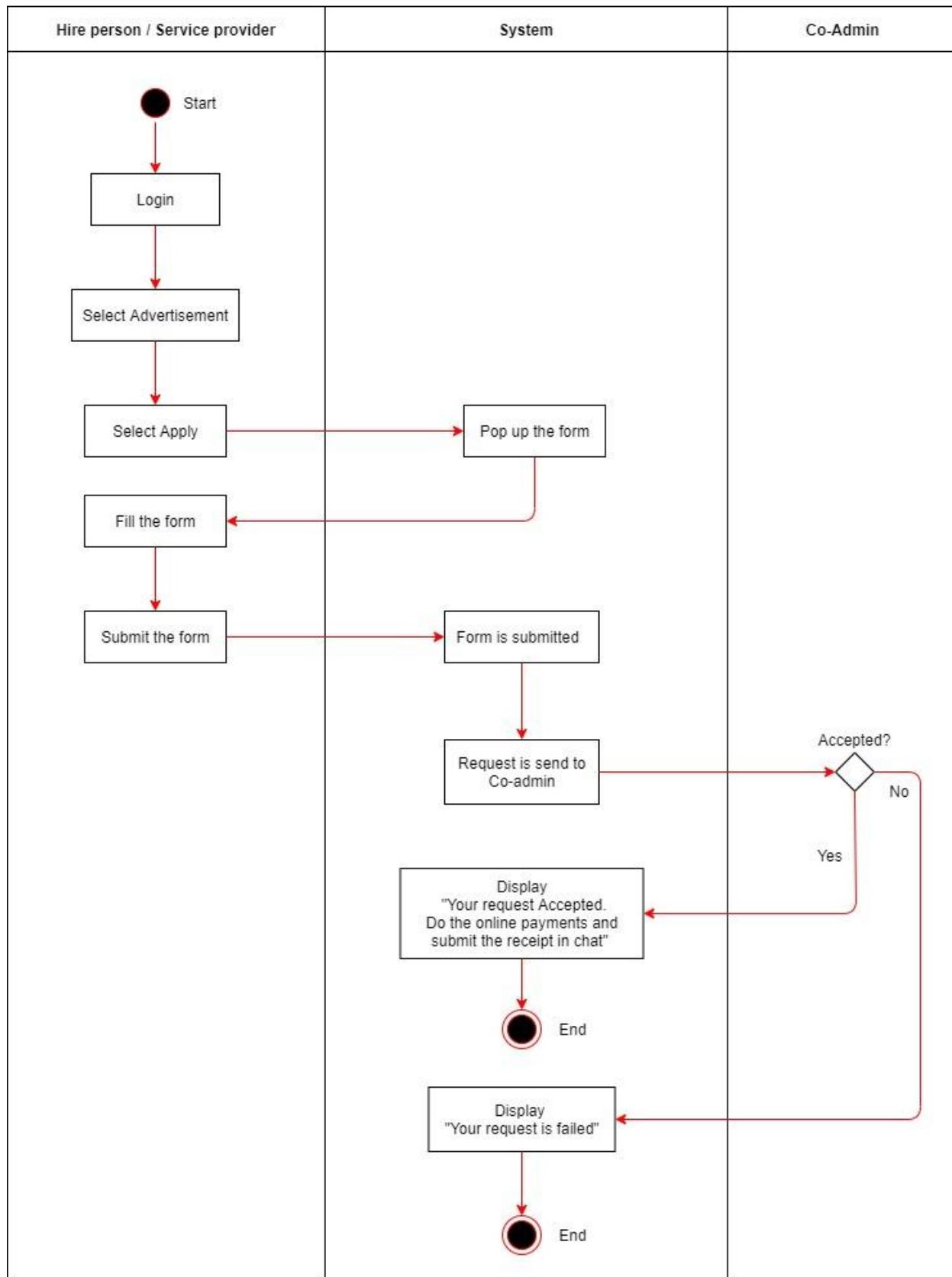


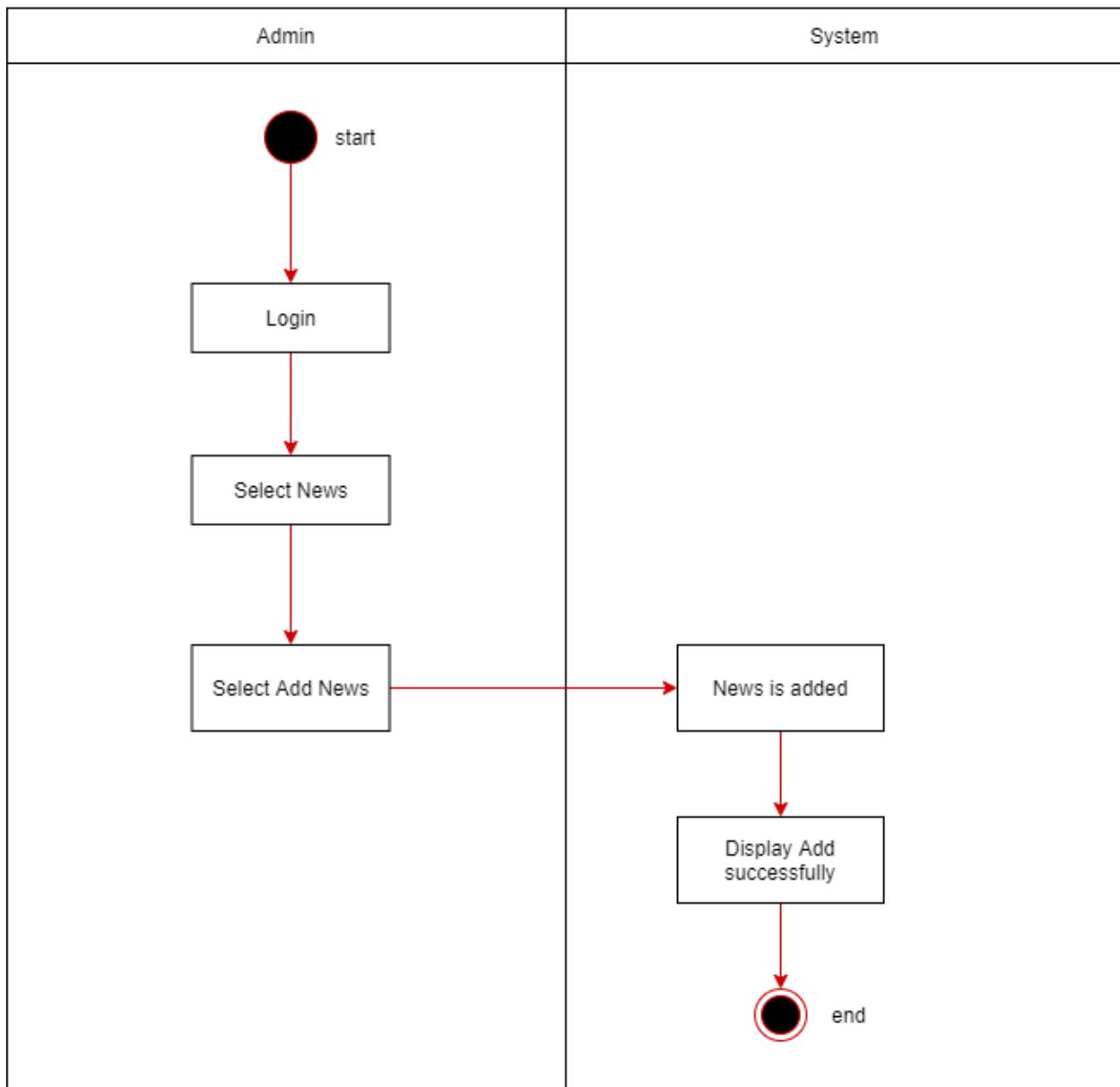
Add answers - service provider

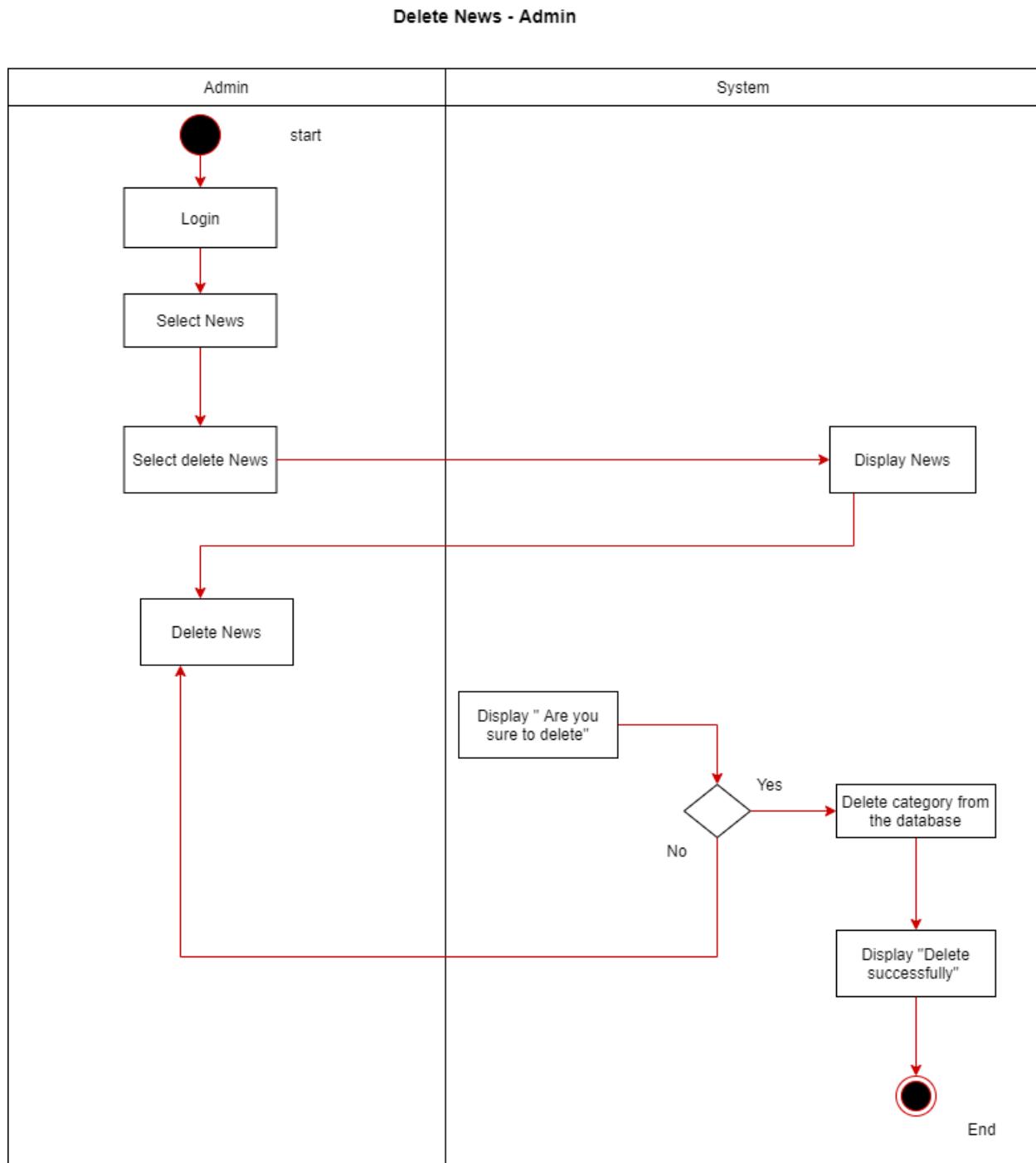
Delete Answers - Hire Person, Service Provider

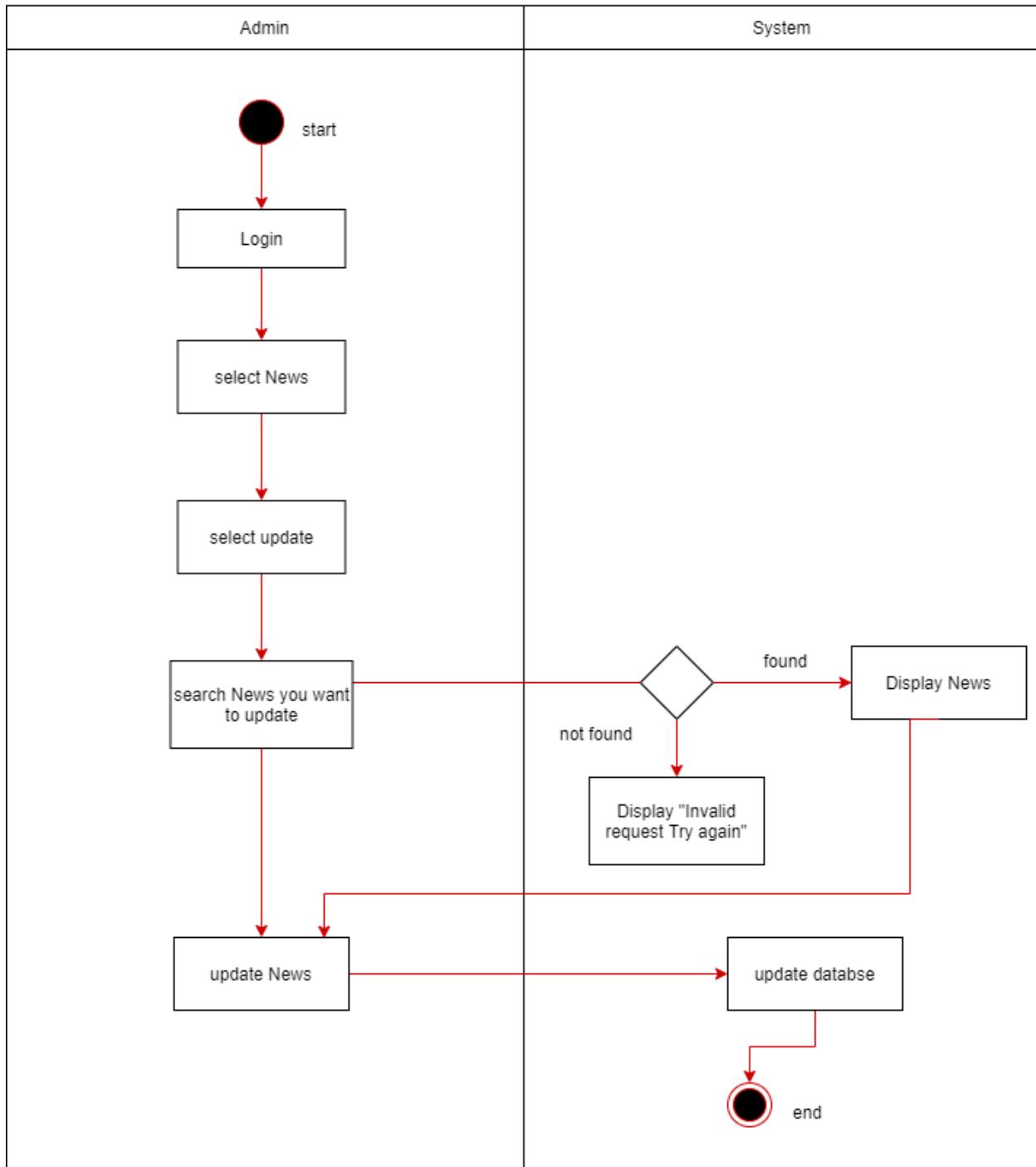
Online Advance Payment - Hire Person

Ask for a Advertisement - Hire Person, Service Provider

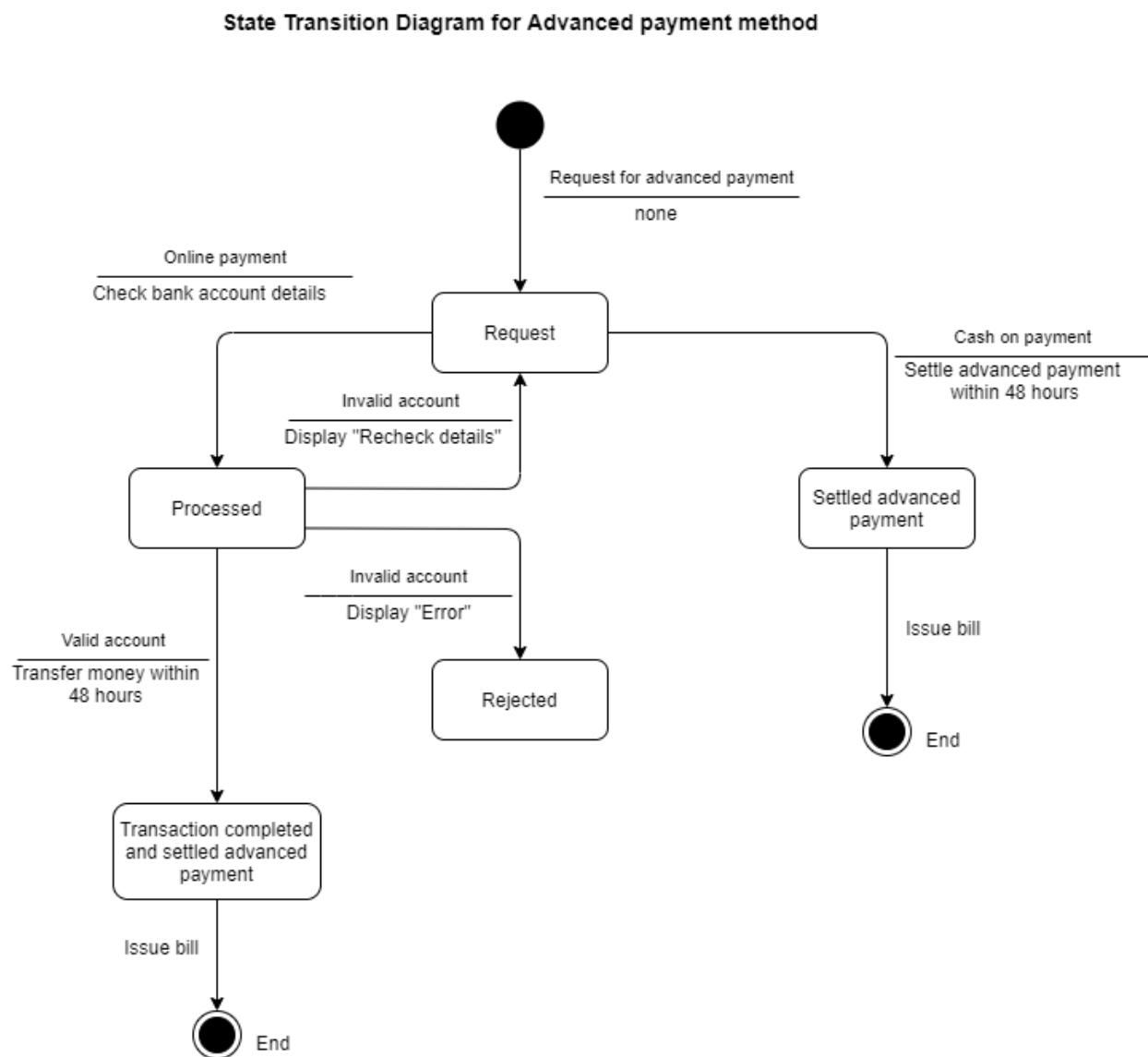


Add News - Admin



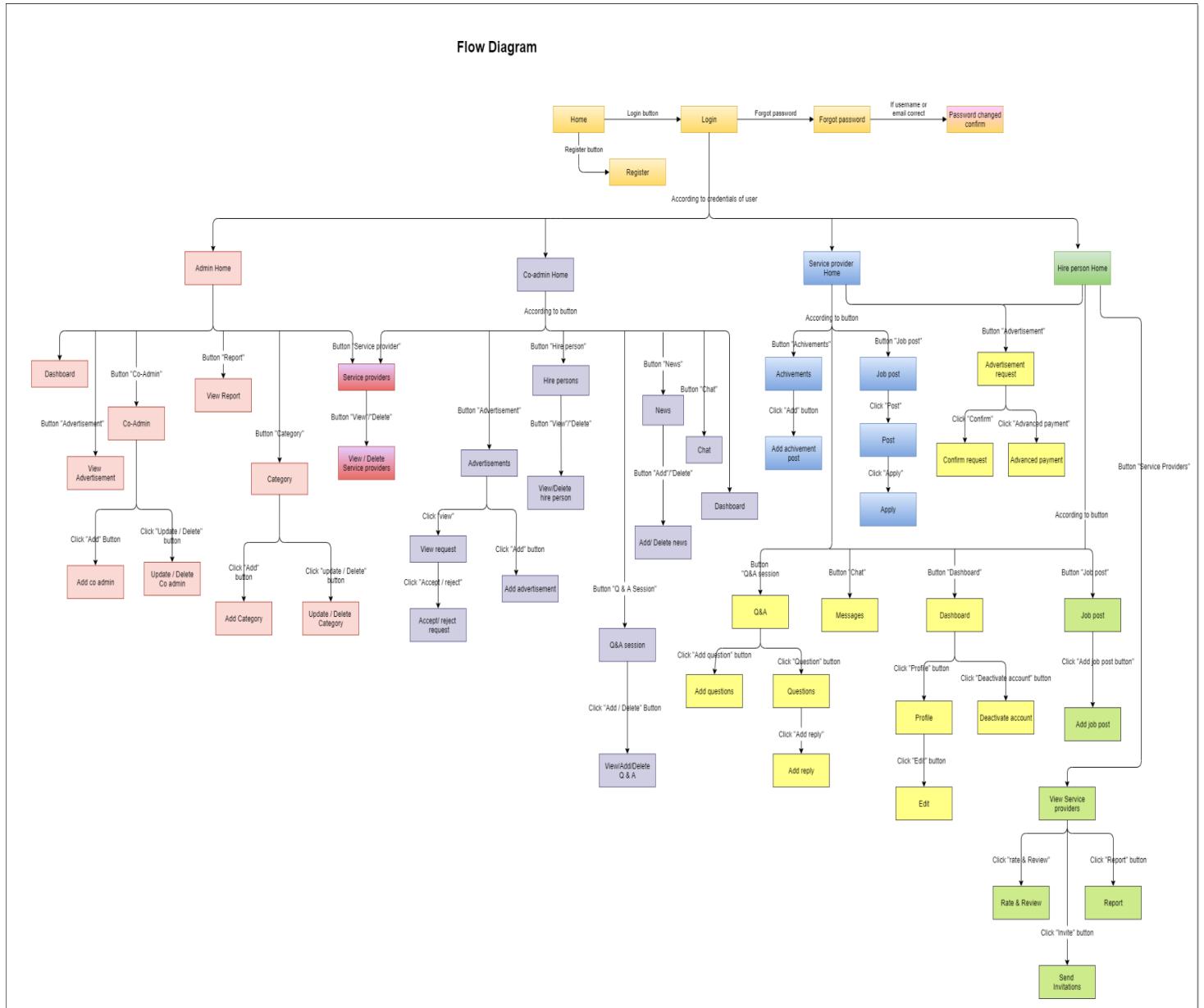
Update News - Admin

5.5) State Transition Diagrams



6) User Interface Flow Diagram and Wireframes

6.1) Flow Diagram



<https://app.diagrams.net/#G1AHkXImDhWudXkI-njtInVVqMgj6JrD01>

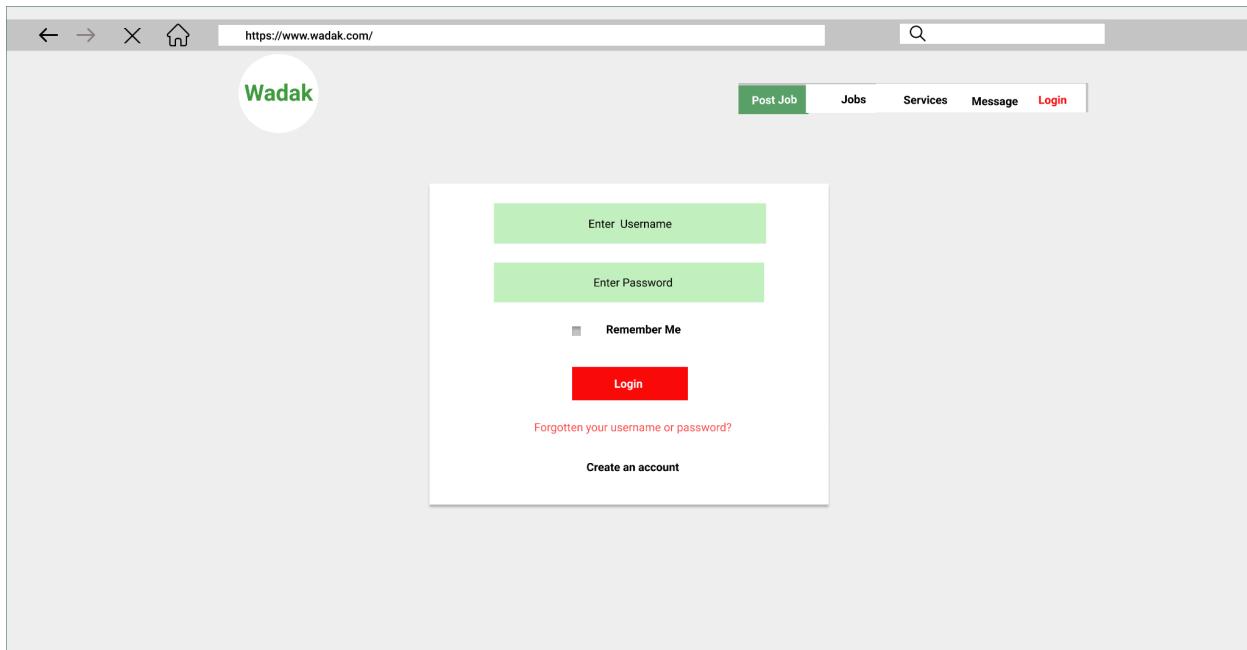
6.2) Wireframes

Home

The wireframe for the Wadak Home page includes the following components:

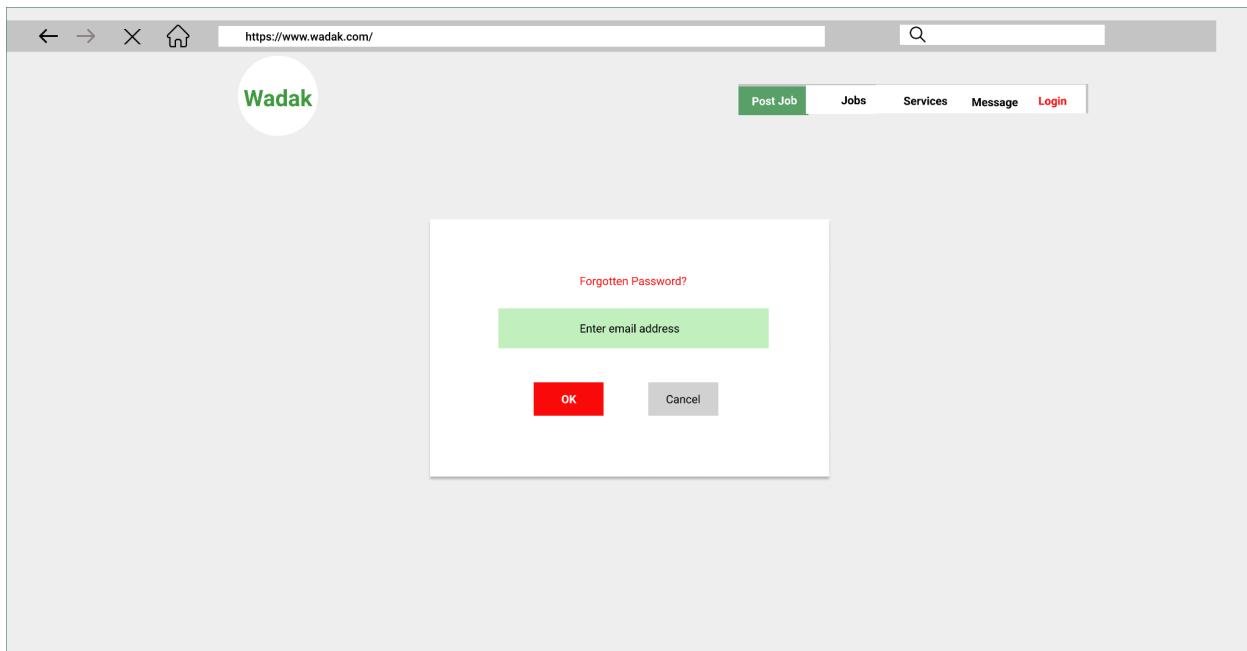
- Header:** A browser-style header with back, forward, and search buttons, and a URL bar set to <https://www.wadak.com/>. Below it is a navigation bar with the Wadak logo, Post-Job button, Jobs, Services, a bell icon, Messages, and a Login button.
- Content Area:** A large green rectangular area containing two smaller green boxes labeled "Headings".
- Section:** A green rounded rectangle labeled "Job post".
- Call-to-Action:** A green button labeled "Post Job".
- Section:** A green rounded rectangle labeled "Top Service Providers".
- Content Area:** Three green rounded rectangles labeled "Image".
- Call-to-Action:** A green button labeled "Register Now".
- Footer:** A grey footer bar containing the Wadak logo, links to Terms & Conditions, Privacy Policy, About us, and FAQ, and a "Stay Connected!" section with fields for Email, First Name, and Last Name, along with social media icons for Facebook, Instagram, LinkedIn, and Twitter. The footer also includes a "Powered by Group18" link.

Login



The screenshot shows the Wadak login interface. At the top, there is a navigation bar with links for "Post Job", "Jobs", "Services", "Message", and "Login". Below the navigation bar is a search bar. On the left side, there is a circular logo with the word "Wadak" in green. The main area contains two input fields: "Enter Username" and "Enter Password", both highlighted with a light green background. Below these fields is a "Remember Me" checkbox. A red "Login" button is centered below the password field. At the bottom of the form, there are two links: "Forgotten your username or password?" and "Create an account".

Forgot password



The screenshot shows the Wadak forgot password interface. At the top, there is a navigation bar with links for "Post Job", "Jobs", "Services", "Message", and "Login". Below the navigation bar is a search bar. On the left side, there is a circular logo with the word "Wadak" in green. The main area contains a single input field labeled "Enter email address", which is highlighted with a light green background. Below this field are two buttons: a red "OK" button and a grey "Cancel" button.

References

- [1] *Fiverr - Freelance Services Marketplace for Businesses* (no date). Available at: <https://www.fiverr.com/> (Accessed: 18 September 2021).
- [2] *L. Bass, P. Clements and R. Kazman, Software Architecture in Practice (3rd)*. (no date).
- [3] *PayHere - Sri Lanka's No.1 Online Payment Gateway Service* (no date). Available at: <https://www.payhere.lk/> (Accessed: 18 September 2021).
- [4] *Sending SMS Messages with PHP » Developer Content from Vonage ♥* (no date). Available at: <https://learn.vonage.com/blog/2017/09/20/sending-sms-messages-with-php-dr/> (Accessed: 18 September 2021).
- [5] *Upwork | The World's Work Marketplace for Freelancing* (no date). Available at: <https://www.upwork.com/> (Accessed: 18 September 2021).