SWE 206 – Introduction to Software Engineering (212)
Project

Malik Al Harbi – 201969450

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Alawi Sahel Alawi - 202044900

Lab Section: 51

Information and Computer Science Department, King Fahd University of Petroleum and Minerals

SWE 206: Introduction to Software Engineering

Project Phase 1

Group Number: 04

March 31, 2022

I-   Group Contribution:

1- Jaafar Al Muallim: (Detailed Requirement list, Use Case Diagram, Create New Unit Description, Create Job Band Description, Modify Job Band Description, Review Use Cases, Phase 1 Report).

2- Malik Al-Harbi: (Detailed Requirement list, Use Case Diagram, Fill Job Offer Description, View Interview Details Description, View Interview Outcome Description).

3- Yasser Abdulaal: (Detailed Requirement list, Generate Proper Job Description, Edit Candidate Data Description, Schedule an Interview Description).

4- Alawi Sahel: (Detailed Requirement list, Use Case Diagram, Create an Interview Report Description, Modify Interview Details Description, Create Interview Logs Description).

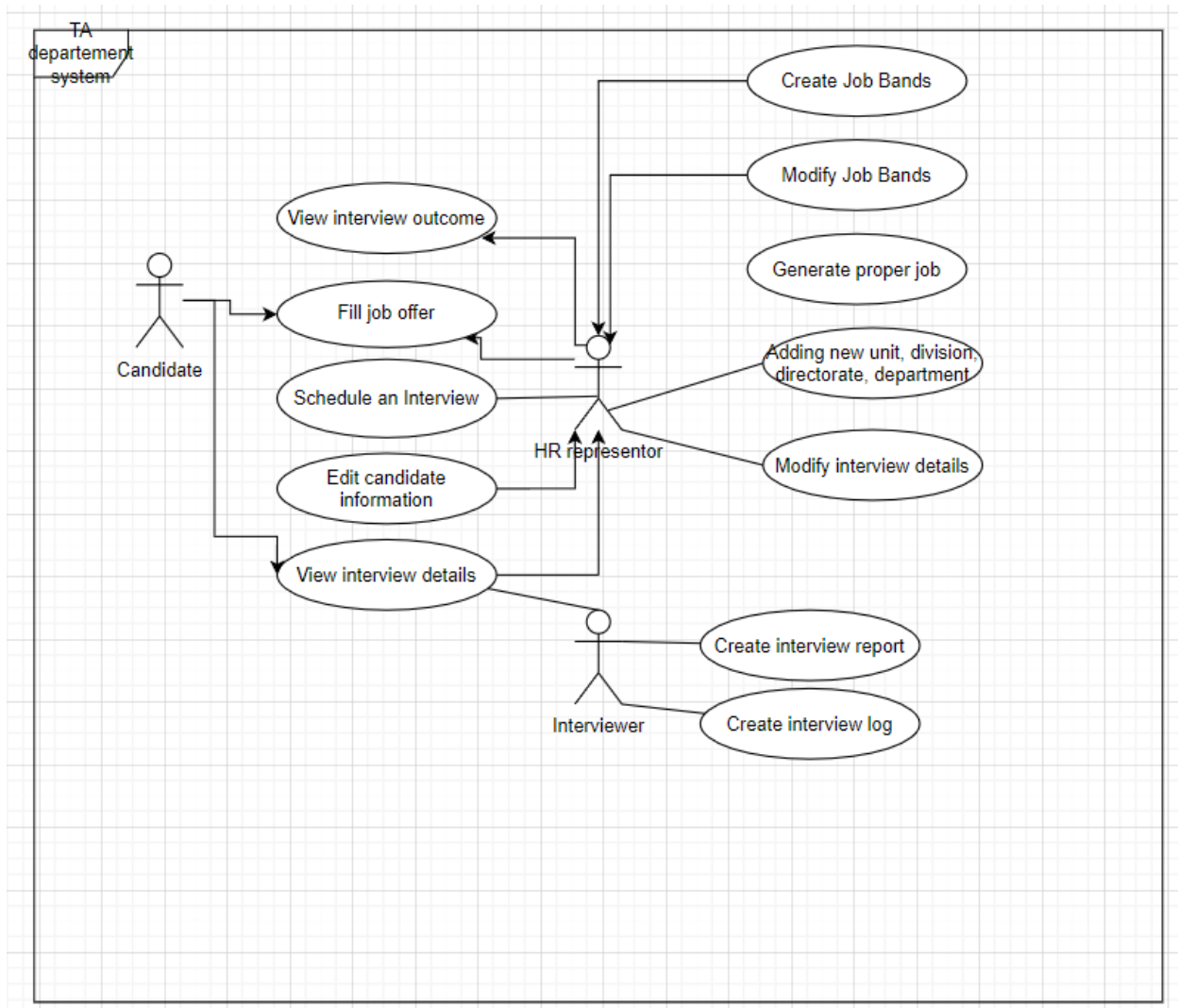II- Detailed Requirements:
  A- Functional Requirements:
    1- System should add new units, directorate, or department.
    2- System should generate proper jobs for each unit based on the band.
    3- System should process each candidate data, name, national id, gender, years of experience, education level, CV.
    4- System should place one interview per candidate in an appropriate time for the interviewer such that there is not overlapping.
    5- System should keep track of date, time, interviewer and interviewee data for each interview.
    6- System should create job offer when the outcome of the interview is pass.
    7- System should place another interview if the outcome is hold and the candidate has taken less than 3 interviews.
    8- System should remove candidate from appliers if the outcome is failed.
    9- System should fill new employee field, position, salary breakdown, and other benefits.
    10- System should save work done on the same file.

  B- Non-Functional Requirements:
    1- Experience controllers shall be able to use all the system functions after one training of one-time usage.
    2- System files should not affect performance and speed.
    3- User interface shall be implemented using JavaFx.
    4- System should be secured using a username and a password for each user.
    5- System shall do what it is required to do without failing.
    6- System shall be able to deliver services when requested.

III-   Use Case Diagram:

IV-   Use Case Description:

A- View Interview Outcome:

Use case ID:	UC-1.1.1		
Use Case Name:	View Interview Outcome		
Created by:	Malik Al-Harbi	**Last Updated by:**	Jaafar Al Muallim
Date Created:	03/27/2022	**Last Revision Date:**	29/3/2022
Actors:	1- HR Presenter. 2- Interviewer. 3- Candidate		
Description:	To examine the candidate's interview outcome whether he/she passed, failed or on hold.		
Trigger:	Interview with candidate.		
Preconditions:	1- Finished at least one interview with candidate		
Postconditions:	1- The HR Presenter / Interviewer view Interview outcome. 2- Candidate gets noted about the interview outcome		
Normal Flow:	1- Perform an interview with the candidate. 2- Determine the result of the interview's outcome. 3- Log in to the system. 4- Check report created after the interview. 5- View interview outcome.		
Alternative Flows:	2a. In Step 2 of the normal flow, if the candidate is on hold and had less than 3 interviews: 1- Use case return to Step 1. 3a. In Step 3 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 3.		
Exceptions:	2a. In Step 2 of the normal flow, if the candidate failed or candidate is on hold after 3 interviews: 1. Send a message to the candidate that he/she failed 2. Remove the candidate from the list of appliers.		
Assumptions:	1- HR presenter / Interviewer / Candidate understands English.		
Notes and Issues:	--		

B- Fill Job Offer:

Use case ID:	UC-1.1.2		
Use Case Name:	Fill Job Offer		
Created by:	Malik Al-Harbi	Last Updated by:	Jaafar Al Muallim
Date Created:	03/27/2022	Last Revision Date:	29/3/2022
Actors:	1- HR Presenter 2- Candidate.		
Description:	To automate the process of adding information of a new candidate such as his/her position, salary breakdown, and other benefits.		
Trigger:	Hiring a candidate.		
Preconditions:	1- The HR Presenter has all the necessary data of the candidate available.		
Postconditions:	1- Candidate is considered a new employee and his information are added to the system and the employee is given position.		
Normal Flow:	1- Log in to the system. 2- Gather the necessary data about the employer such as his/her position in the company and their name, gender, and age. 3- Automatically fill the new employee data based when given the job offer. 4- Add the data into the system.		
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- Use Case resumes from Step 1. 2a. In Step 2 of the normal flow, if the new employee information is missing: 1- Message is sent to the new employee to get the missing information. 2- Ask the HR Presenter to reach to the sent information from the employee. 3- Use case resumes from Step 2		
Exceptions:	2a. In Step 2 of the normal flow, if the data already exists: 1- Send a message to the HR Presenter that data already exists in the system. 2- Exit		
Assumptions:	1- HR presenter understands English.		
Notes and Issues:	--		

C- View Interview Details:

Use case ID:	UC-1.1.3
Use Case Name:	View Interview Details

Created by:	Malik Al-Harbi	**Last Updated by:**	Jaafar Al Muallim
Date Created:	03/27/2022	**Last Revision Date:**	29/3/2022

Actors:	1- HR Presenter 2- Interviewer 3- Candidate
Description:	1- To view all the necessary information about an interview such as interview date, time and location. Lastly, the interviewer and the candidate 2- If it is a coming interview, Candidate is noted about the details.
Trigger:	Selecting View Interview Details
Preconditions:	1- Interview is already scheduled.
Postconditions:	1- The HR Presenter / Interviewer has all the details about the interview
Normal Flow:	1- Log in to the system. 2- The user searches or selects the interview he/she want to view. 3- All the data related to the interview appears.
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter / Interviewer enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- Use Case resumes from Step 1. 2a. In Step 2 of the normal flow, if information entered in the search does not exist: 1- Ask the user to rewrite the interview data that he is searching for. 2- Use case resumes at Step 2.
Exceptions:	2a. In Step 2 of the normal flow, in the select option if there are no interviews currently exist: 1- Send a message to the user "There are no current interviews available. 2- Exit
Assumptions:	1- HR presenter / Interviewer / Candidate understands English.
Notes and Issues:	--

D- Create Job Band:

Use case ID:	UC-1.2.1		
Use Case Name:	Create Job Band		
Created by:	Jaafar Al Muallim	Last Updated by:	
Date Created:	28/3/2022	Last Revision Date:	
Actors:	HR Presenter		
Description:	Create Job Band and link it to a unit		
Trigger:	Selecting Create Job Band		
Preconditions:	1- Access the Services. 2- Get Job Band information and Employees		
Postconditions:	1- Job Band Created 2- Job Band is given a name and available jobs under it.		
Normal Flow:	1- Log in to the system. 2- Select Create Job Band. 3- Enter Job Band name and available job names under it. 4- Assign Jobs for Employees in the Job Band. 5- Link Job Band to a unit. 6- System saves created data.		
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 2. 3a. In Step 3 of the normal flow, if the name entered is already in the system: 1- System will prompt the HR Presenter to re-Enter the name. 2- Use Case resumes from Step 3.		
Exceptions:	--		
Assumptions:	1- HR presenter understands English.		
Notes and Issues:	What is the minimum and maximum number of jobs in one job band?		

E- Create New Unit:

Use case ID:	UC-1.2.2		
Use Case Name:	Add new units		
Created by:	Jaafar Al Muallim	Last Updated by:	
Date Created:	28/3/2022	Last Revision Date:	
Actors:	HR Presenter		
Description:	Create new units and assign a job band to it.		
Trigger:	Selecting Create New Units.		
Preconditions:	1- Access the services.		
Postconditions:	1- New Unit created. 2- Units are added to the hierarchy. 3- Job bands is assigned to the unit.		
Normal Flow:	1- Log in to the system. 2- Create new unit. 3- Add unit to hierarchy. 4- Job bands is assigned to the unit. 5- System saves created data.		
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 2.		
Exceptions:	--		
Assumptions:	1- HR presenter understands hierarchy composition of xyzSoft company. 2- HR presenter understands English.		
Notes and Issues:	--		

F- Modify Job Band:

Use case ID:	UC-1.2.3		
Use Case Name:	Modify Job Bands		
Created by:	Jaafar Al Muallim	Last Updated by:	
Date Created:	28/3/2022	Last Revision Date:	
Actors:	HR Presenter		
Description:	Modify Job Bands information, or change Job Band unit, change employees or create new jobs and assign new employees.		
Trigger:	Selecting Modify Job Band.		
Preconditions:	1- Access the services. 2- Change in information of a Job Band.		
Postconditions:	1- Job Band data is updated.		
Normal Flow:	1- Log in to the system. 2- Modify Job Band. 3- Change and update Job Band data. 4- System saves the modified data.		

Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information:
	   1- Log in is disapproved.
	   2- Message to re-Enter username and password.
	   3- Use Case resumes from Step 1.
	
	 2a. In Step 2 of the normal flow, if HR presenter change job band data which already exists in other job band:
	   1- System prompts the HR presenter to re-modify the data.
	   2- Use Case resumes on Step 2.		

Exceptions:			
Assumptions:	HR presenter understands English.		
Notes and Issues:	Could there be repeated job names in other job bands?		

G- Create Interview Report:

Use case ID:	UC-1.3.1
Use Case Name:	Create Interview Report

Created by:	Alawi Sahel Alawi	**Last Updated by:**	Jaafar Al Muallim
Date Created:	31/3/2022	**Last Revision Date:**	31/3/2022

Actors:	Primary: Interviewer, Secondary: Candidate.
Description:	Create an interview report that contains the result of the interview.
Trigger:	Performing an interview.
Preconditions:	1- Scheduled interview.
Postconditions:	1- Interview is done. 2- Report is created. 3- Result is added to the candidate record.

Normal Flow:	1- Perform an interview with the candidate.
	2- Log in to the system.
	3- Create the report after the end of the interview.
	4- Add the result to the record of the candidate in the system:
	   - Pass, fail or hold.
	   - Interviewer notes.
	5- System saves the report.

Alternative Flows:	2a. In Step 2 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 2. 3a. In Step 3, if the interview was the third interview for the candidate, result is either fail or pass.
Exceptions:	--
Assumptions:	Interviewer understands English.
Notes and Issues:	--

H- Modify Interview Details:

Use case ID:	UC-1.3.2
Use Case Name:	Modify Interview details
Created by:	Alawi Sahel Alawi	**Last Updated by:**	Jaafar Al Muallim
Date Created:	31/3/2022	**Last Revision Date:**	31/3/2022
Actors:	Primary: HR Presenter, Secondary: Interviewer, Candidate.
Description:	Changing details of an interview, day and date, location, interviewer.
Trigger:	Selecting Modify interview details
Preconditions:	1- Access the services.
Postconditions:	2- Data modified. 3- Candidate and interviewer are notified about the made modification.
Normal Flow:	1- Log in to the system. 2- Select Modify an interview. 3- Select the interview to be modified. 4- Modify data. 5- System saves the modified data.
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- Message to re-Enter username and password. 4- User Enters correct username and password. 5- Use Case resumes from Step 1. 4a. In Step 4, if the modified date results in a conflict in the interviewer schedule: 6- System prompts the user to modify the date again. 7- Use Case resumes on Step 4.
Exceptions:	2a. In Step 2, if there are no scheduled interviews: 1- System shows error message. 2- Exit.
Assumptions:	1- HR presenter / Interviewer / Candidate understands English.
Notes and Issues:	--

I- Create Interview Logs:

Use case ID:	UC-1.3.3		
Use Case Name:	Create Interview Log		
Created by:	Alawi Sahel Alawi	Last Updated by:	Jaafar Al Muallim
Date Created:	31/3/2022	Last Revision Date:	31/3/2022
Actors:	Primary: HR Interviewer, Secondary: Candidate.		
Description:	Creating Interview Log that contains the basic information of an interview, date, time and interviewers.		
Trigger:	Selecting Create Interview Log.		
Preconditions:	1- Perform an interview. 2- Access the service.		
Postconditions:	1- Interview Log is created.		

Normal Flow:	1- Perform an interview.
	 2- Create Interview Log.
	 3- Address all data in the interview log fields:
	     - Date and Time.
	     - Interviewer Name.
	     - Interviewee Name.
	     - The Job the candidate is applying for.
	     - Interviewer Notes.
	 4- System saves the log.		

Alternative Flows:	2a. In Step 2 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 2. 2a. In step 2 of the normal flow, if this is not the first interview for the candidate: 1- The system prompts the interviewer to the number of the interview 2- Use Case resumes at step 3 3a. In Step 3, if some data is missing: 1- System prompts the user to Enter the data. 2- Use Case resumes on Step 3.		
Exceptions:	--		
Assumptions:	Interviewer understands English.		
Notes and Issues:	--		

J-   Generate Proper Jobs:

Use case ID:	UC-1.4.1		
Use Case Name:	Generate Proper Jobs		
Created by:	Yasser Abdulaal	Last Updated by:	Jaafar Al Muallim
Date Created:	31/3/2022	Last Revision Date:	31/3/2022
Actors:	HR Presenter		
Description:	Find and generate proper jobs which are unoccupied in the company.		
Trigger:	Having an unoccupied job.		
Preconditions:	2- Having unoccupied job in the company.		
Postconditions:	1- Proper jobs are generated. 2- Interviews are schedule if candidates have applied.		
Normal Flow:	6- Log in to the system. 7- Search for unoccupied jobs. 8- Generate proper job.		
Alternative Flows:	2a. In Step 2 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 2.		
Exceptions:	2a. In step of the normal flow, if all jobs are occupied: 1- Exit		
Assumptions:	1- Interviewer understands English.		
Notes and Issues:	--		

K- Edit Candidate information:

Use case ID:	UC-1.4.2
Use Case Name:	Edit Candidate Information

Created by:	Yasser Abdulaal	**Last Updated by:**	Jaafar Al Muallim
Date Created:	31/3/2022	**Last Revision Date:**	31/3/2022

Actors:	HR Presenter
Description:	Change Candidate information
Trigger:	Candidate data are changed.
Preconditions:	1- Access the service. 2- Candidate data are available.
Postconditions:	1- Candidate data is modified.
Normal Flow:	1- Log in to the system. 2- Modify Candidate information. 3- Select the candidate to change his data. 4- Modify that candidate information.
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 1.
Exceptions:	3a- In Step 3 of the normal flow, if there are no candidates available: 1- Show an error message that illustrate that there are no available candidates. 2- Exit.
Assumptions:	HR Presenter understands English.
Notes and Issues:	--

L- Schedule interview:

Use case ID:	UC-1.4.3		
Use Case Name:	Schedule Interview		
Created by:	Yasser Abdulaal	**Last Updated by:**	Jaafar Al Muallim
Date Created:	31/3/2022	**Last Revision Date:**	31/3/2022
Actors:	Primary: HR Presenter, Secondary: Interviewer, Candidate		
Description:	To find an appropriate time for the interviewer to hold an interview.		
Trigger:	Candidate has applied and.		
Preconditions:	1- Access the service. 2- Interviewer schedule is available.		
Postconditions:	1- Interview is scheduled.		
Normal Flow:	1- Log in to the system. 2- Search for appropriate time for interviewer. 3- Hold an interview 4- Notify Interviewer and Candidate about the details.		
Alternative Flows:	1a. In Step 1 of the normal flow, if HR presenter enters invalid information: 1- Log in is disapproved. 2- Message to re-Enter username and password. 3- User Enters correct username and password. 4- Use Case resumes from Step 1. 2a- In Step 3 of the normal flow, if an interview is conflicted with another interview: 1- System shows an error message of time conflict. 2- Choose another time for the interview. 3- Use Case resumes on Step 2.		
Exceptions:	2a- In Step 3 of the normal flow, if there is no appropriate time available in schedule: 1- System shows an error message that there is no appropriate time. 2- Exit.		
Assumptions:	1- HR Presenter / Interviewer / Candidate understands English.		
Notes and Issues:	--		

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Lab Section: 51

Information and Computer Science Department, King Fahd University of Petroleum and Minerals

SWE 206: Introduction to Software Engineering

Project Phase 2

Group Number: 04

April 12, 2022

I-   Group Contribution:

1- Jaafar Al Muallim: (Class Diagram, Create New Unit Activity - Sequence Diagram, Create Job Band Activity - Sequence Diagram, Modify Job Band Activity - Sequence Diagram, Review Diagrams, Phase 2 Report).

2- Malik Al-Harbi: (Class Diagram, Fill Job Offer Activity - Sequence Diagram, View Interview Details Activity - Sequence Diagram, View Interview Outcome Activity - Sequence Diagram, Review Diagrams, Phase 2 Report).

3- Yasser Abdulaal: (Class Diagram, Edit Candidate Data Activity - Sequence Diagram, Schedule an Interview Activity - Sequence Diagram, Review Diagrams, Phase 2 Report).

4- Alawi Sahel: (Create an Interview Report Activity - Sequence Diagram, Modify Interview Details Activity - Sequence Diagram, Create Interview Logs Activity - Sequence Diagram, Review Diagrams, Phase 2 Report).

II-   Class Diagram

III-   Activity Diagram:

A- View Interview outcome: Done by Malik Al Harbi, updated by Jaafar Al Muallim.
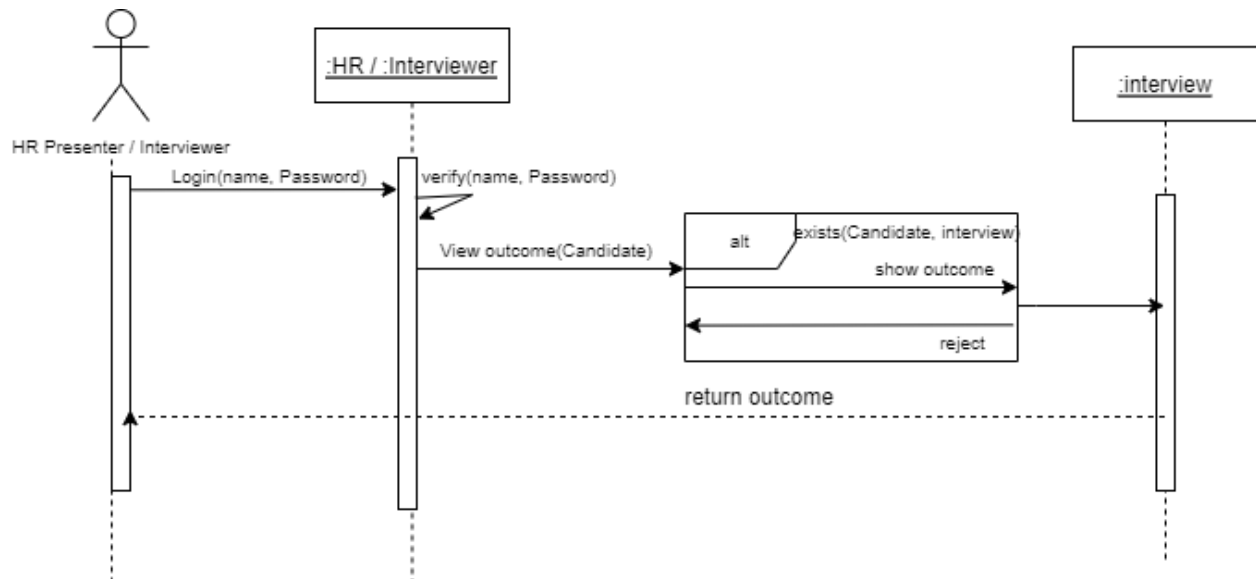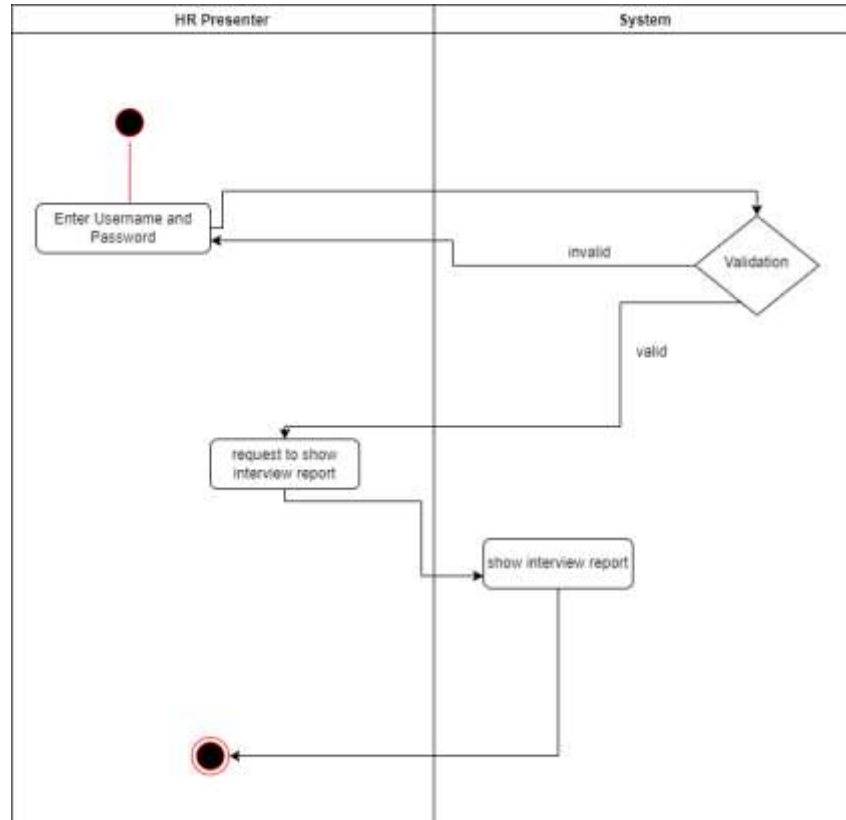
B- Fill Job Offer: Done by Malik Al Harbi
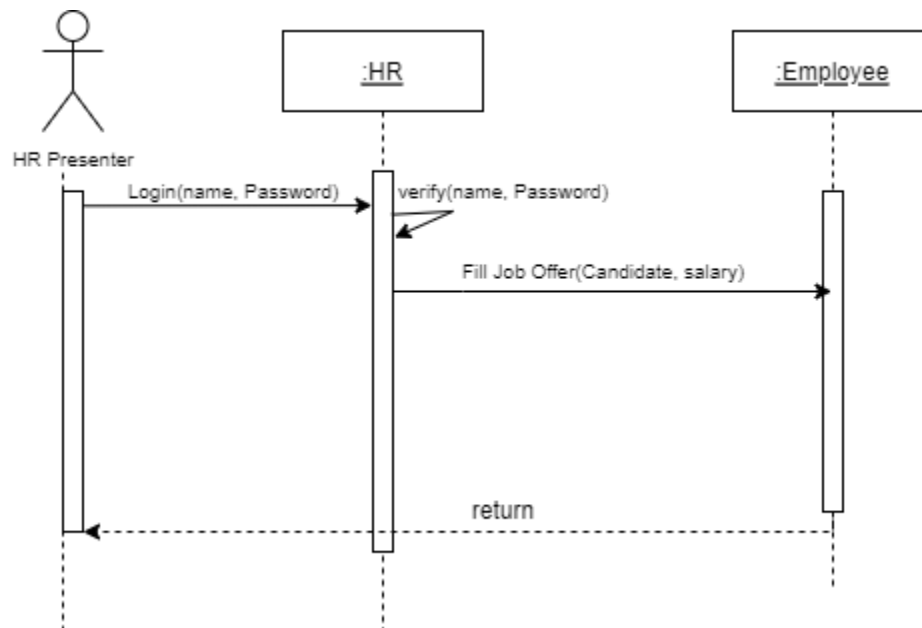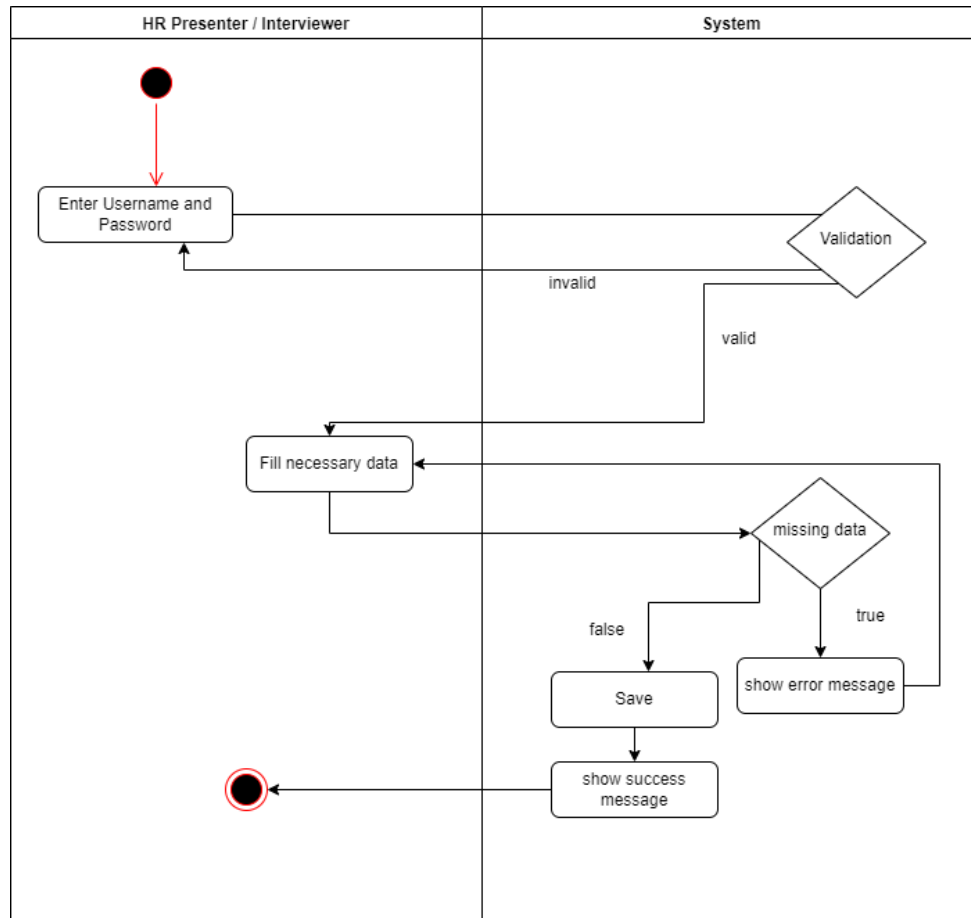
C- View interview details: Done by Malik Al Harbi
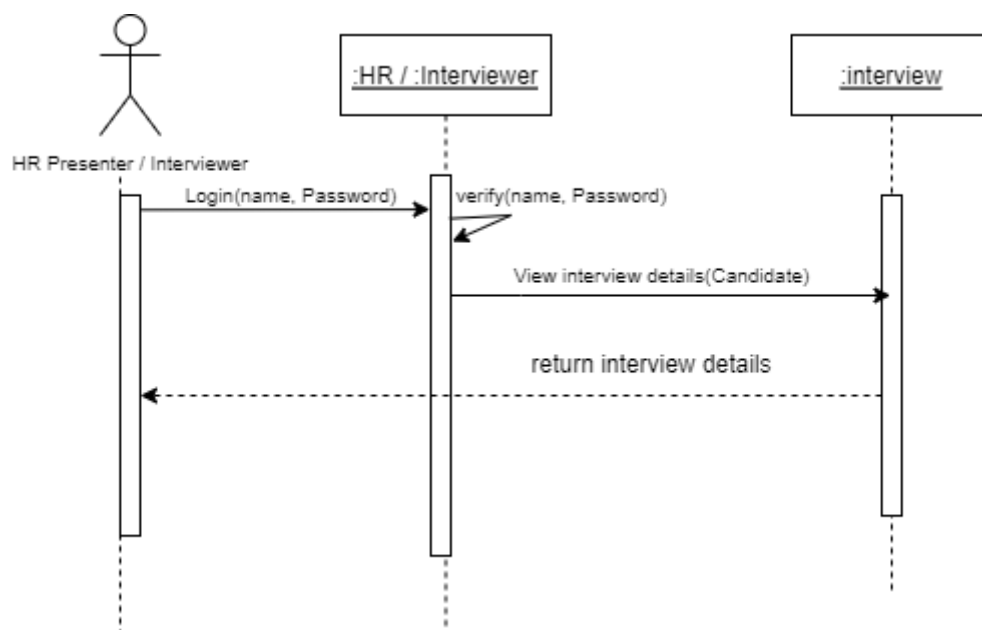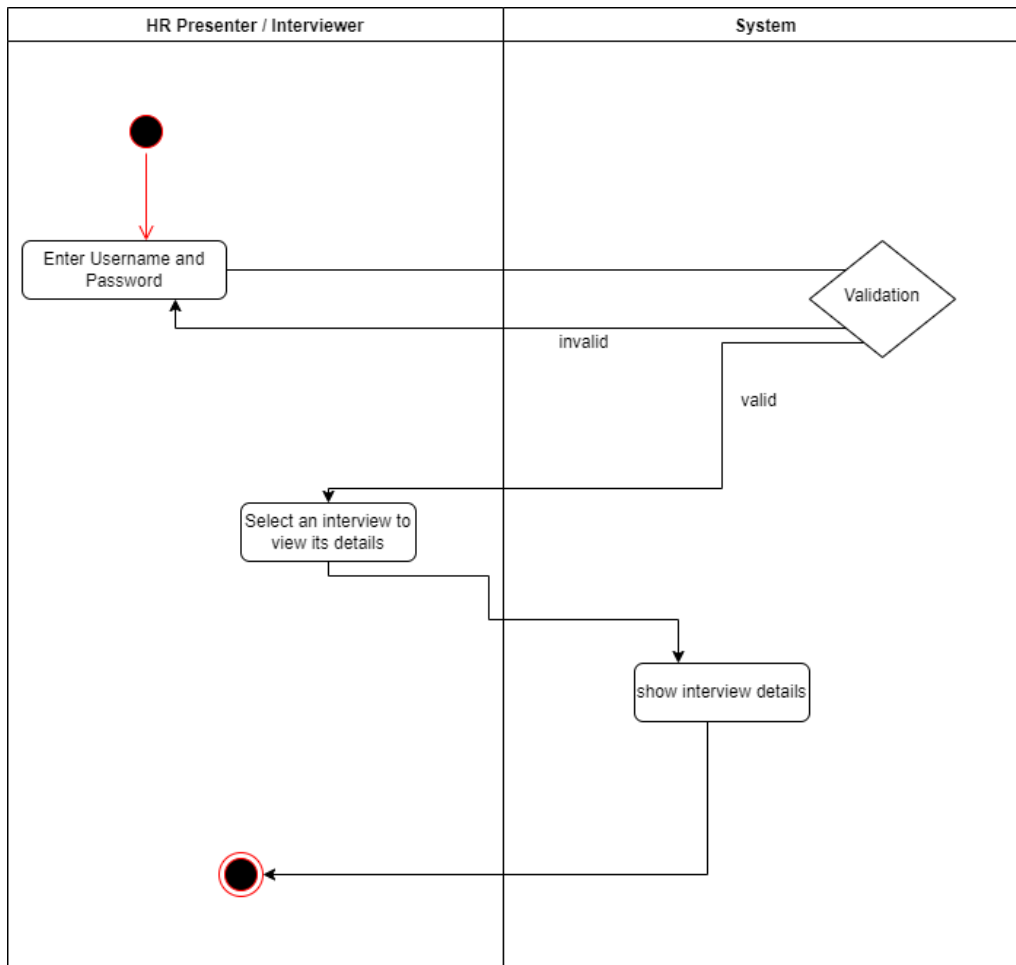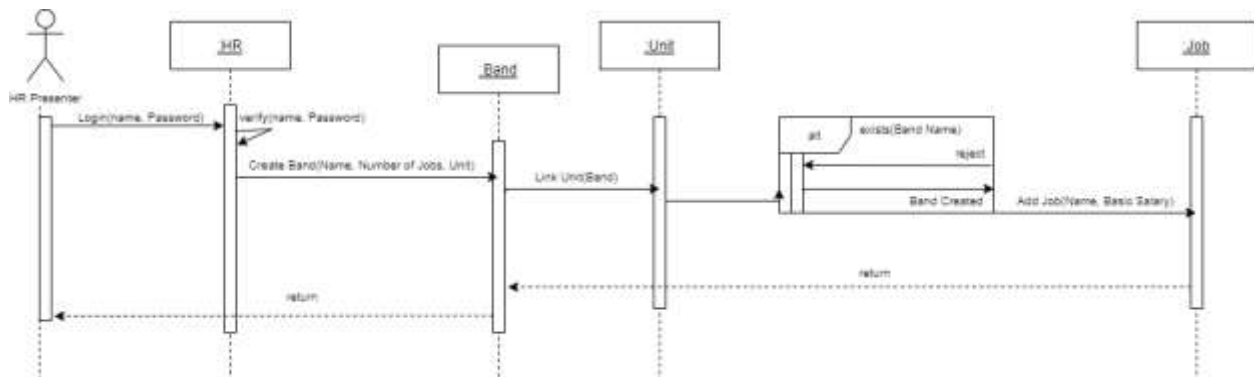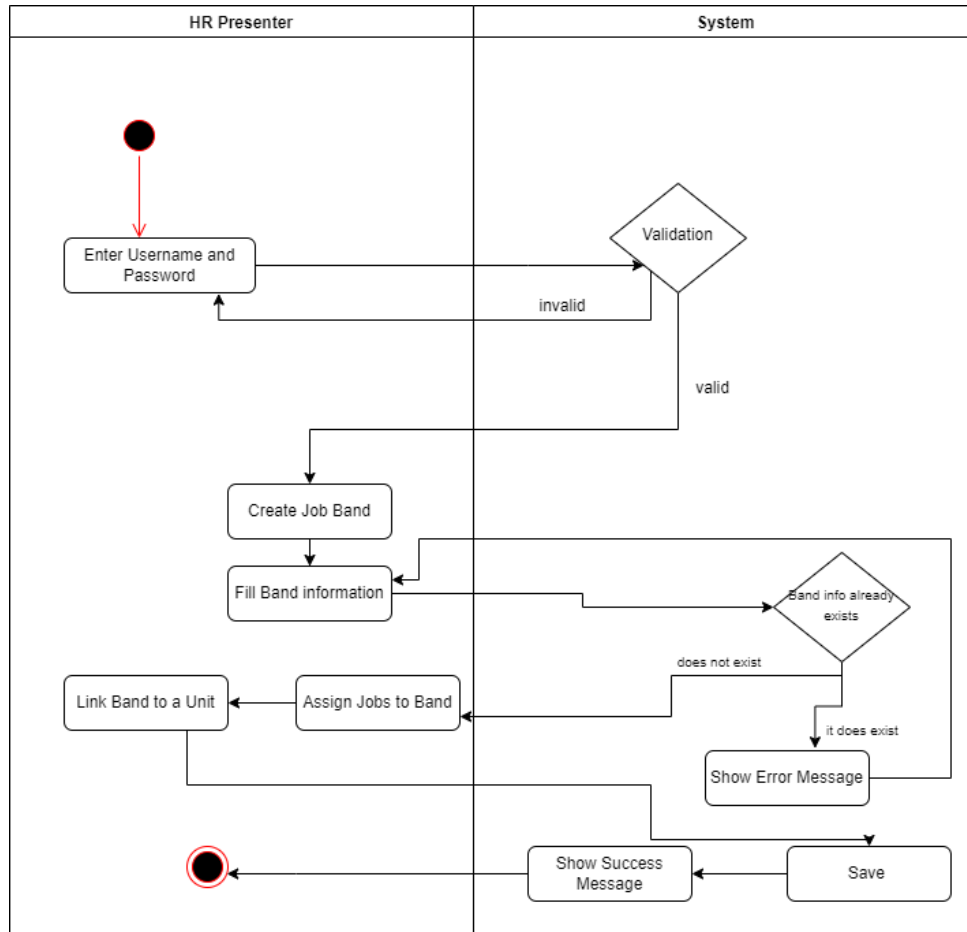
D- Create Job Band: Done by Jaafar Al Muallim

E- Create new unit: Create Job Band: Done by Jaafar Al Muallim
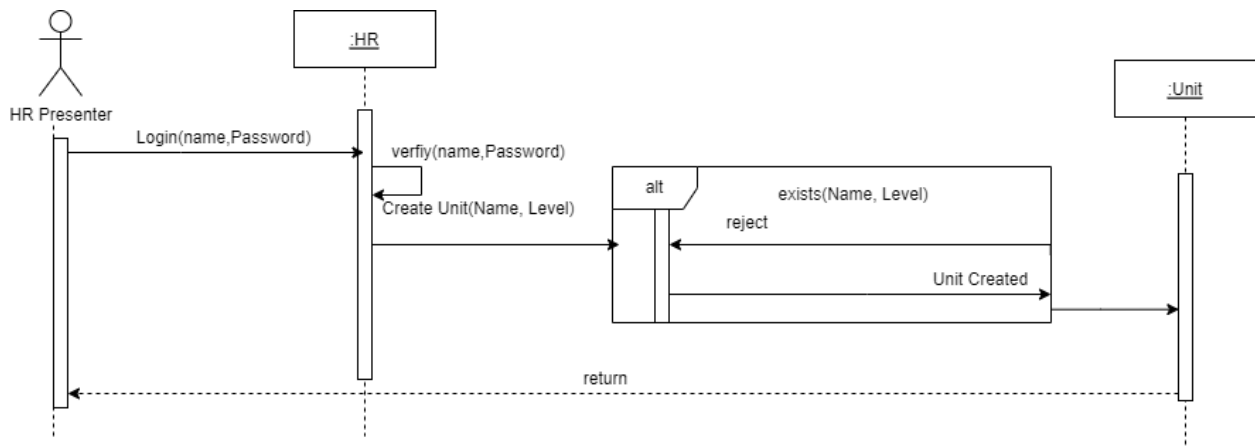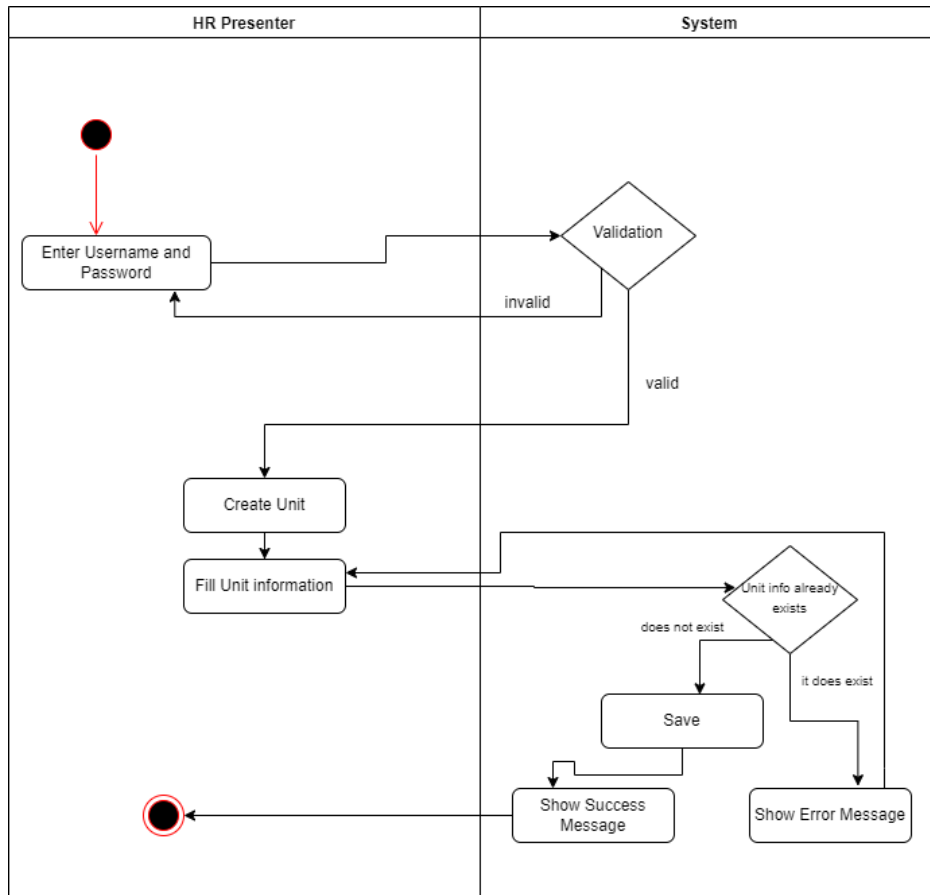
F- Modify Job Band: Create Job Band: Done by Jaafar Al Muallim
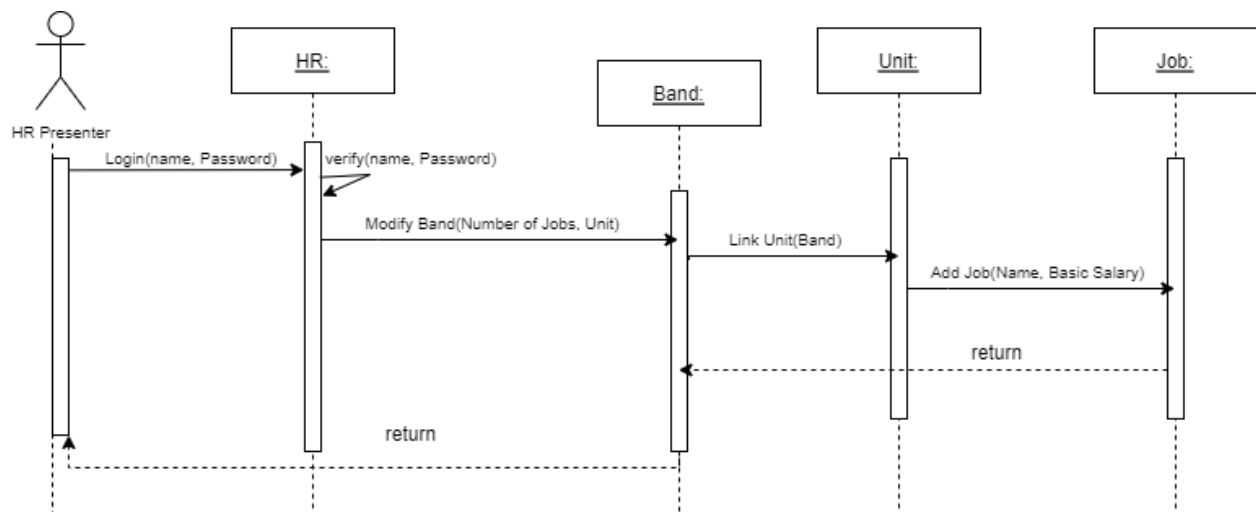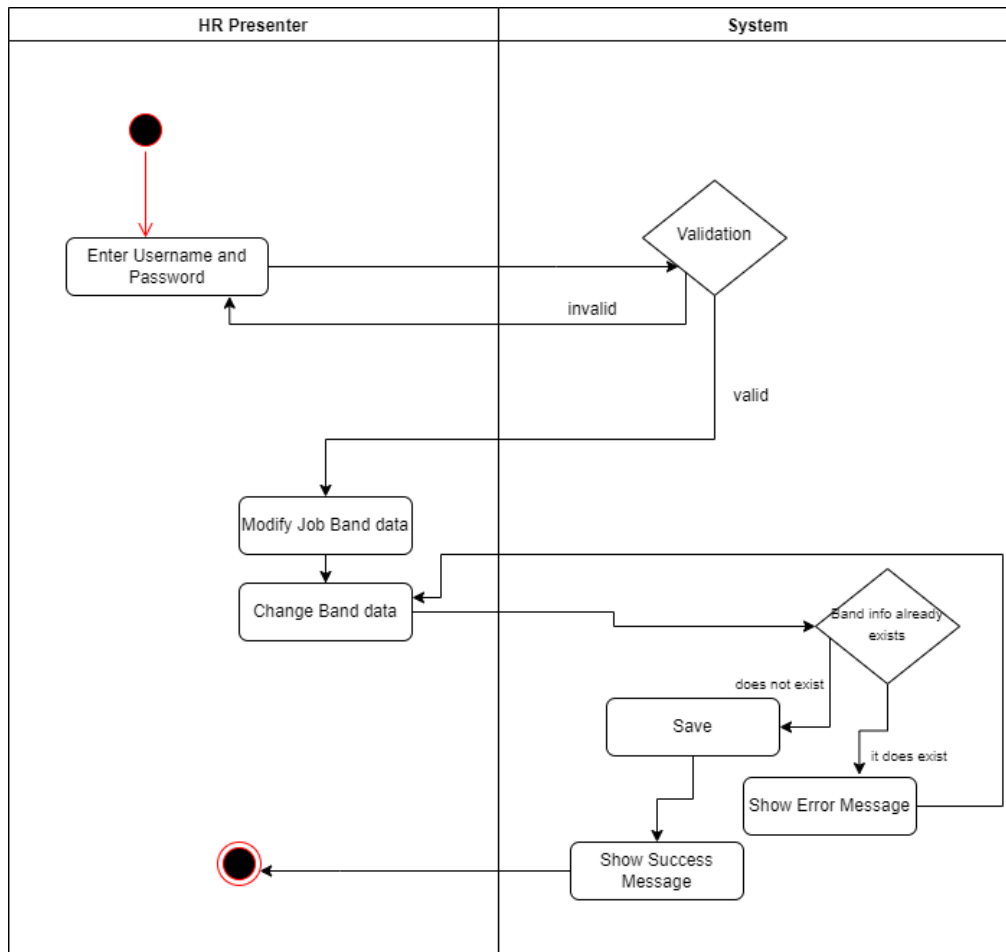
G- Create interview report: Done by Alawi Sahel
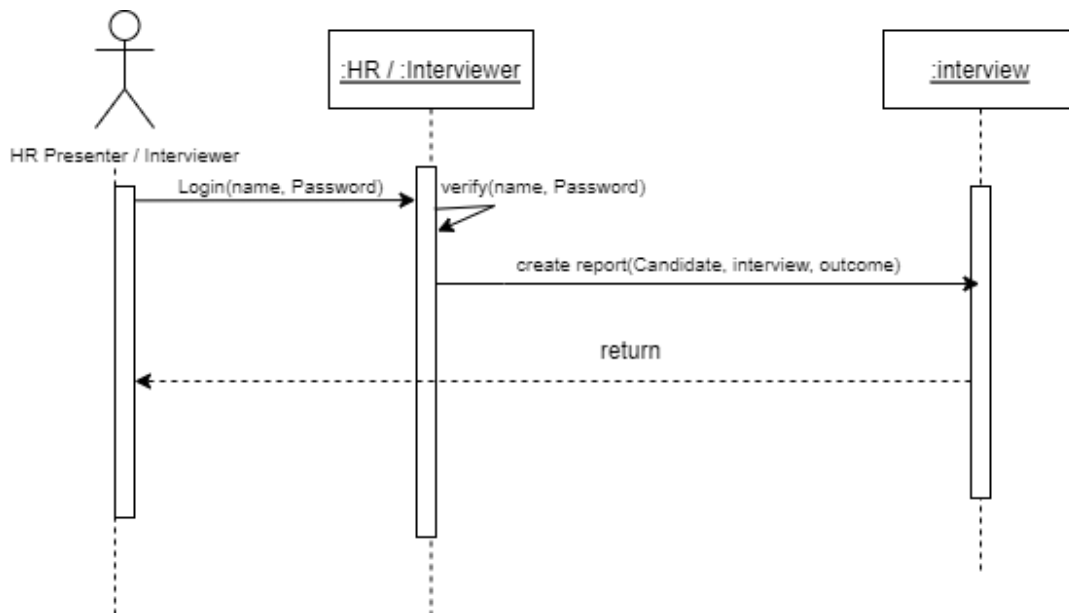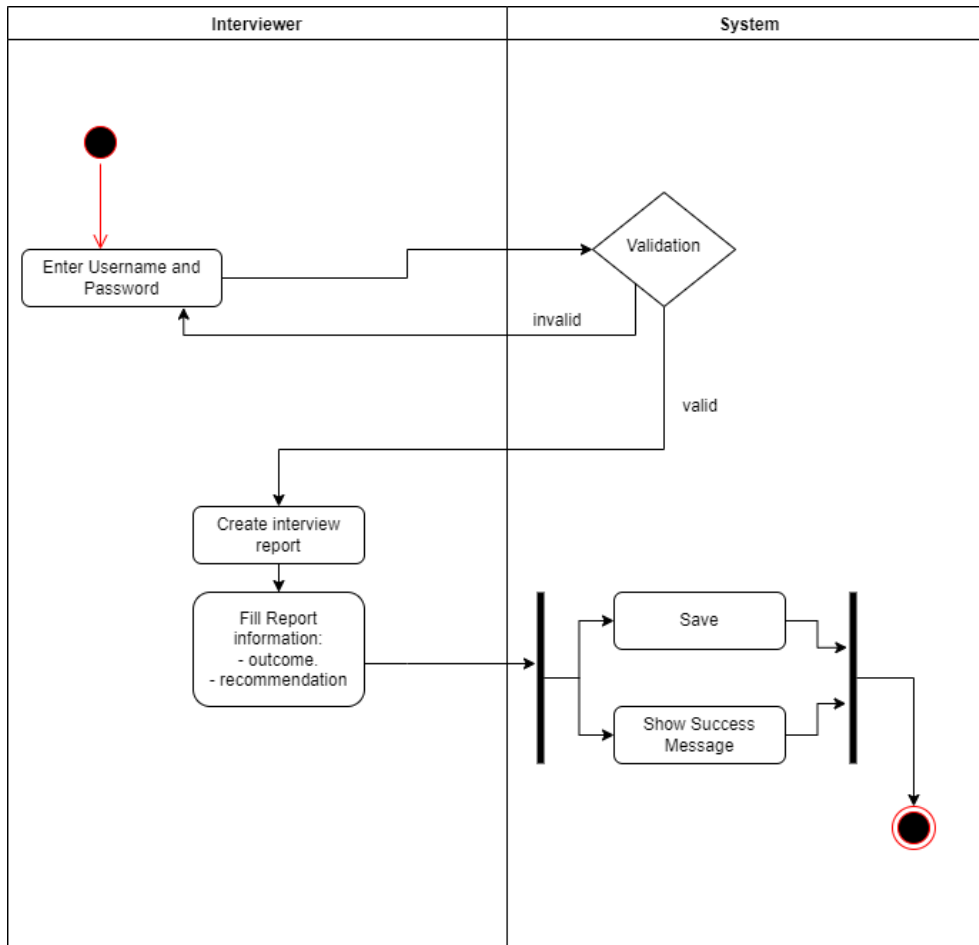
H- Modify interview details: Done by Alawi Sahel
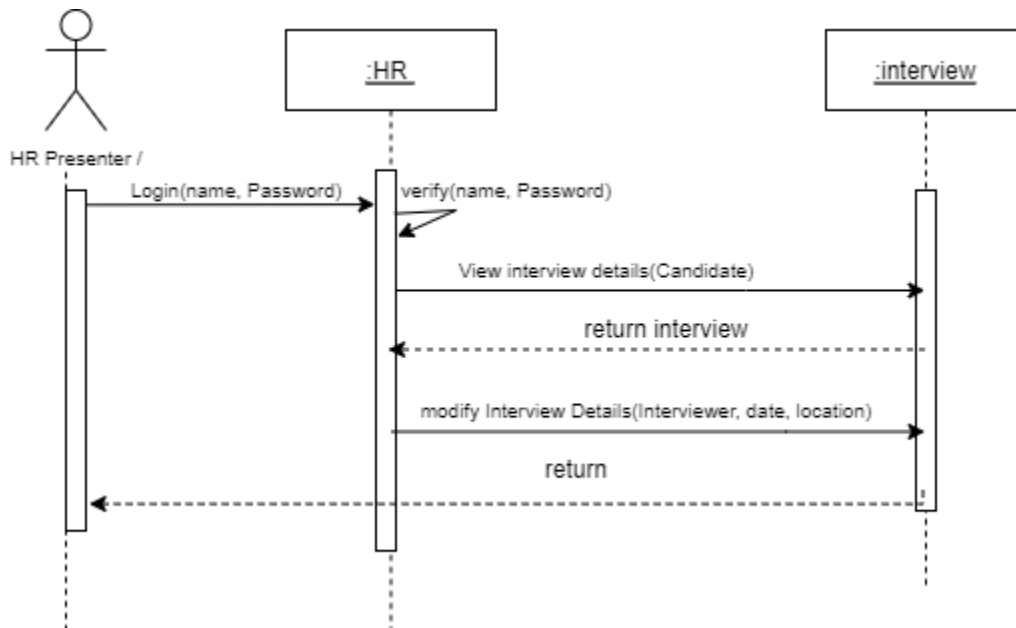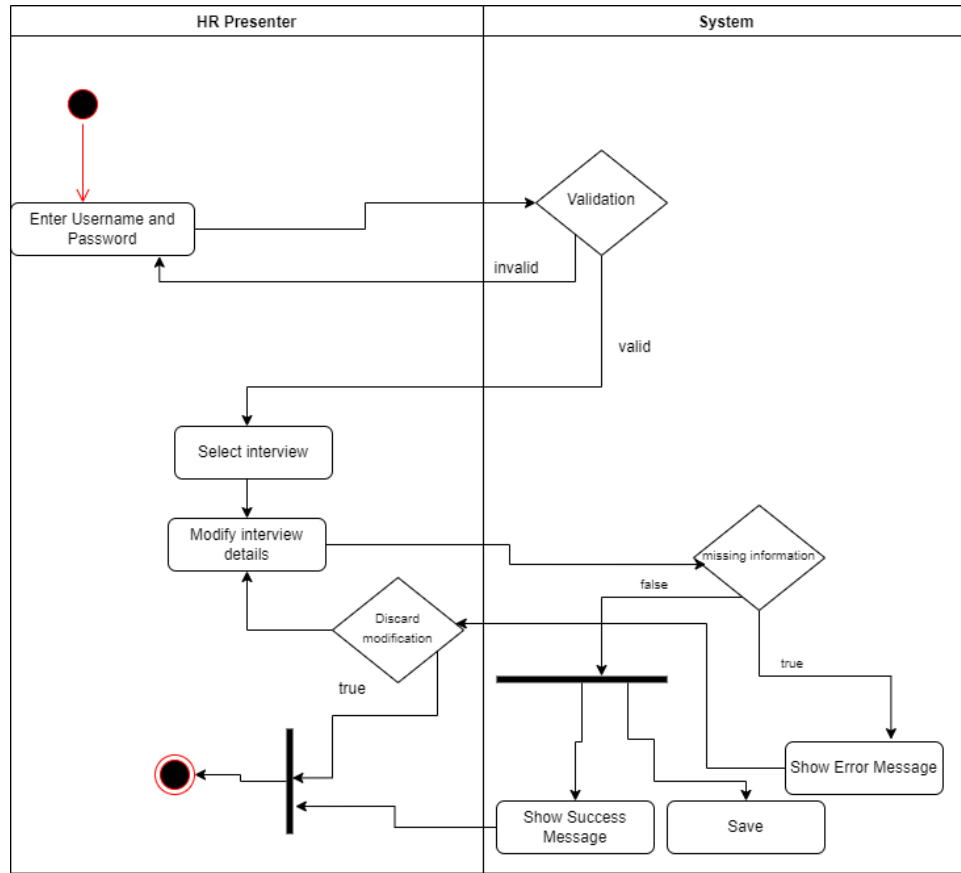
I- Create interview logs: Done by Alawi Sahel
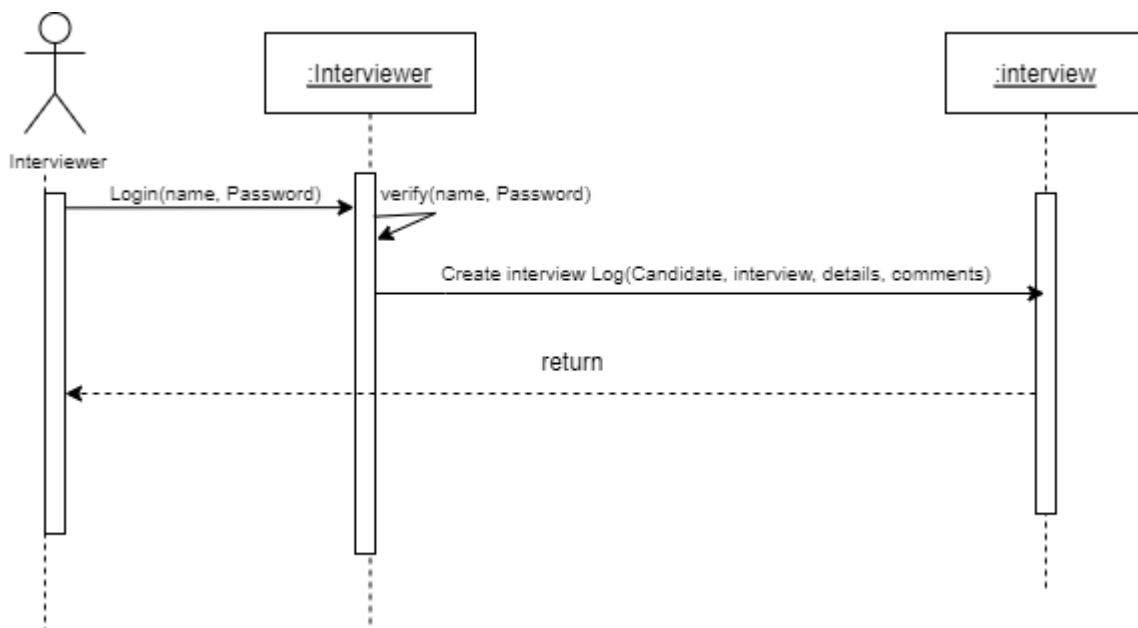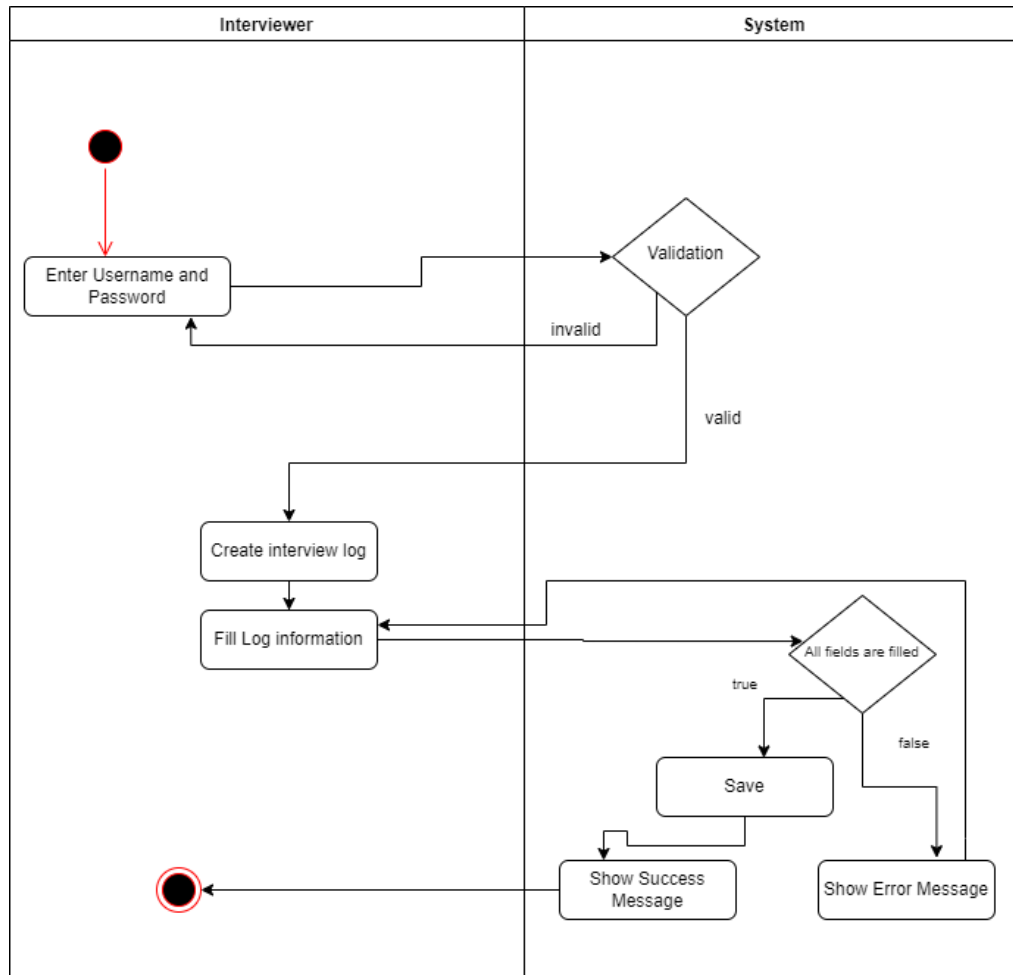
J- Edit candidate information: Done by Yasser Abdulaal
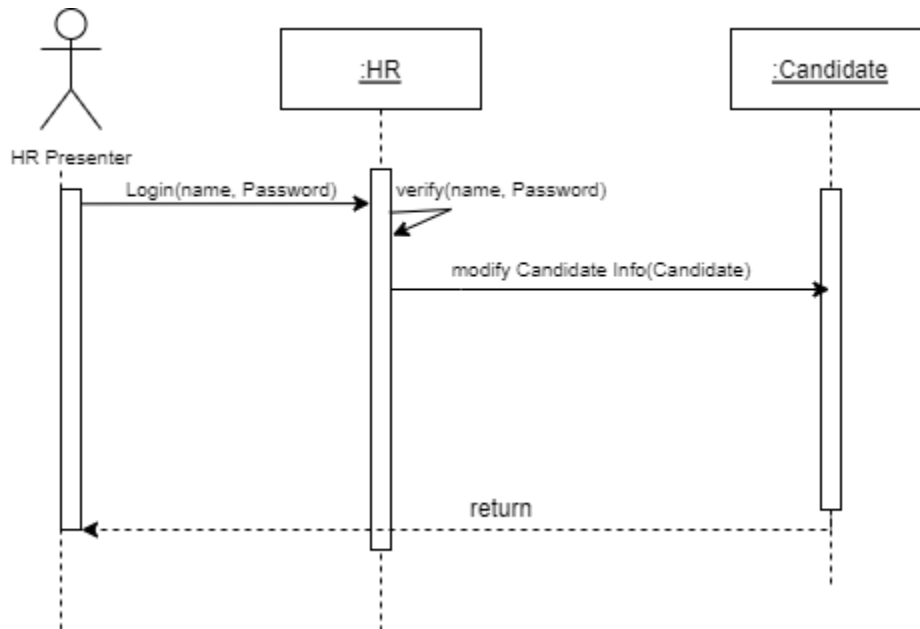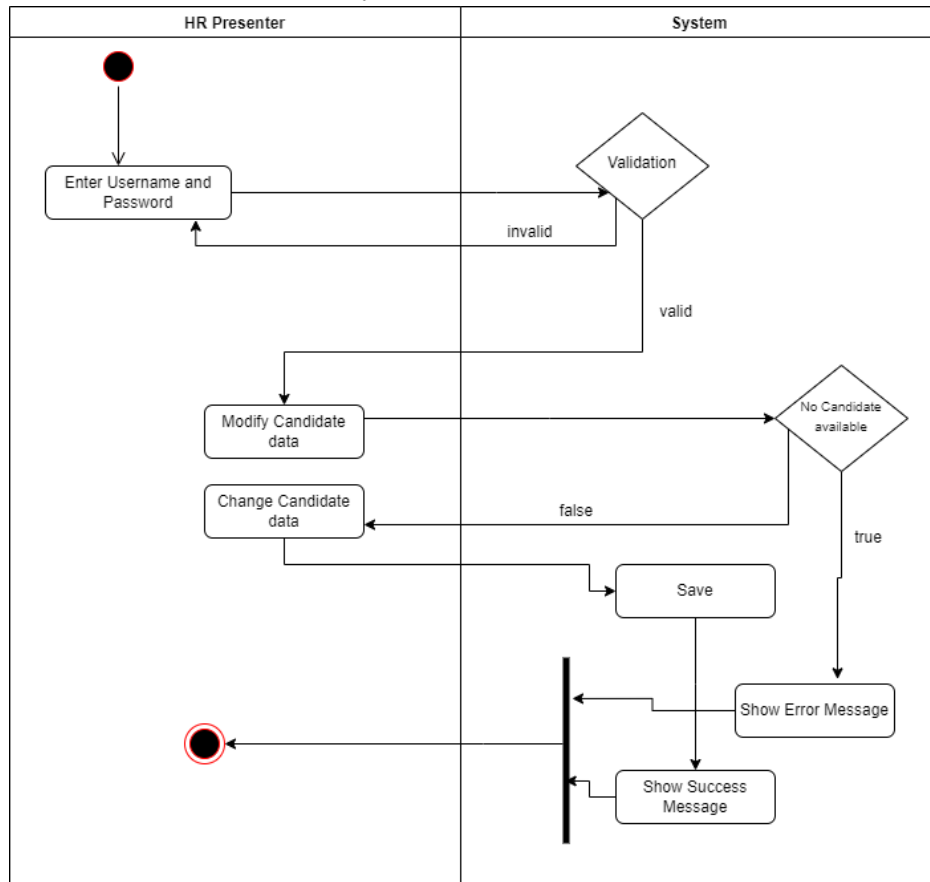
K- Schedule interview: Done by Yasser Abdulaal