Online recruitment system project

Report three

Team leader：Lewis

Member：Lewis, Wade, Rick, Troy

Directory

Work breakdown form——Report three

Name	Lewis	Wade	Rick	Troy
Written part	2. Glossary of Terms 3. System Requirements 4. Functional Requirements 5. Effort Estimation using Use Case Points 8. Class Diagram and Interface Specification 9. System Architecture and System Design 11.User Interface Design and Implementation	6. Domain Analysis 7. Interaction Diagrams 12. Design of Tests 15.Project management	1.Customer Statement of Requirements 13.History of Work	10. Algorithms and Data Structures 14.References

1. Customer Statement of Requirements

As a client who is looking for a job, I need to define my goal and direction first. I need to find a suitable job for my major. My major in university is information management, so I think about finding a job about information technology and information statistics. As a contemporary job seeker, because of the rapid development of the Internet, I prefer to apply for jobs through the Internet model.

But I also have my own concerns. The first point is that the online recruitment model has not been fully popularized. I am worried about the immaturity of the online recruitment model. The second point is that because the major of information management involves a wide range of work, I will worry that some good companies are not popularized, leading to the company I want to enter. The third point: Compared with the normal recruitment model, online recruitment fair. Don't miss some key details. Fourth point: Risk problem, online transactions do not face-to-face exchanges, so it may lead to difficult agreement between the two sides, but if it is offline recruitment, there will be no such problem. Fifth point: salary problem, online recruitment, salary is often fixed, not easy to change for some personal reasons, but offline recruitment, face-to-face form makes this problem solved very well.

However, excluding these concerns and concerns, I think online recruitment also has many advantages, such as: more convenient, faster, more extensive, help us to improve the efficiency of finding a job, find a good job, we not only save time, but also have more choices. We can apply for entry and online interviews to multiple companies at the same time, but if in the Offline, we not only need to allocate the limited time reasonably, but also have not so many choices of online recruitment.

As a job seeker, my most concern is the reliability of the online recruitment system, because of this concern, so I launched an inquiry to your company's human resources department, they told me that the company's human resources department employees can use this recruitment system to prepare questionnaires and publish questionnaires related to the required positions; job seekers can submit resumes and resumes through this system.Then, the employee systematically counts these resumes, and chooses the interviewees according to the resume of the job seekers. Employees issue positions in the system, and then job seekers submit resumes . After that, employees can easily choose the right interviewees by simply selecting employees with high scores and checking their resumes.

As an online recruitment system for job seekers, I am concerned about the fairness of this system. As we all know, offline recruitment is often unfair and false. Therefore, if the online recruitment system is regarded as a new thing in the new era, in order to replace the traditional recruitment model, the issue of fairness must be solved. As the founder of the online recruitment system, he told me that most of the managers responsible for browsing and reviewing job seeker resumes are company managers, mainly human resource managers and system managers who are familiar with the recruitment business. Then the system is divided into client and management. The main functions of the client are to choose work, resume input, resume submission, etc. The function of the management terminal is to provide in-service news, resume management and user management for the company manager. Then there is system interface design, system structure design, data design, module design, interface design, etc. Therefore, this process can ensure the fairness of online recruitment. Each step will have a special staff to strictly check his flatness, which is an important reason why the online recruitment system can replace the traditional recruitment model.

Therefore, this process can ensure the fairness of online recruitment, each step will have a dedicated staff to strictly check his fairness, which is why the online recruitment system can replace the traditional recruitment model is an important reason. We believe that the online recruitment system will replace the traditional recruitment model.

2. Glossary of Terms

Struct: A framework architecture

JavaBean: A class that implements certain functions in the Java language.

JSP Model2: A term described in the 0.92 version of the Servlet/JSP specification that defines how to use Servlet and JSP architectures together in the same application.

Class: A program unit in a Java program that can generate many instances.

Packages: Work package consisting of many classes

OCL：Object Constraint Language

UCP: Use Case Points

TCF: Technical Complexity Factors

ECF: Environmental Complexity Factors

3. System Requirements

A. Enumerated Functional Requirements

Identifier	Priority	Requirement
REQ1	3	The system enables users to register and log in
REQ2	5	The system enables user recruiters to post jobs on the system
REQ3	3	The system enables the question bank manager to change the question bank and questionnaire independently.The system enables the question bank manager to change the question bank and questionnaire independently.
REQ4	4	The system enables candidates to answer questions after selecting a position.
REQ5	2	The system enables recruiters to see the resumes of different candidates on the system.
REQ6	5	The system enables recruiters to interview in the system corresponding candidates
REQ7	4	The system enables job seekers to fill in resumes
REQ8	1	The system can manage the personnel on the system

B. Enumerated Nonfunctional Requirements

Identifier	Priority	Requirement
REQ1	3	The system should search according to the number and name specific conditions during off-peak hours, and can get search results within 3 seconds.
REQ2	2	The system can satisfy 50,000 user requests at the same time and provide browsing functions for 25,000 concurrent users.
REQ3	2	The system supports 50,000 users and supports GB-level data.
REQ4	1	The system provides data backup and recovery functions, enabling data to be recovered and restored in time when system data is lost or system data is corrupted due to system errors or other reasons.
REQ5	2	The system should support IOS, Android, Windows operating system.
REQ6	1	The system requires the system to run 24 hours a day, and the continuous operation failure time of the whole year cannot exceed 10 hours.
REQ7	2	The system should be encrypted and not cracked
REQ8	3	In 95% of the system failures, the system needs up to 20 seconds to restart.
REQ9	5	90% of the system's BUG modification time does not exceed 1 working day, and the other does not exceed 2 working days.

C. User Interface Requirements

Non-functional Requirements:
A Brief Introduction to Job-hunting Companies
Personnel distribution in job-seeking companies
Recruitment flow chart
Real-time progress in recruitment
Number of job seekers in the same position

Interpretation: Enter the Online Recruitment Platform

Interpretation: Asking for help in the recruitment process

Interpretation: Customer Service Consulting

4. Functional Requirements Specification

A Stakeholders： Stakeholders: Job seekers, recruiters and Administrator of Recruitment System.

B Actors and Goals:

Actor	Actor's goal	Usecase name
Administrator	Manage job seekers and recruiters' information and all matters in the system.	User management
Job seekers recruiters	Users (recruiters and job seekers) enter the registration page and fill in personal information to obtain personal accounts.	User registration system
Job seekers recruiters	The user logs in to the system interface after completing the registration.	User login system
Recruiters	Recruiters publish recruitment information to the system interface.	Job posting
Job seekers	Job seekers check all the recruitment information and choose their favorite job.	Job selection
Job seekers Administrator	Job seekers upload resumes to administrators after choosing jobs.	Resume input

Job seekers Administrator	Administrators accept and manage job seekers'resumes.	Resume management
Job seekers recruiters	An interview is arranged after the recruiter is satisfied with the candidate's resume.	Interview management
Job seekers	Browse employment news and job fair information	Employment news
Job seekers recruiters	Can leave a message on the system's function and other issues	System message board

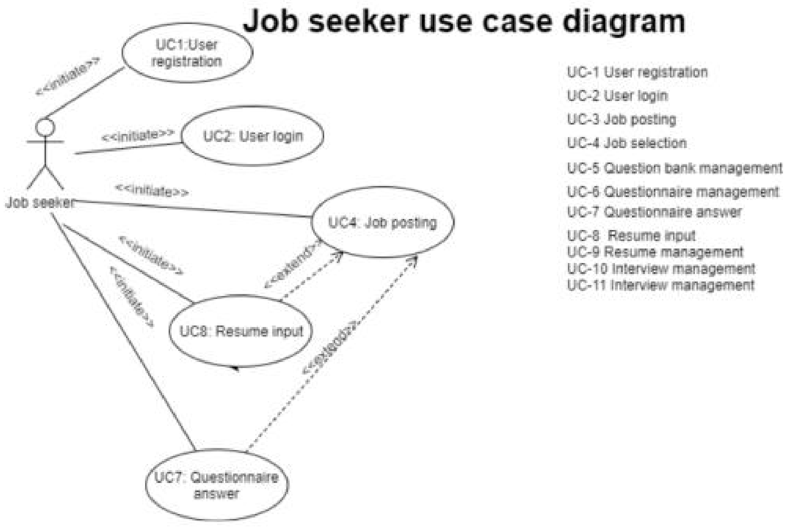
C Use Cases:

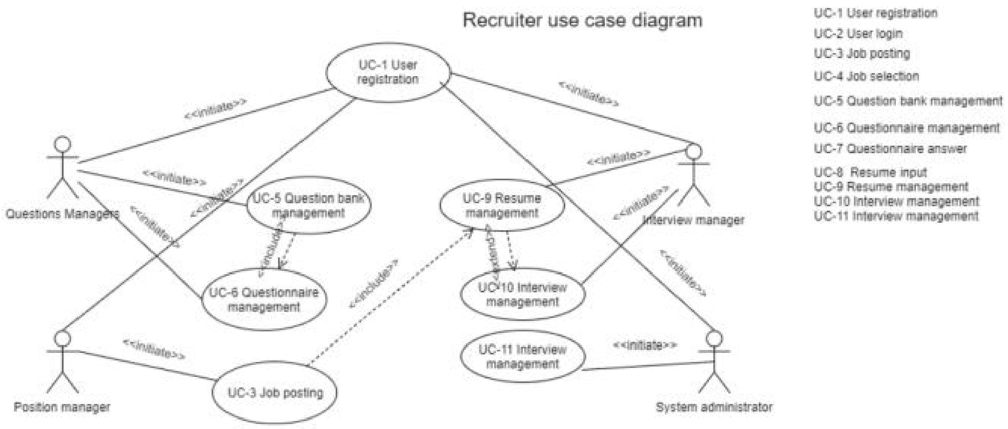
i. Casual Description

UC-1 User Registration: Users need to register an account in order to log in to the system.
UC-2 user login: The user logs in to the system using the account to use the system.
UC-3 Employment news: Show the latest news about employment work
UC-4 Job fair activities: Show the latest recruitment event address time, etc.
UC-5 Job Post: Recruiters post jobs on the system to offer employer choices
UC-6 Job Selection: The job selection is to display all positions currently recruited and descriptions and requirements for each position.
UC-7 Submit your resume: Job seekers submit their resume after selecting the right position
UC-8 Resume management: Recruiters can view resumes that have been delivered
UC-9 Interview information: Job seekers can prepare how to interview by downloading materials
UC-10 System message board: Recruiters and job seekers can leave a message through this use case
UC-11 User Management: System administrators can set permissions
UC-12 Question Bank Management: The management of the question bank mainly completes the increase and decrease of test questions, such as modification and query maintenance. (The final demo will not be implemented)
UC-13 Questionnaire Management: Questionnaire management is mainly to organize questionnaires. (The final demo will not be implemented)

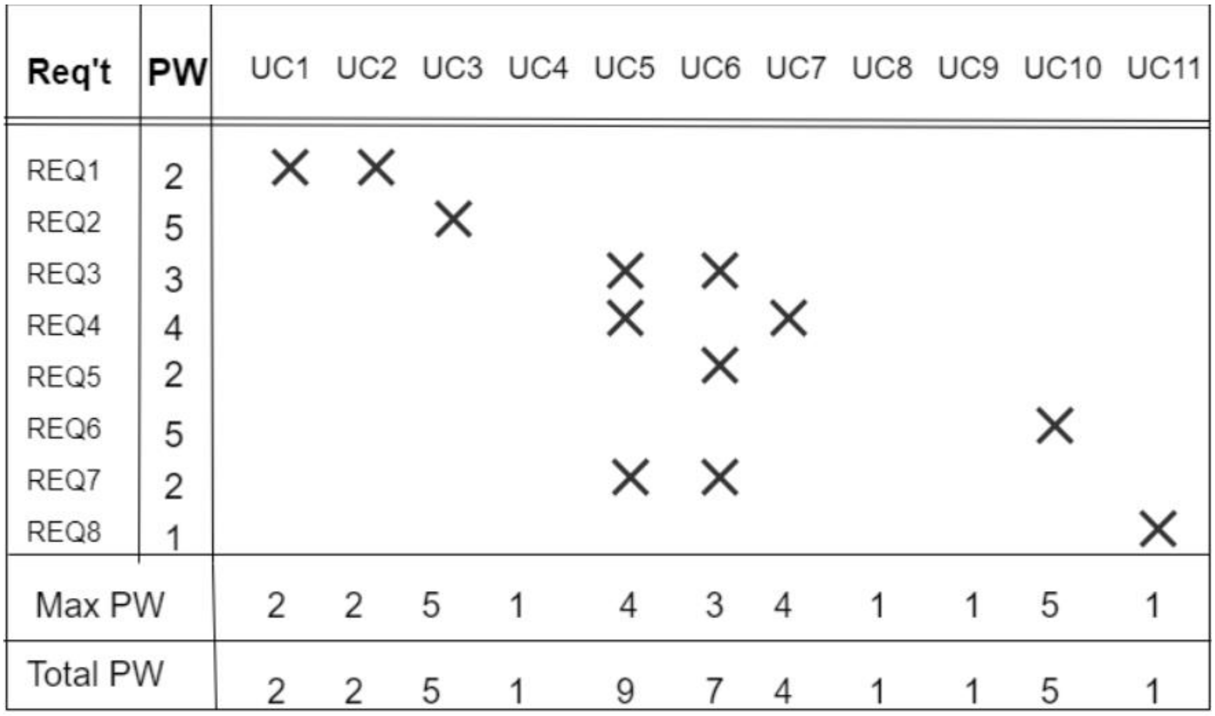
UC-14 Questionnaire Answer: Candidates will answer questions after selecting a position, and the system will give a score. (The final demo will not be implemented)

Ii. Use Case Diagram:




Recruiter use case diagram
UC-1 User registration
UC-5 Question bank management
UC-6 Questionnaire management
UC-9 Resume management
UC-10 Interview management
UC-11 Interview management
UC-3 Job posting
Questions Managers
Position manager
Interview manager
System administrator
<<initiate>>
<<include>>
UC-1 User registration
UC-2 User login
UC-3 Job posting
UC-4 Job selection
UC-5 Question bank management
UC-6 Questionnaire management
UC-7 Questionnaire answer
UC-8 Resume input
UC-9 Resume management
UC-10 Interview management
UC-11 Interview management

iii Traceability Matrix：



Req't	PW	UC1	UC2	UC3	UC4	UC5	UC6	UC7	UC8	UC9	UC10	UC11
REQ1	2	X	X									
REQ2	5			X								
REQ3	3					X	X					
REQ4	4					X		X				
REQ5	2						X					
REQ6	5										X	
REQ7	2					X	X					
REQ8	1											X
Max PW		2	2	5	1	4	3	4	1	1	5	1
Total PW		2	2	5	1	9	7	4	1	1	5	1

liii Fully-Dressed Description:

Use Case UC-1:	User registration system
Related Requirements:	REQ1and REQ6

Initiating Actor:	Recruiter, job seeker
Actor’s Goal:	Users sign up for an account
Participating Actors:	Job seekers, recruiters
Preconditions:	New users need to register first
Postconditions:	After registering, you can log in to the system.

Flow of Events for Main Success Scenario:		
	1.	The job seeker enters the registration page of the website
	2.	After filling in the personal information, you will get an account for your own use.

<table>
<tr><td><b>Use Case UC-2:</b></td><td colspan="2">User login system</td></tr>
<tr><td><b>Related Requirements:</b></td><td colspan="2">REQ1</td></tr>
<tr><td><b>Initiating Actor:</b></td><td colspan="2">Job seeker, recruiter, administrator</td></tr>
<tr><td><b>Actor’s Goal:</b></td><td colspan="2">The user enters the recruitment system using the registered account</td></tr>
<tr><td><b>Participating Actors:</b></td><td colspan="2">Job seekers, recruiters, administrators</td></tr>
<tr><td><b>Preconditions:</b></td><td colspan="2">The administrator needs to verify the legality of the user's registered account.</td></tr>
<tr><td><b>Postconditions:</b></td><td colspan="2">Determine whether the user is allowed to enter the system.</td></tr>
<tr><td colspan="3"><b>Flow of Events for Main Success Scenario:</b></td></tr>
<tr><td></td><td>1.</td><td>The job seeker uses the registered account for verification</td></tr>
<tr><td></td><td>2.</td><td>The administrator judges according to the legality of the account registered by the job seeker</td></tr>
<tr><td></td><td>3.</td><td>The job seeker logs in to the system.</td></tr>
</table>

Use Cas	Employment news

e UC-3:	
Related Requirements:	REQ3 REQ4，REQ7
Initiating Actor:	job seeker
Actor's Goal:	In our online recruitment system, recruiters can use this feature to browse news about employment.
Participating Actors:	job seeker
Preconditions:	The job seeker has logged into the system
Postconditions:	If you click this feature successfully, the job seeker can see all the news.
Flow of Events for Main Success Scenario:	

	1.	Enter the employment news interface, first display the news that already exists.
	2.	Click on each topic to view the specific content of the topic in detail, and als o modify the topic.
	3.	Can download news documents

Use Case UC-4:	Job fair activities
Related Requirements:	REQ4
Initiating Actor:	Job seeker
Actor's Goal:	Job seekers can see all job fair information, including time and place, etc.
Participating Actors:	Job seeker
Preconditions:	Job seeker login system
Postconditions:	Job seeker clicks to display job fair information
Flow of Events for Main Success Scenario:	

	1.	Click on the job fair function to display each session
	2.	It shows the time and place of the job fair, etc.

Use Case UC-5:	Job posting
Related Requirements:	REQ2
Initiating Actor:	Position manager
Actor's Goal:	Managers post job information through the needs of the company, detailing the needs of the position, candidates can see the position through the network and apply.
Participating Actors:	Position manager
Preconditions:	The position manager has logged in to the system
Postconditions:	If the position is successfully posted, the position information in the database changes, and the candidate can see the recruitment information through the network.
Flow of Events for Main Success Scenario:	

	1.	Enter the job posting interface, first show the positions currently being recruited, you can add new jobs.
	2.	A detailed description of each position can be viewed in detail by clicking on each position.

Use Case UC-6:	Job selection
Related Requirements:	REQ8
Initiating Actor:	Job seeker
Actor's Goal:	Job selection is to show all the positions currently being recruited and the description and requirements of each position being recruited.
Participating Actors:	Job seeker Recruiter
Preconditions:	Applicants have logged in to the system.

Postconditions:		After choosing the position to apply for, you can enter your resume.
Flow of Events for Main Success Scenario:		
	1.	Candidates log on to the company's recruitment website, showing the current job listing, the date of publication, the number of recruits, etc.
	2.	Click on any job to browse the details of the job, including job description, requirements for applicants, recruiters and other information.
	3.	If you are satisfied with the position, you can click on "Apply for the position" to enter the resume information page and start filling in the resume and answering the questionnaire.
Use Case UC-7:		Resume input
Related Requirements:		REQ7
Initiating Actor:		Job seeker
Actor's Goal:		If the applicant is satisfied with a certain position, he or she will start to enter his or her resume. The resume starts with the basic information of the applicant, then he or she will enter the work experience, education experience, basic skills, family members, self-introduction and so on. Finally, he or she will begin to answer the questionnaire.
Participating Actors:		Job seeker Recruiter Administrators
Preconditions:		The applicant has selected the position to apply for.
Postconditions:		After entering the resume, you can answer the questionnaire.
Flow of Events for Main Success Scenario:		
	1.	Basic information input, including name, sex, age, height, document type, document number, marital status, working life, expected monthly salary, residence, telephone, E-mail, address, zip code, etc.
	2.	Work experience information input, including start and stop time, work unit, unit information input.

Use Case UC-8:		Resume management
Related Requirements:		REQ7
Initiating Actor:		Candidate, interviewer
Actor’s Goal:		The interviewer will select a person who has achieved a certain grade as the selected subject and notify the interview time.
Participating Actors:		Candidates, interviewers
Preconditions:		The interview manager has logged in to the system
Postconditions:		After the resume is completed, you can divide the candidates into several categories to prepare for the interview.
Flow of Events for Main Success Scenario:		
	1.	Enter the resume management interface, first display the current job list corresponding to the resume, provide query function
	2.	Click on the job list to enter all resume list interface of the corresponding position
	3.	There are three processing results for the resume, through the interview, retain the resume, refuse
	4.	Applicants will be notified by the interviewer through the interview.

Use Case UC-9:	Interview management
Related Requirements:	REQ6
Initiating Actor:	Interview managers
Actor’s Goal:	The system administrator records the interview results
Participat	System administrator, candidate

Preconditions:	The interview manager has logged into the system	
Postconditions:	If the interview is completed, the results of the interview are recorded in the database	
Flow of Events for Main Success Scenario:		
	1.	Enter the interview management interface, display the current job listing, provide query function
	2.	Click on a position to enter the list of interviewees for that position
	3.	Classify interviewees into those who are waiting for notification, those who are waiting for interview and those who have completed the interview: for those who have not informed the interview and are informed to conduct the interview, its status will become the interviewee
	4.	Click on each person on the list to see the candidate's profile
	5.	When the interview is completed, it is necessary to record the interview time, the interviewee and the interview result, etc. After the information is submitted, the status of the interviewee will become the interviewee

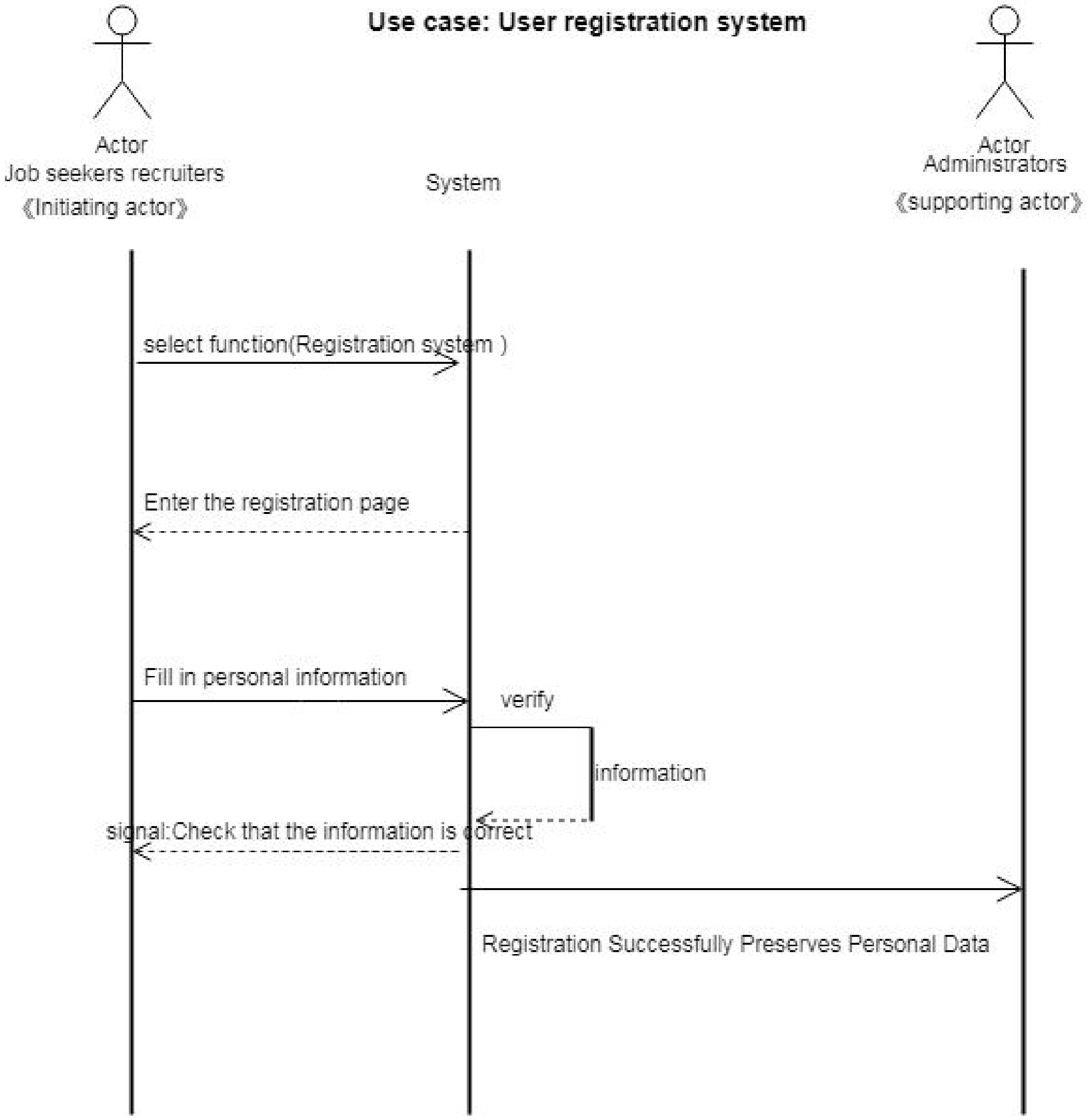
Use Case UC-10 :	System message board	
Related Requirements:	REQ5,REQ6,REQ7	
Initiating Actor:	Job seekers and recruiters	
Actor's Goal:	Job seekers and recruiters can provide advice on system functionality and optimization.	
Participating Actors:	Job seekers and recruiters	
Preconditions:	The tJob seekers and recruiters has logged in to the system	
Postconditions:	Enter text, etc. can be successful	
Flow of Events for Main Success Scenario:		
	1.	Enter the message board interface
	2.	Enter your own opinion

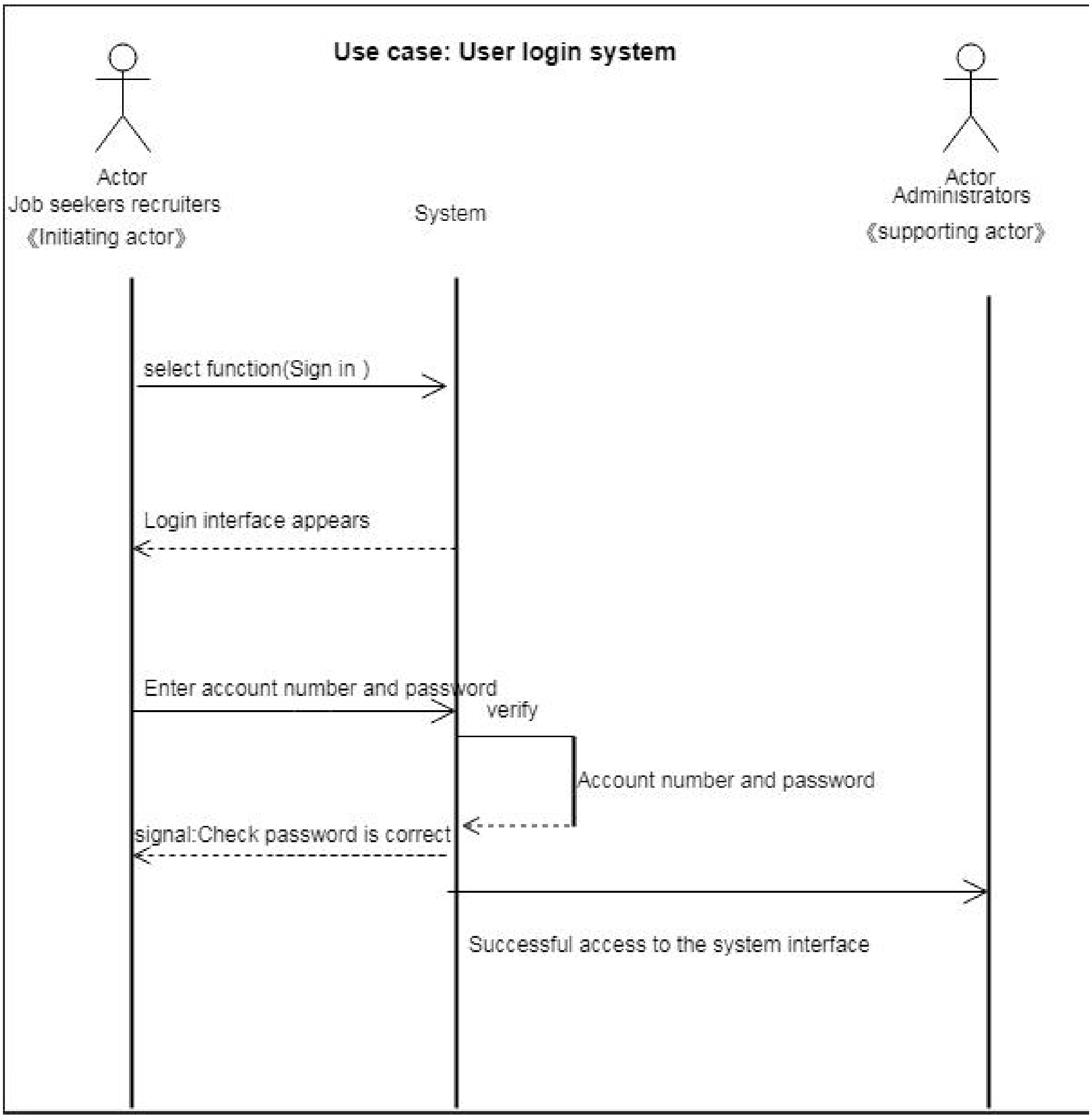
	3.	Can delete your own message
	4.	Submit a successful opinion

Use Case UC-11:	User management
Related Requirements:	REQ8
Initiating Actor:	system administrator
Actor's Goal:	To enable system administrators to more systematically manage job candidates as well as job information
Participating Actors:	system administrator, candidate
Preconditions:	The system administrator has logged into the system
Postconditions:	If the user information is maintained, the corresponding information of the user will be recorded in the database
Flow of Events for Main Success Scenario:	

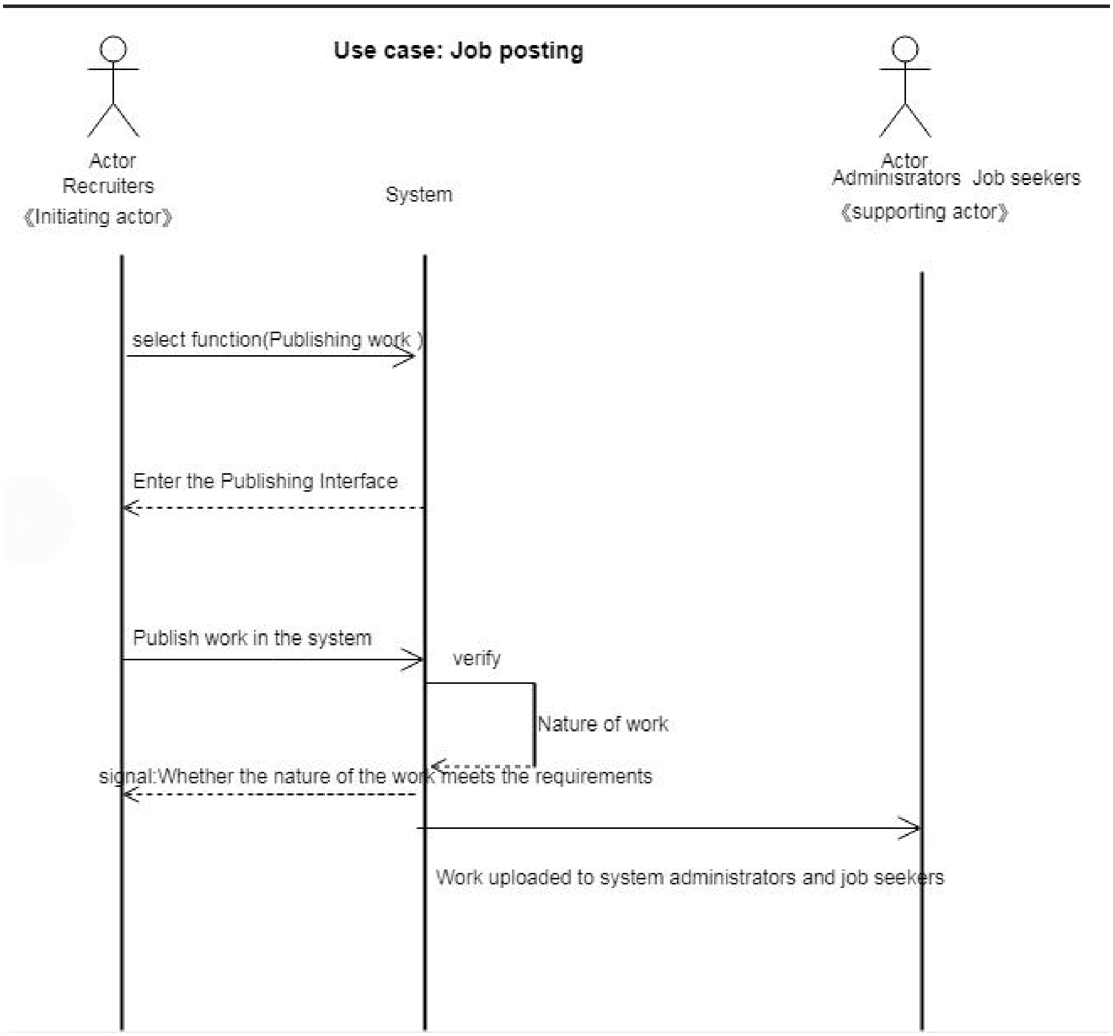
	1.	Enter the user management interface to display the current system users and the permissions of each user.
	2.	Click on different users, the user's information and corresponding permissions can be displayed, and the permissions can be modified if necessary
	3.	You can add or remove users

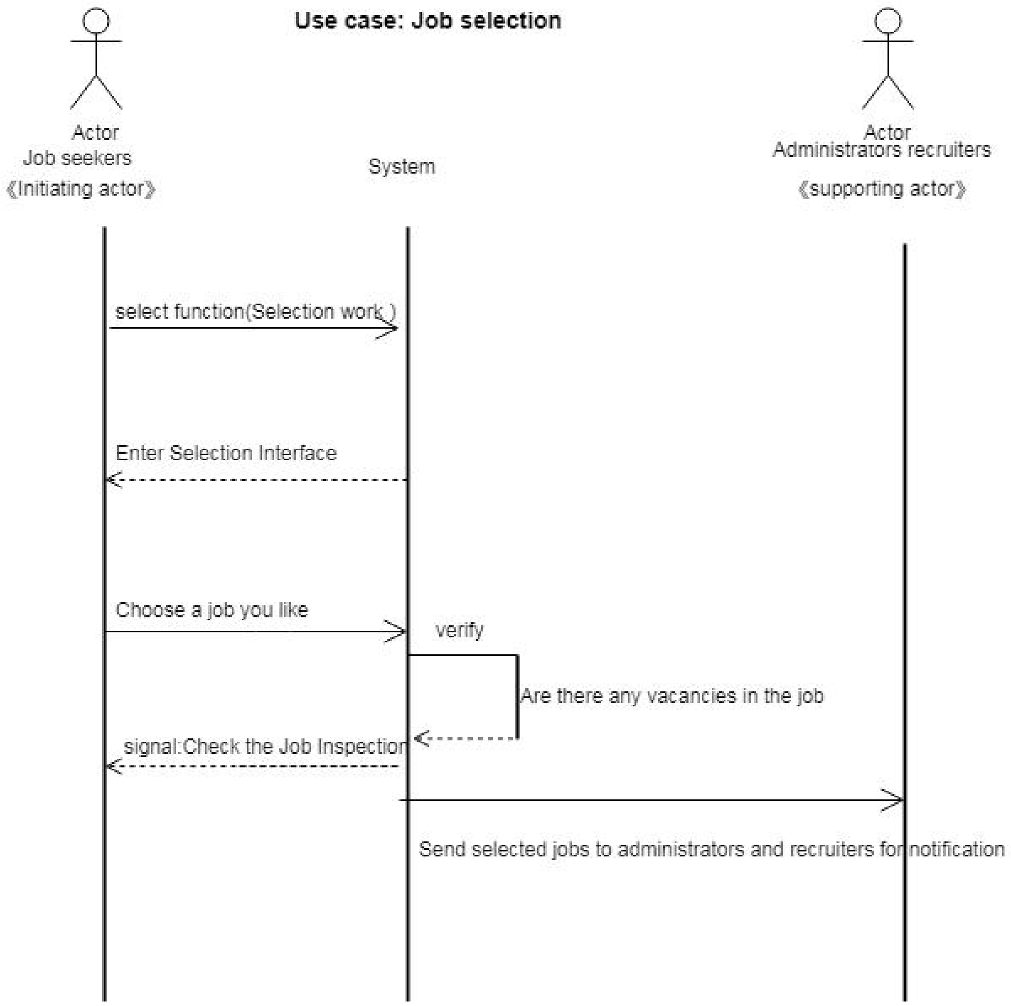
D System Sequence Diagrams:


Use case: User registration system
Actor
Job seekers recruiters
《Initiating actor》
System
Actor
Administrators
《supporting actor》
select function(Registration system)
Enter the registration page
Fill in personal information
verify
information
signal:Check that the information is correct
Registration Successfully Preserves Personal Data

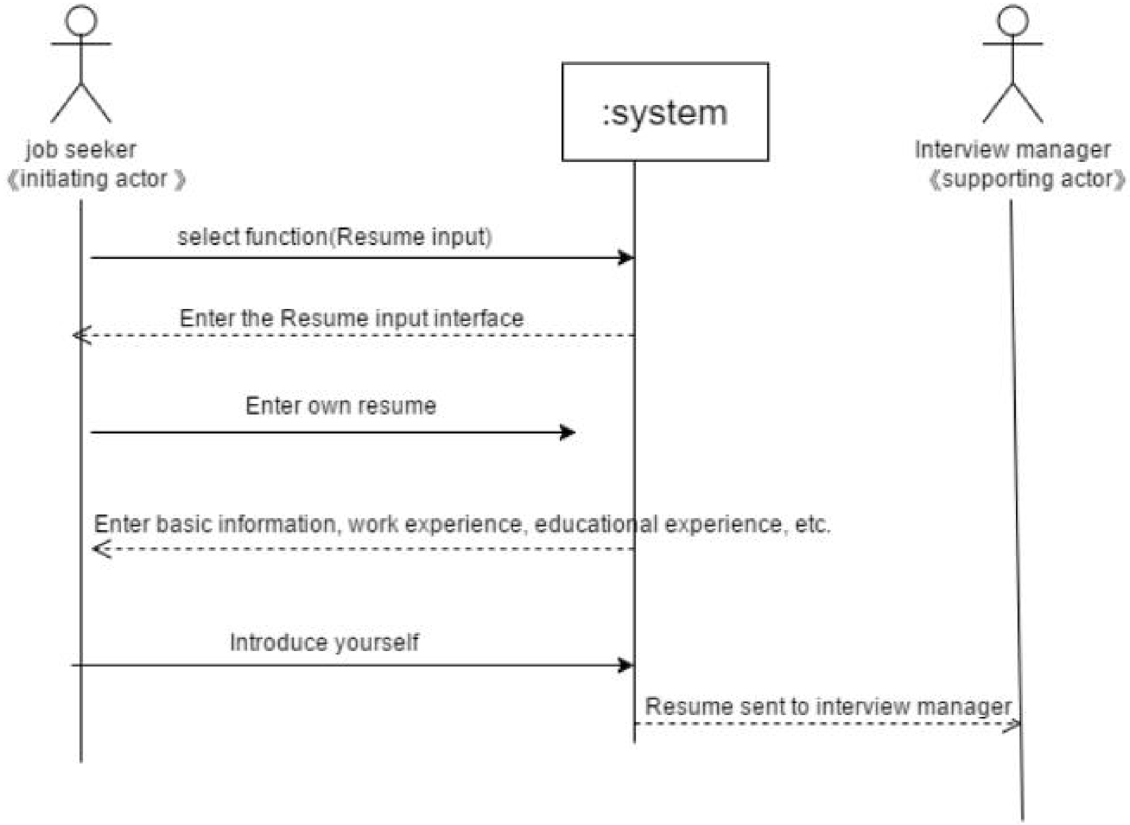


Use case: User login system
Actor
Job seekers recruiters
《Initiating actor》
System
Actor
Administrators
《supporting actor》
select function(Sign in)
Login interface appears
Enter account number and password
verify
Account number and password
signal:Check password is correct
Successful access to the system interface

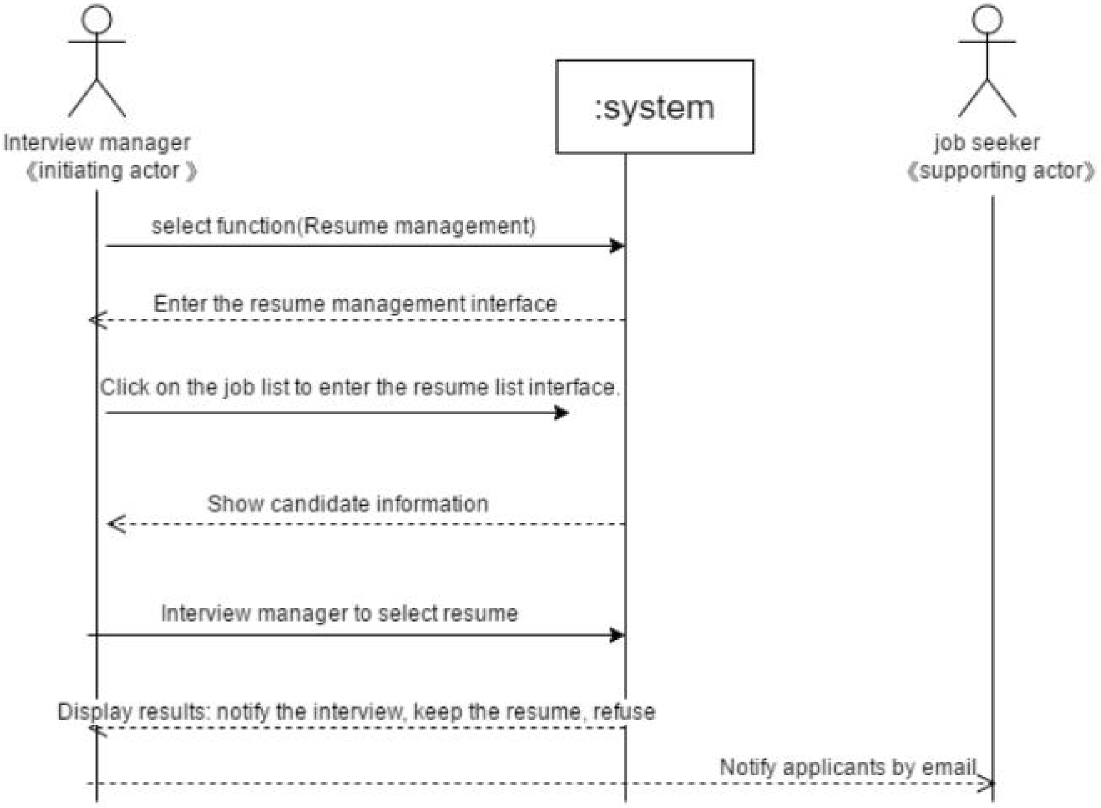

Use case: Job posting
Actor
Recruiters
《Initiating actor》
System
Actor
Administrators Job seekers
《supporting actor》
select function(Publishing work)
Enter the Publishing Interface
Publish work in the system
verify
Nature of work
signal:Whether the nature of the work meets the requirements
Work uploaded to system administrators and job seekers


Use case: Job selection
Actor
Job seekers
《Initiating actor》
System
Actor
Administrators recruiters
《supporting actor》
select function(Selection work)
Enter Selection Interface
Choose a job you like
verify
Are there any vacancies in the job
signal:Check the Job Inspection
Send selected jobs to administrators and recruiters for notification

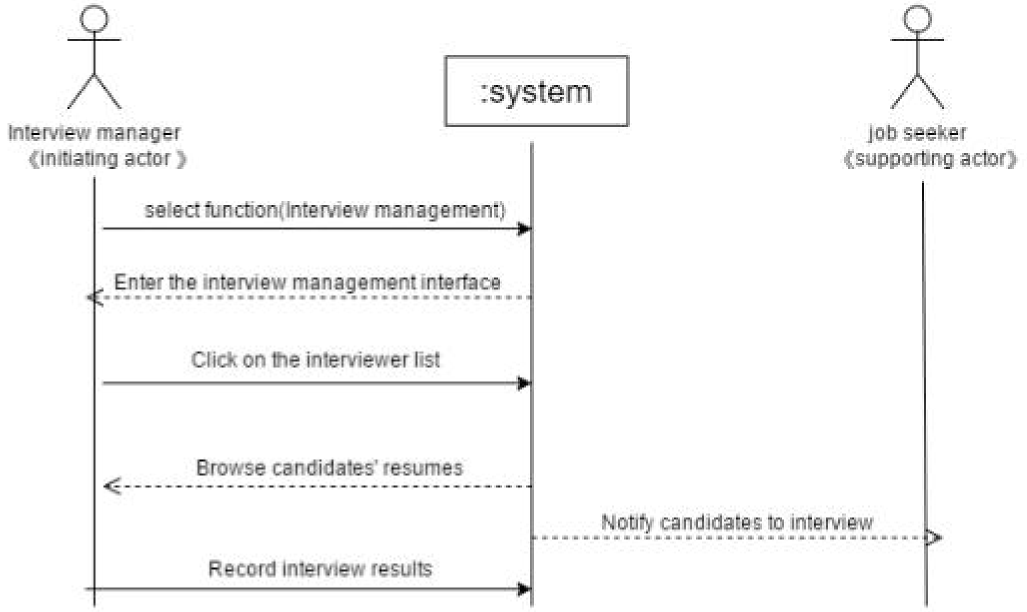
Usecase： Resume input


job seeker
《initiating actor 》
:system
Interview manager
《supporting actor》
select function(Resume input)
Enter the Resume input interface
Enter own resume
Enter basic information, work experience, educational experience, etc.
Introduce yourself
Resume sent to interview manager

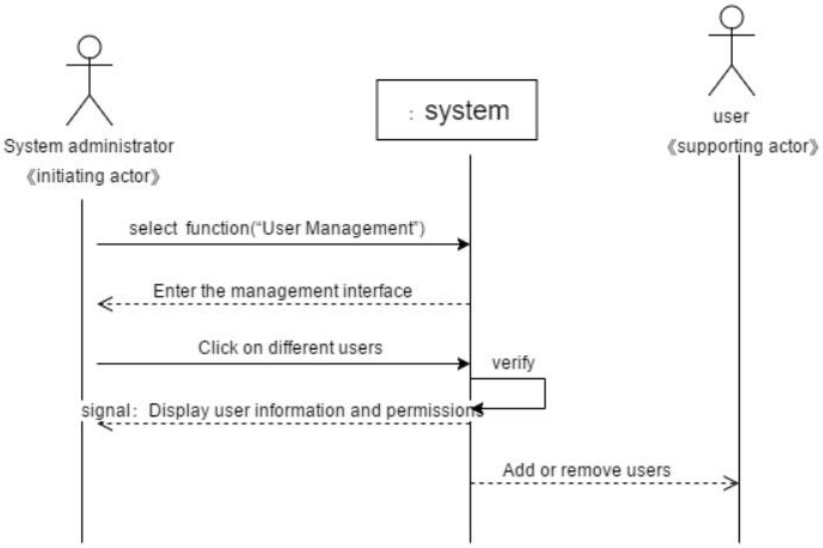
Usecase： Resume management


:system
Interview manager
《initiating actor 》
job seeker
《supporting actor》
select function(Resume management)
Enter the resume management interface
Click on the job list to enter the resume list interface.
Show candidate information
Interview manager to select resume
Display results: notify the interview, keep the resume, refuse
Notify applicants by email

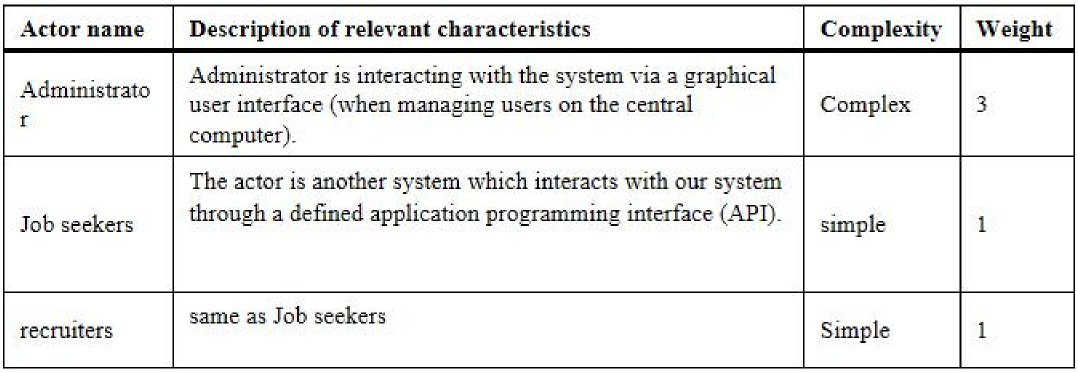
Usecase：Interview management


:system
Interview manager
《initiating actor 》
job seeker
《supporting actor》
select function(Interview management)
Enter the interview management interface
Click on the interviewer list
Browse candidates' resumes
Notify candidates to interview
Record interview results

Usecase：User Management

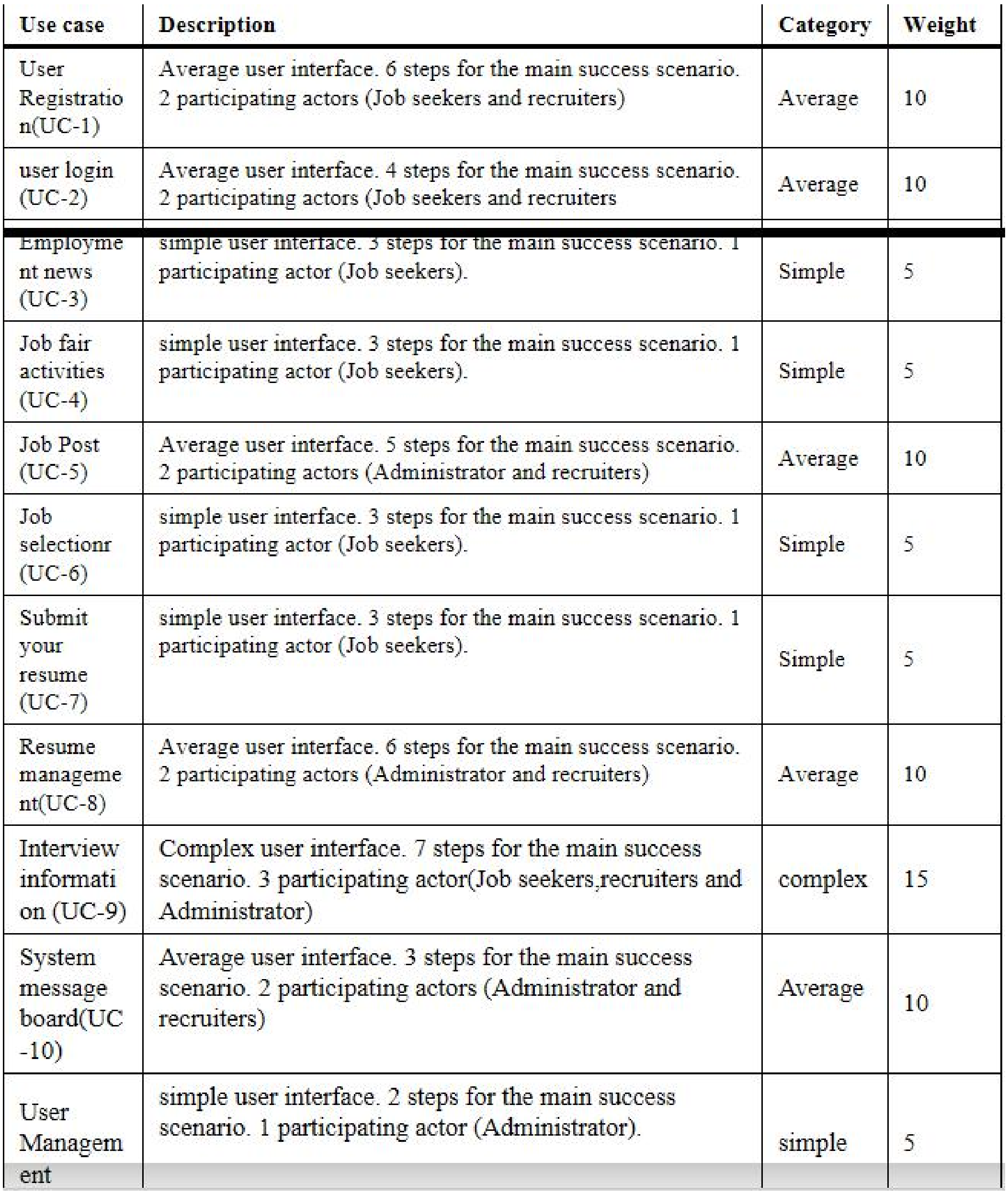


5. Effort Estimation using Use Case Points



Actor name	Description of relevant characteristics	Complexity	Weight
Administrato r	Administrator is interacting with the system via a graphical user interface (when managing users on the central computer).	Complex	3
Job seekers	The actor is another system which interacts with our system through a defined application programming interface (API).	simple	1
recruiters	same as Job seekers	Simple	1

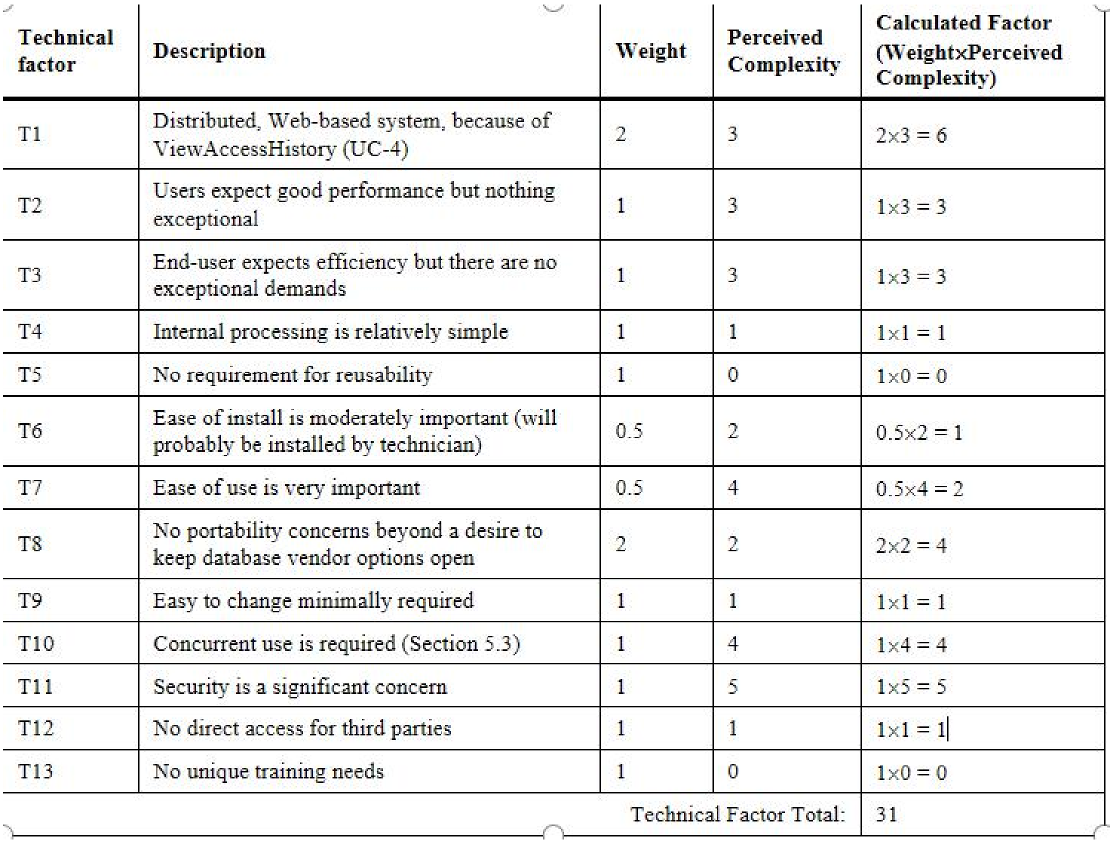
UAW = 2*Simple+1*Complex = 2*1+1*3 = 5



Use case	Description	Category	Weight
User Registration(UC-1)	Average user interface. 6 steps for the main success scenario. 2 participating actors (Job seekers and recruiters)	Average	10
user login (UC-2)	Average user interface. 4 steps for the main success scenario. 2 participating actors (Job seekers and recruiters	Average	10
Employment news (UC-3)	simple user interface. 3 steps for the main success scenario. 1 participating actor (Job seekers).	Simple	5
Job fair activities (UC-4)	simple user interface. 3 steps for the main success scenario. 1 participating actor (Job seekers).	Simple	5
Job Post (UC-5)	Average user interface. 5 steps for the main success scenario. 2 participating actors (Administrator and recruiters)	Average	10
Job selectionr (UC-6)	simple user interface. 3 steps for the main success scenario. 1 participating actor (Job seekers).	Simple	5
Submit your resume (UC-7)	simple user interface. 3 steps for the main success scenario. 1 participating actor (Job seekers).	Simple	5
Resume management(UC-8)	Average user interface. 6 steps for the main success scenario. 2 participating actors (Administrator and recruiters)	Average	10
Interview information (UC-9)	Complex user interface. 7 steps for the main success scenario. 3 participating actor(Job seekers,recruiters and Administrator)	complex	15
System message board(UC-10)	Average user interface. 3 steps for the main success scenario. 2 participating actors (Administrator and recruiters)	Average	10
User Management	simple user interface. 2 steps for the main success scenario. 1 participating actor (Administrator).	simple	5

UUCW = 5*simple+5*average+1*complex = 5*5+5*10+1*15 = 90

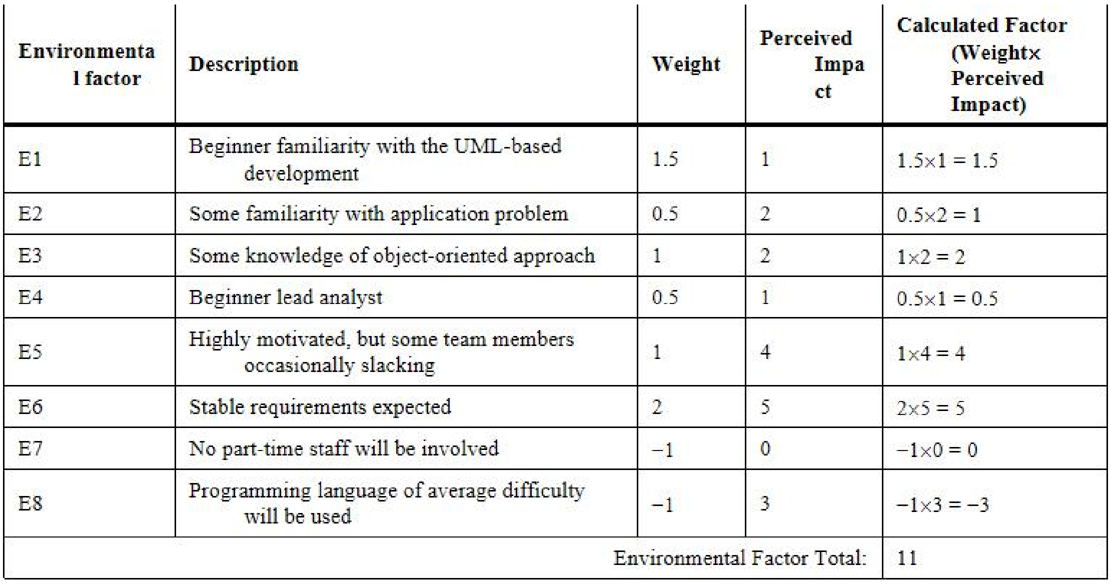
UUCP= UAW+UUCW = 5+90 = 95



Technical factor	Description	Weight	Perceived Complexity	Calculated Factor (Weight×Perceived Complexity)
T1	Distributed, Web-based system, because of ViewAccessHistory (UC-4)	2	3	2×3 = 6
T2	Users expect good performance but nothing exceptional	1	3	1×3 = 3
T3	End-user expects efficiency but there are no exceptional demands	1	3	1×3 = 3
T4	Internal processing is relatively simple	1	1	1×1 = 1
T5	No requirement for reusability	1	0	1×0 = 0
T6	Ease of install is moderately important (will probably be installed by technician)	0.5	2	0.5×2 = 1
T7	Ease of use is very important	0.5	4	0.5×4 = 2
T8	No portability concerns beyond a desire to keep database vendor options open	2	2	2×2 = 4
T9	Easy to change minimally required	1	1	1×1 = 1
T10	Concurrent use is required (Section 5.3)	1	4	1×4 = 4
T11	Security is a significant concern	1	5	1×5 = 5
T12	No direct access for third parties	1	1	1×1 = 1
T13	No unique training needs	1	0	1×0 = 0
			Technical Factor Total:	31

TCF = Constant-1 + Constant-2 × Technical Factor Total =

$$C_1 + C_2 \cdot \sum_{i=1}^{13} W_i \cdot F_i = 0.91$$



Environmental factor	Description	Weight	Perceived Impact	Calculated Factor (Weight× Perceived Impact)
E1	Beginner familiarity with the UML-based development	1.5	1	1.5×1 = 1.5
E2	Some familiarity with application problem	0.5	2	0.5×2 = 1
E3	Some knowledge of object-oriented approach	1	2	1×2 = 2
E4	Beginner lead analyst	0.5	1	0.5×1 = 0.5
E5	Highly motivated, but some team members occasionally slacking	1	4	1×4 = 4
E6	Stable requirements expected	2	5	2×5 = 5
E7	No part-time staff will be involved	−1	0	−1×0 = 0
E8	Programming language of average difficulty will be used	−1	3	−1×3 = −3
			Environmental Factor Total:	11

ECF = Constant-1 + Constant-2 × Environmental Factor Total

$$= C_1 + C_2 \cdot \sum_{i=1}^{8} W_i \cdot F_i = 1.07$$

UCP = UUCP*TCF*ECF

From the above calculations, the UCP variables have the following values:

UUCP = 95

TCF = 0.91

ECF = 1.07

For the sample case study, the final UCP is the following:

UCP = 95*0.91*1.07 = 92.50 or 93 use case points.

6. Domain Analysis

1.Registration login

1.1Determine analysis class

Boundary class: this example uses the Registration form to abstract the graphical interface that the user interacts with the user registration system。

Control class: this example control class is the Registration Controller, which is responsible for registering the use case analysis class to receive the message of the boundary class Registration form and send it to the entity class.

Entity class: this use case only involves the registration of users (job seekers, recruiters), so the entity class is only "user".

1.2 static model

All classes are unidirectional associations. The control class "Register Controller" receives messages from the boundary class "Register Form" and sends them to the entity class users. "Registration Form" and "Registration Controller" are one-to-one associations, because there is only one user registration interface: 0 or 1 object of "Registration Controller" is associated with 0 or 1 object of the user, and each registered controller processes one user at a time. Users can control login.

Note: First, the customer enters the personal information that needs to be filled in when registering, and the "registration controller" receives the information sent by the "registration form", which is verified by the customer entity class in the database whether the same account exists. If the information provided by the customer meets the requirements, the Register Controller sends a message to the customer entity class to add the customer to the database.

2. search for

2.1. Determining analysis class

Boundary class: The boundary class of this use case is "Generate Search Form"

Control class: The control class of this use case is "Generate Search Form", which is responsible for receiving the information of the boundary class "Generate Search Form" and then sending it to the entity class.

Entity class: The entity class of this use case is "user".

2.2 static model

Each class has a single relationship. The control class "search controller" receives the registration message from the boundary class "Generate Search Form" and sends it to the entity class "User". The "search controller" and the "generate search form" are one-to-one associations because there is only one user for the login application query operation, and one search controller processes one user application operation each time.

Description: The user makes a search operation request, passes the “generate search form” for message delivery, and “generates the search form” for processing, and then feeds the corresponding query form to the entity class “user”.

Each message corresponds to a service, ie method, of the message receiving object. This example will use the following method:

How to generate a query form: make a query operation

Method of generating a query controller controller: processing the application operation and feeding back the corresponding query form information.

3. Personal center

3.1 Determining analysis class

Boundary class: This example uses a "personal center" to encapsulate the interface to the user.

Control class: In this case, the control class is "administrator", which is responsible for receiving the information of the boundary class "personal center" and sending it to the entity class.

Entity class: This use case is used by the user to display the personal information that was filled in at the time of registration and upload the resume record. Therefore, the entity class involved is still only "user".

3.2 static model

Each class is a one-way association. The control class "administrator" accepts messages from the boundary class "Personal Center" and sends them to entity class users. "Personal Center" and "Administrator" are one-to-one associations; 0 or 1 object of "Administrator" is associated with 0 or 1 object of the user, and an "Administrator" processes one user at a time.

Description: The user applies to view his personal center and uploads the resume record, and sends a request for obtaining information to the “administrator” through the “personal center”. The user entity class obtains the personal information of the user from the database and delivers the “personal center”. display. The user then edits and modifies his personal information, then sends it to the "administrator", and finally sends a message to the user entity class to update the user information. This way, the user's record in the database will be modified.

4. Job posting

4.1 Determining analysis class

Boundary class: This example uses "posting" to encapsulate the interface to the user.

Control class: In this case, the control class is “recruiter”, which is responsible for receiving the information of the boundary class “posting post” and sending it to the entity class.

Entity class: This use case only covers the attention and choice of the user (job seeker) and the release of (recruiter), so the entity class only has "user".

4.2 static model

Each class is a one-way association. The control class "recruiters" accept messages from the boundary class "posts" and send them to entity class users. "Job posting" is a one-to-one association with "recruiters"; 0 or 1 objects of "recruiters" are associated with 0 or 1 objects of the user, and one "recruiter" processes one user at a time.

Description: The user applies for uploading a position for the job seeker to select, and sends a request for uploading a position to the “system administrator” through “post posting”, and delivers the “job selection” to display. The job seeker then begins to select the position, then sends it to the “System Administrator”, and finally the “System Administrator” sends the “Recruiter” information to update the user's job selection.

5. Job selection

5.1 Determining analysis class

Boundary class: This example uses the "home page", "internship recruitment" and "employment information" to encapsulate the interface to the user.

Control class: In this case, the control class is “job seeker”, which is responsible for receiving the information of the boundary class “homepage”, “internship recruitment” and “employment information” and sending it to the entity class.

Entity class: This use case involves the user (recruiter) selection of the job seeker, so the entity class only has "user".

5.2 static model

Each class is a one-way association. The control class "job seeker" accepts messages from the boundary class "home page", "internship recruitment", "employment information", and sends it to the entity class user. “Homepage” “Internship Recruitment” “Employment Information” and “Job Seeker” are one-to-one associations; 0 or 1 object of “Job Seeker” is associated with 0 or 1 object of the user, one “Job Seeker” per You can choose one position or multiple positions.

Description: After the job seeker chooses his or her favorite job, he sends a request for selecting a position to the “system administrator” through the “homepage”, “internship recruitment” and “employment information”, delivers the “recruiter” selection process, and then sends it to “system management”. "The staff", and finally the "system administrator" to the "job seeker" is eligible to participate in the interview.

6. Resume Management (posting resume)

6.1 Determining analysis class

Boundary class: In this case, there is a boundary class, which is “submit resume”.

Control class: According to the principle of designing a control class for each use case, this example only sets a "recruiter" control class.

Entity class: Because this example is used to manage resumes, the entity class involved is “CV”.

6.2 static model

Each class is a one-way association. For example, the control class "recruiters" receive messages from the boundary class "submit resumes"; "submit resumes" and "recruiters" are one-to-one associations, that is, each "submitted resume" has its own controller; "job seekers" An object of "" is associated with 0 or 1 object of the resume.

Description: After the job seeker publishes the resume, the message “CV Management” is sent to the controller by “Submit Resume”. After the review, the administrator manages the resume.

7. Message board

7.1 Determining analysis class

Boundary class: This example uses a "message board" to encapsulate the interface to the user. (The premise is that the user must successfully log in to the system.)

Control class: In this case, the control class is “job seeker”, which is responsible for receiving the information of the boundary class “message board” and sending it to the entity class.

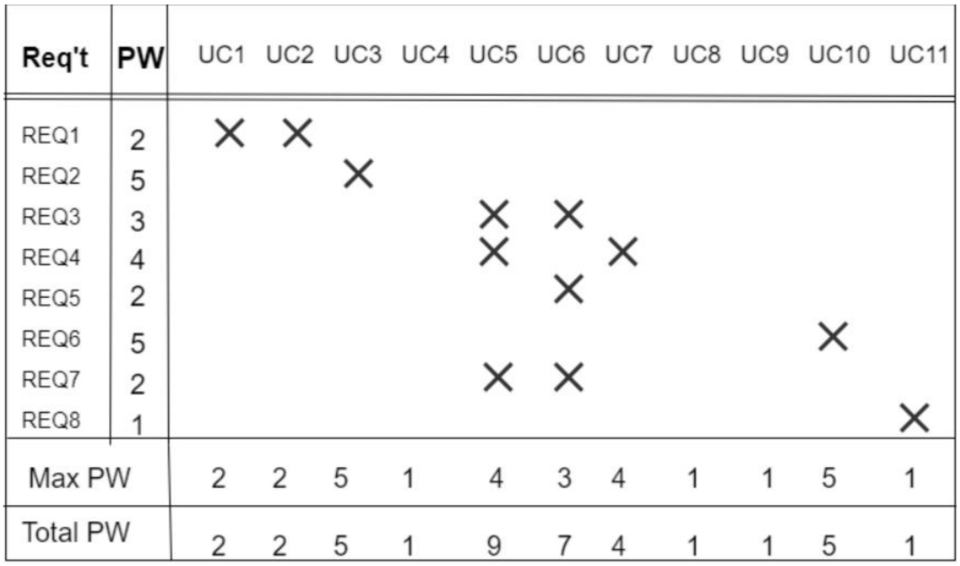
Entity class: This use case involves the user (job seeker) suggestion and evaluation of the system, so the entity class only has "user".

7.2 static model

Each class is a one-way association. The control class "job seeker" accepts messages from the boundary class "message board" and sends them to the entity class user. "Message Board" and "Job Applicant" are one-to-one association; 0 or 1 object of "Job Seeker" is associated with 0 or 1 object of the user, and a "job seeker" can make a message or more at a time. Second message.

Note: After using this system, the job seeker will have some incomprehensibility or opinions on the system. The system will be evaluated by the “message board”, and then sent to the “system administrator”. Finally, the “system administrator” will recommend the system. Upgrade or improve.

Traceability Matrix



Req't	PW	UC1	UC2	UC3	UC4	UC5	UC6	UC7	UC8	UC9	UC10	UC11
REQ1	2	X	X									
REQ2	5			X								
REQ3	3					X	X					
REQ4	4					X		X				
REQ5	2						X					
REQ6	5										X	
REQ7	2					X	X					
REQ8	1											X
Max PW		2	2	5	1	4	3	4	1	1	5	1
Total PW		2	2	5	1	9	7	4	1	1	5	1

Phase	Requirement Trace	Guidance	Requirement
URS	URS-01	Set your requirement	All entity users (tourists, job seekers, recruiters, managers,) can log in to this online recruitment system. Attributes of entity classes can also be viewed in this system, such as job seekers'personal information and resumes, recruiters' recruitment information, corporate information and resumes.
FS	FS-01	Requirement is described in the form of its functionality	All entity classes should be managed by system administrators
DS	DS-01	Detailed description of how the functionality will be fulfilled	All entity classes can be logged on to this online recruitment system.
DR	DR-01	Verify that your requirement has been	Verify (looking at the specifications)

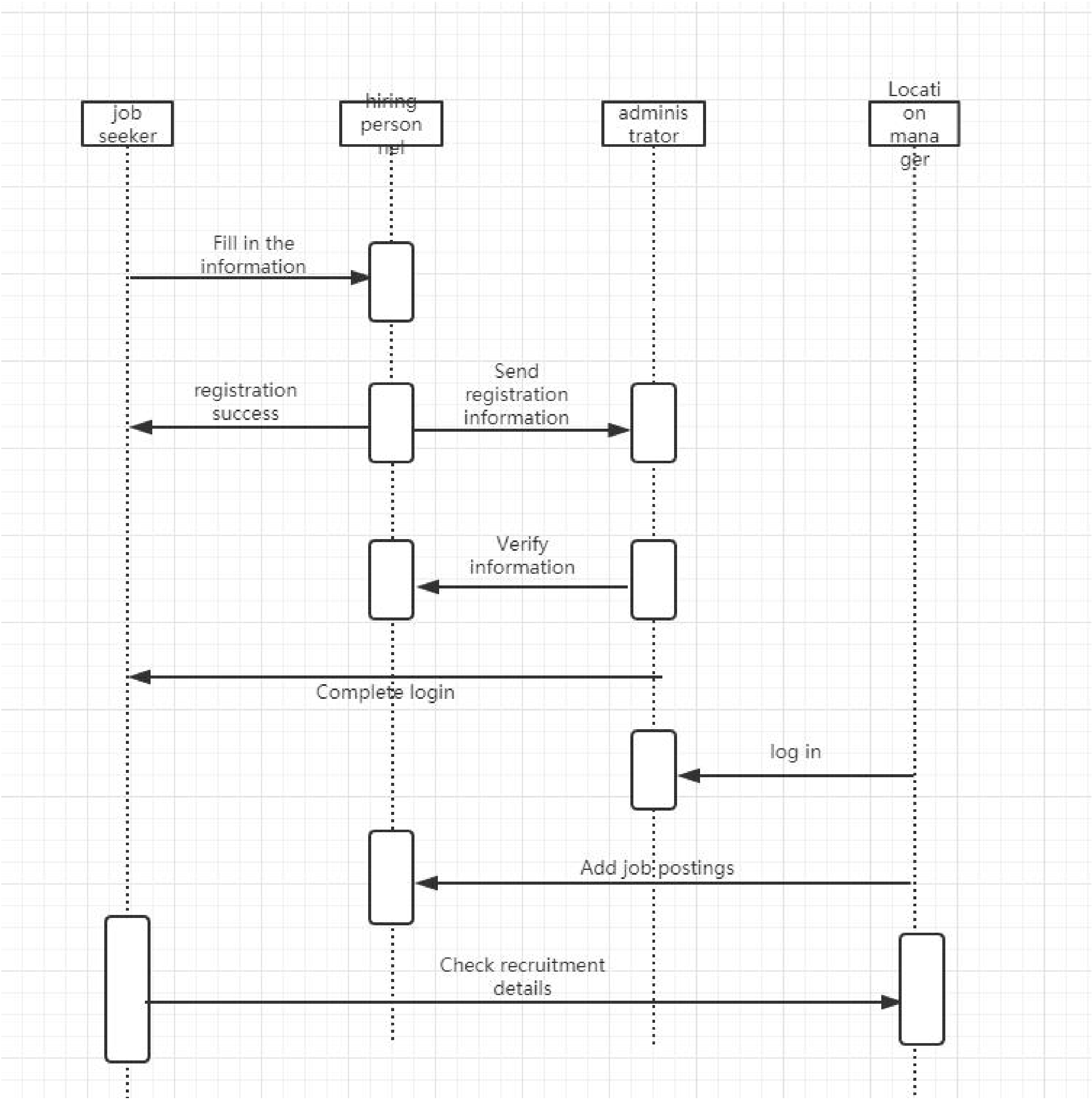
		accommodated in the design documents. Verify that objects of entities is included in the functional and design documents	that it is able tocomply with the requirements for the syetem. Verify that it is connected to an administer in the functional &design documents.
FAT	FAT-01	N/A (as this would is built directly on site)	N/A (If this was built off site, verify that it is physically present, properly installed and connected)
SAT	SAT-01	The supplier must verify that they have supplied you with an object that can fulfil your requirements (physical presence/installati on and functionality)	1.Can administrators manage all users? 2.Can entity users log on to the system? 3. Can users publish their own related properties?
IQ	IQ-01	This is where you ensure that the installation is correct - refer to vendor documents if possible.Also check that the object has been entered into your systems maintenance schedule	Verify that the installation of the instrument and its connections are installed correctly
OQ	OQ-01	Verify the functionality of the object. If possible, refer to vendor test documents here as well.	Test whether the user instance can log on to the online recruitment system, whether the system interface class can be displayed normally after successful login, and whether the user functional experience

			is good?
PQ	PQ-01	Checking for seasonal variationsor long term functionality (in this case). A PQ is designed to prove that an object works taking the whole picture into account.	Through the management of administrators, verify whether all instances can use the functions of the system in a long period of time?

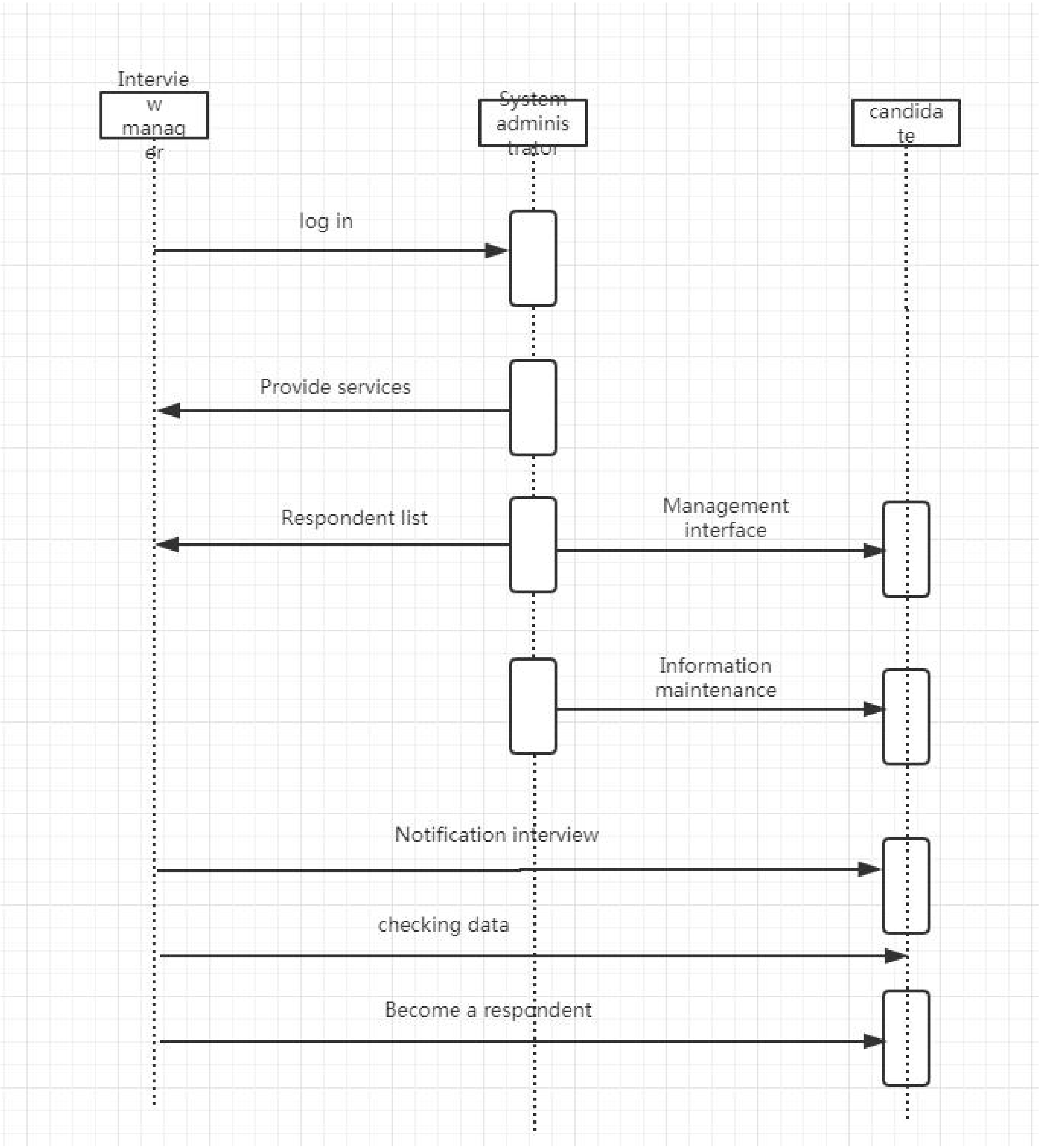
7. Diagrams

User registration and user

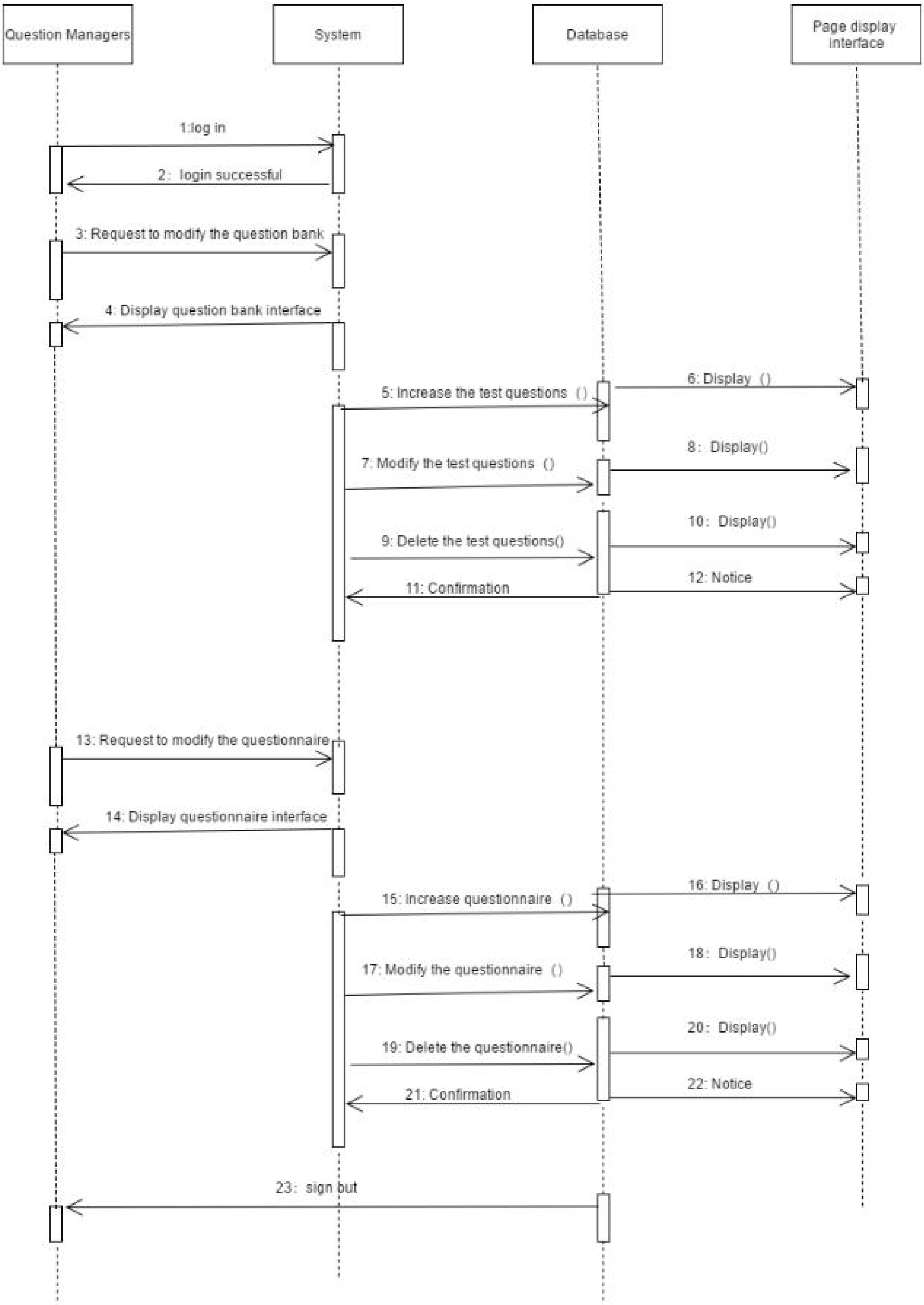
login



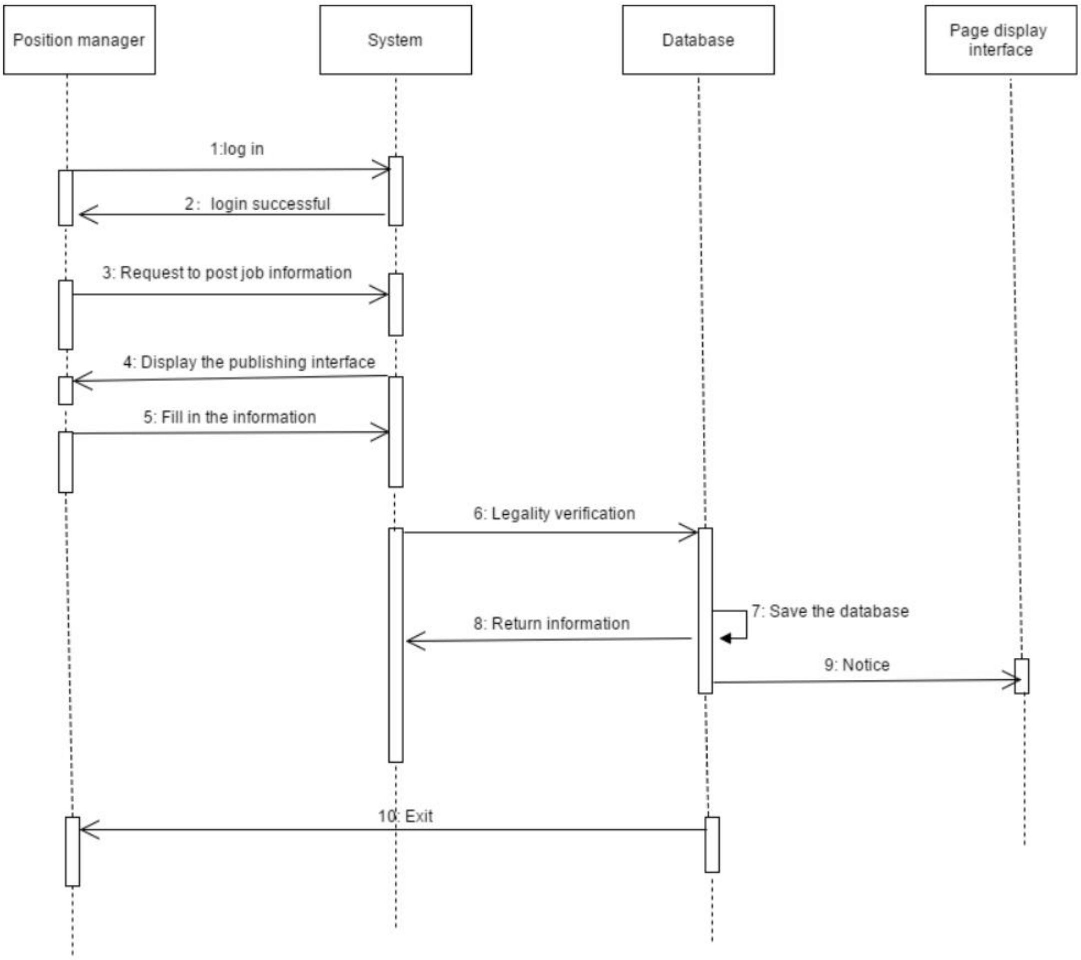
Job seekers query positions, post resumes and answer questionnaires



Recruiter management questions and questionnaires

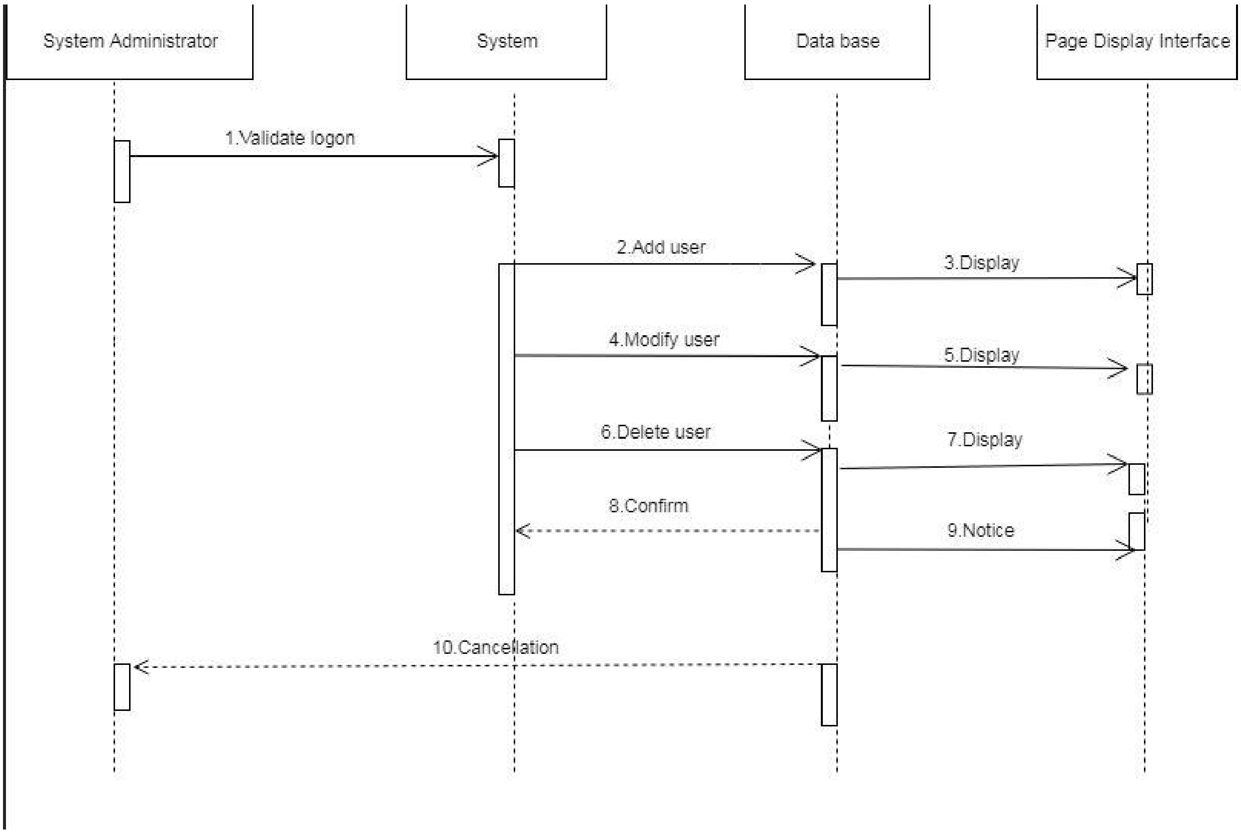

Question Managers
System
Database
Page display interface
1:log in
2: login successful
3: Request to modify the question bank
4: Display question bank interface
5: Increase the test questions ()
6: Display ()
7: Modify the test questions ()
8: Display()
9: Delete the test questions()
10: Display()
11: Confirmation
12: Notice
13: Request to modify the questionnaire
14: Display questionnaire interface
15: Increase questionnaire ()
16: Display ()
17: Modify the questionnaire ()
18: Display()
19: Delete the questionnaire()
20: Display()
21: Confirmation
22: Notice
23: sign out

Recruiters post jobs

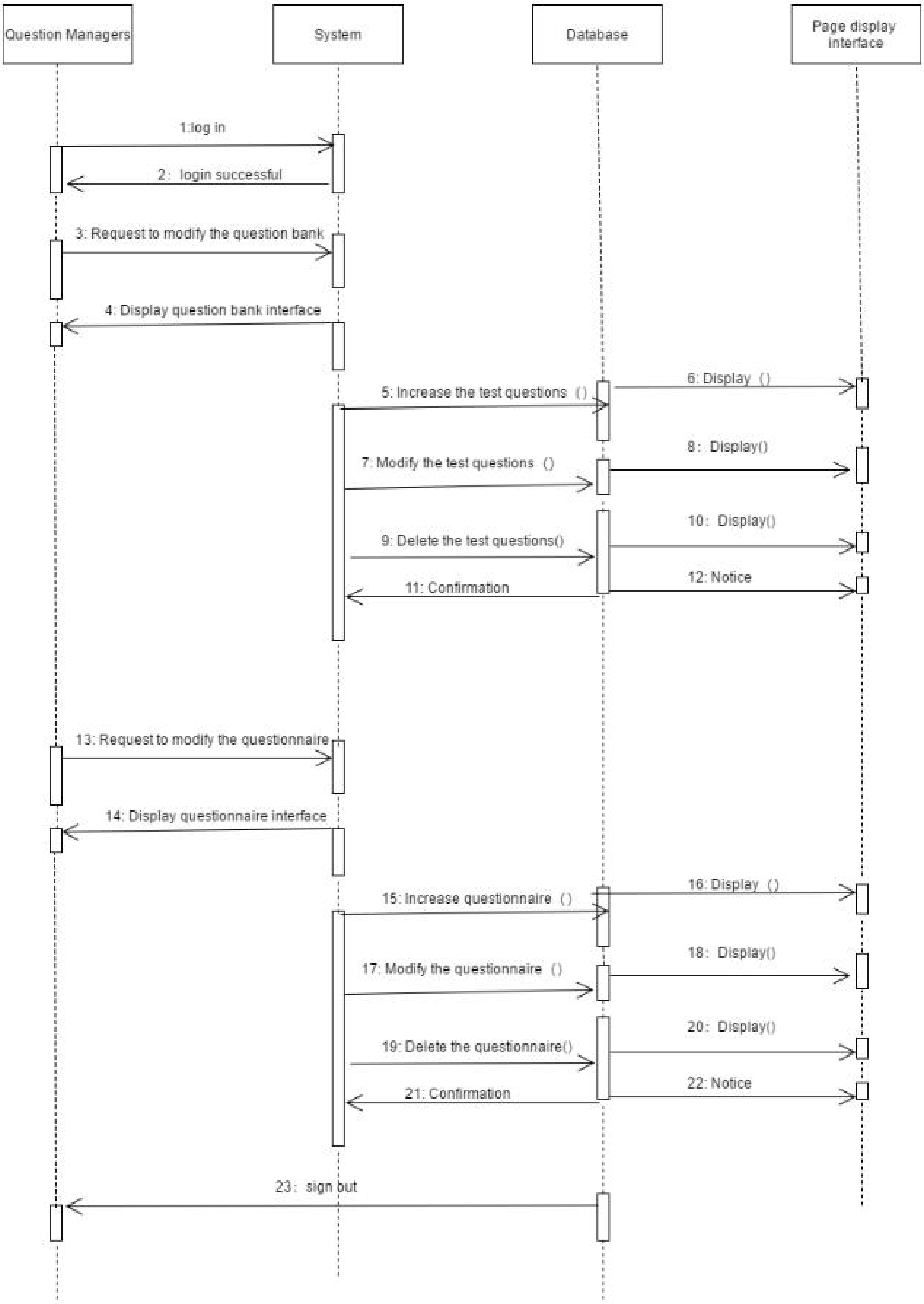


Administrator

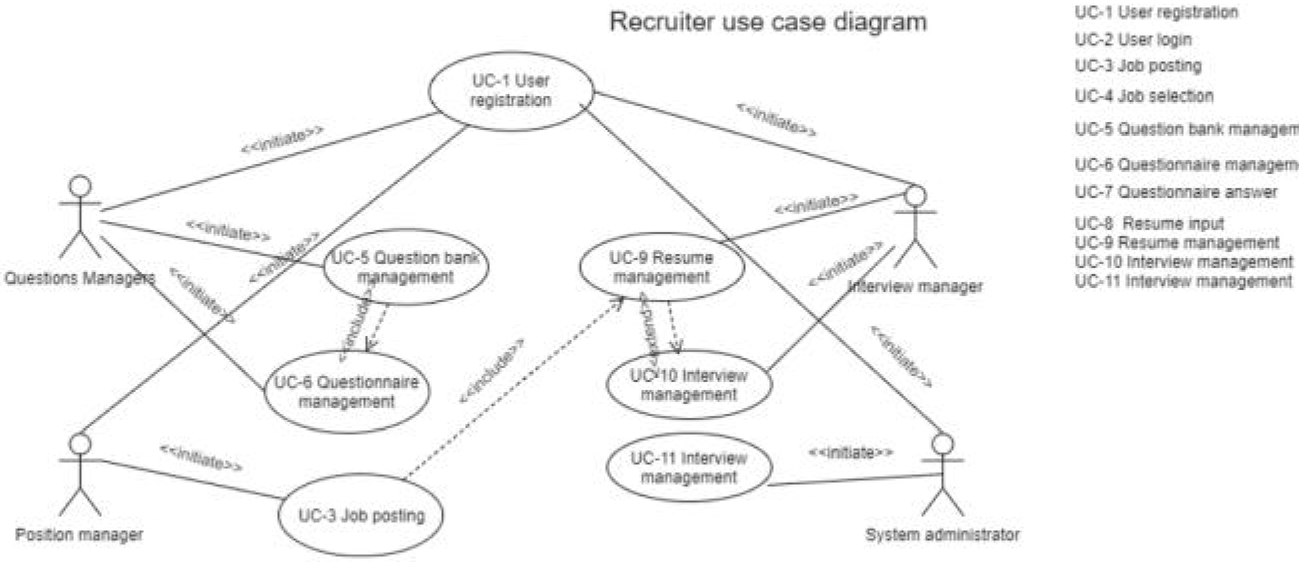
management



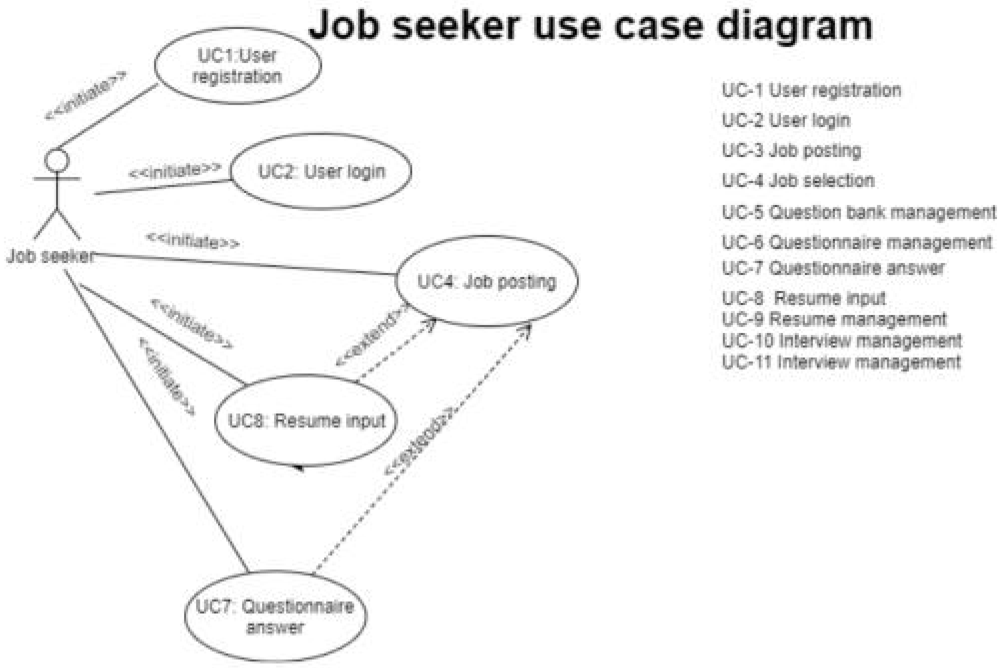
Recruiter interview and resume management


Question Managers
System
Database
Page display interface
1:log in
2: login successful
3: Request to modify the question bank
4: Display question bank interface
5: Increase the test questions ()
6: Display ()
7: Modify the test questions ()
8: Display()
9: Delete the test questions()
10: Display()
11: Confirmation
12: Notice
13: Request to modify the questionnaire
14: Display questionnaire interface
15: Increase questionnaire ()
16: Display ()
17: Modify the questionnaire ()
18: Display()
19: Delete the questionnaire()
20: Display()
21: Confirmation
22: Notice
23: sign out

Use case diagram



UC-1 User registration
UC-2 User login
UC-3 Job posting
UC-4 Job selection
UC-5 Question bank managem
UC-6 Questionnaire manageme
UC-7 Questionnaire answer
UC-8 Resume input
UC-9 Resume management
UC-10 Interview management
UC-11 Interview management



UC-1 User registration
UC-2 User login
UC-3 Job posting
UC-4 Job selection
UC-5 Question bank management
UC-6 Questionnaire management
UC-7 Questionnaire answer
UC-8 Resume input
UC-9 Resume management
UC-10 Interview management
UC-11 Interview management

Design pattern:

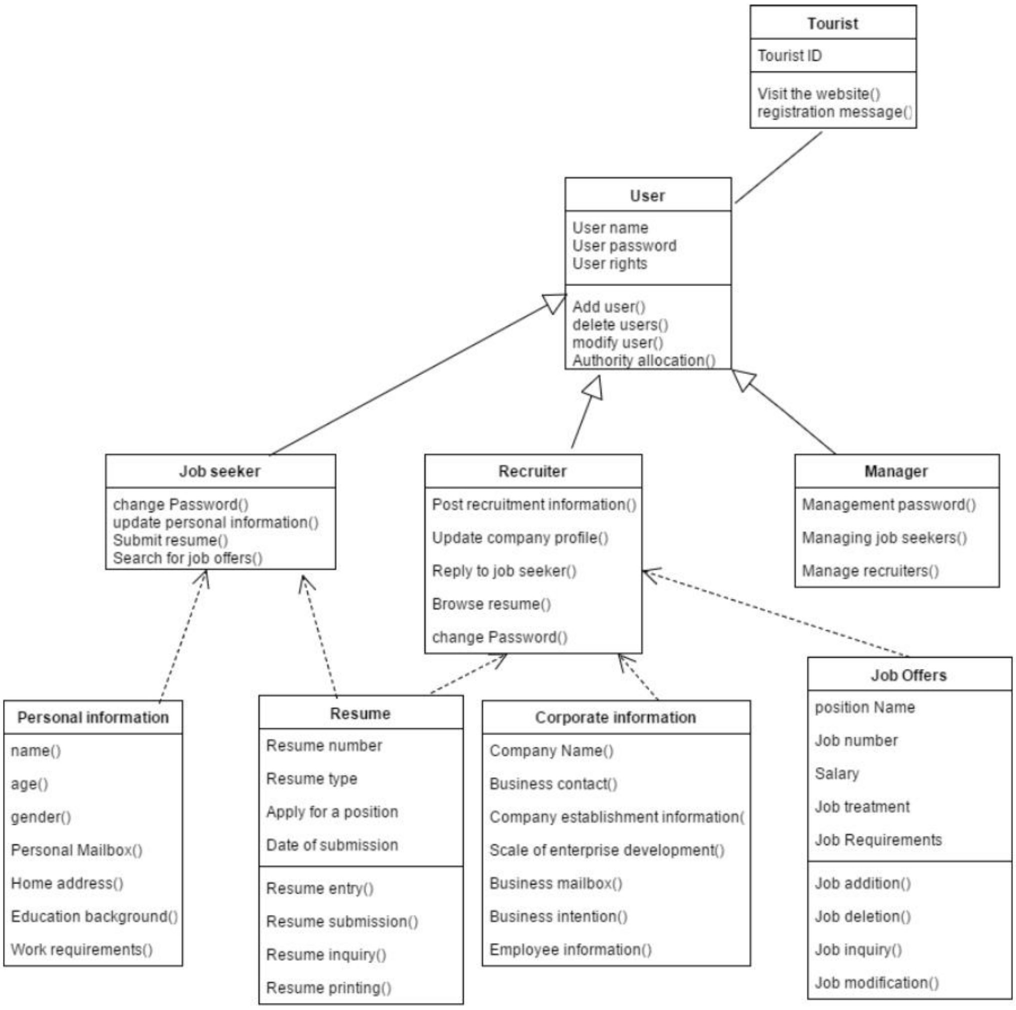
In order to accurately define the interaction design, it is necessary to first examine the application of the words "interaction" and "design". "Interacion" generally refers to the process of continuous behavior and corresponding reactions between two or more subjects, including organisms and machines. "Design" is derived from the Latin "Signature", which means making a thing with a distinctive feature and explaining its relationship with other things. Nowadays, design is generally considered to be the method and procedure for producing a specific implementation plan according to the plan. Reimann defines interaction design as "a set of rules designed to define objects, environments, and systems and their interactions." Unlike the interaction design, it is determined by the value of the communication service to the user and the quality of experience of the users when they are used. It is not only concerned with usability but also for the utility of the system. The usability and utility together constitute the goal of the system, that is, the usability. A system that has only usability and neglects the user's functional needs is a design that has little value. The utility in an interactive design environment is determined by system functionality.

Interaction design also cares about aesthetics and emotions, and how interactivity can appeal to users, allowing users to enjoy both aesthetic and emotional. Aesthetic psychology believes that pleasing things are more acceptable and not easily forgotten. Emotional psychology believes that learning emotionally is easier to maintain a high level of motivation. This means that interaction design can not only focus on social needs, but also on whether the design is attractive.

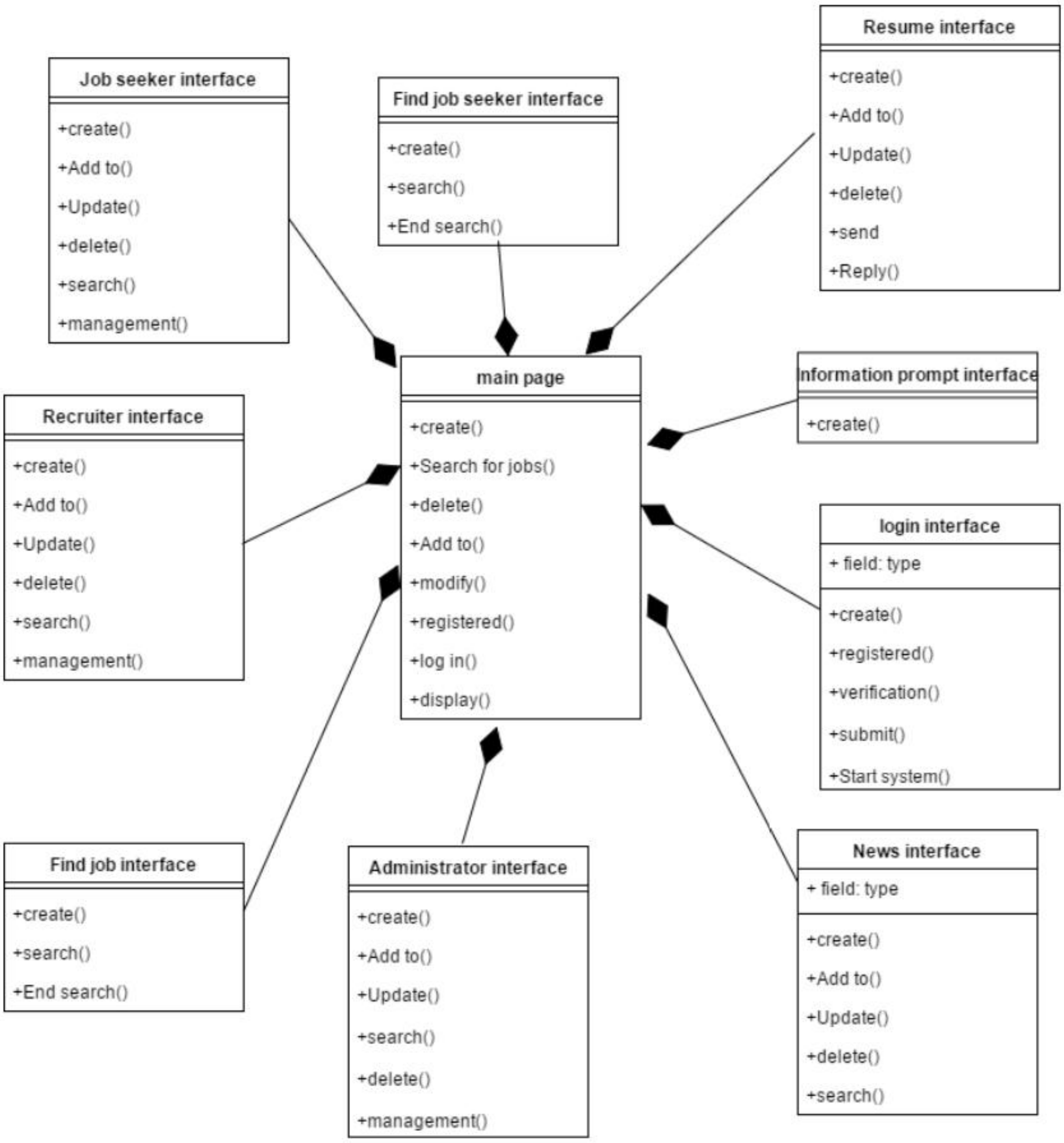
8. Class Diagram and Interface Specification

A. Class Diagram

a Entity class



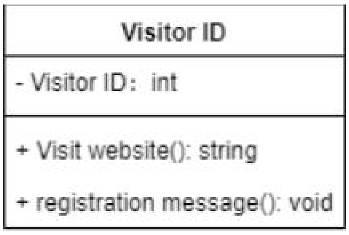
b Interface class



B. Data Types and Operation Signatures

A. Visitor

Class Name: Visitor
Attribute: Visitor ID
Operation: Visit the website (), registration message()



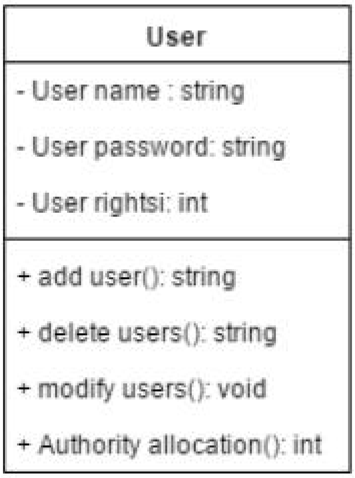
Visitor ID

- Visitor ID： int

+ Visit website(): string
+ registration message(): void

B. user

Class name: user
Attributes: username, user password, user rights
Action: Add user (), delete user (), modify user (), Authority allocation()



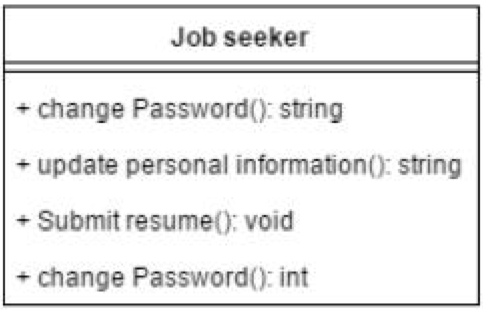
User

- User name : string
- User password: string
- User rightsi: int

+ add user(): string
+ delete users(): string
+ modify users(): void
+ Authority allocation(): int

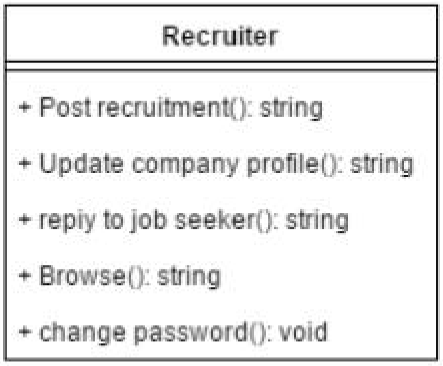
C. job seeker

Class name: job seeker
Operation: Change password (), update personal information (), submit resume (), search for job offers ()


Job seeker
+ change Password(): string
+ update personal information(): string
+ Submit resume(): void
+ change Password(): int

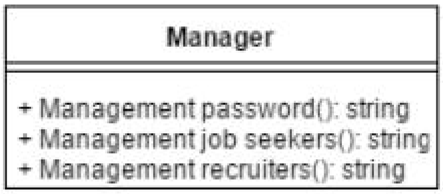
D. Recruiter

Class Name: Recruiter
Operation: post the recruitment information (), update the company information (), reply to the job seeker (), browse the obtained resume (), change the password ()


Recruiter
+ Post recruitment(): string
+ Update company profile(): string
+ repiy to job seeker(): string
+ Browse(): string
+ change password(): void

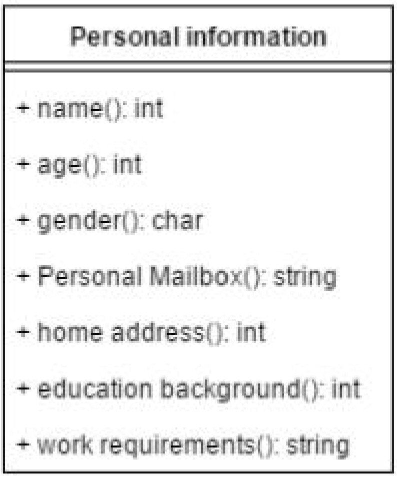
E. Manager

Class name: manager
Operation: Manage Passwords (), Manage Job Applicants (), Manage Recruiters ()


Manager
+ Management password(): string
+ Management job seekers(): string
+ Management recruiters(): string

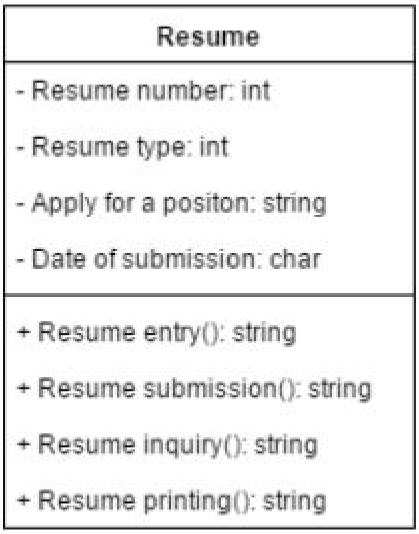
F. Personal information

Class name: personal information
Attributes: name, age, gender, personal email address, home address, educational background, job requirements


Personal information
+ name(): int
+ age(): int
+ gender(): char
+ Personal Mailbox(): string
+ home address(): int
+ education background(): int
+ work requirements(): string

G. resume

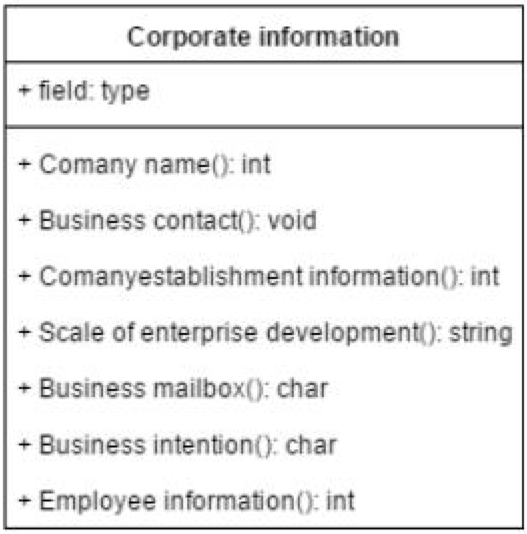
Class name: resume
Attributes: resume number, resume type, application position, submission date
Operation: Resume entry (), resume submission (), resume inquiry (), resume print ()


Resume
- Resume number: int
- Resume type: int
- Apply for a positon: string
- Date of submission: char
+ Resume entry(): string
+ Resume submission(): string
+ Resume inquiry(): string
+ Resume printing(): string

H. Corporate information

Class Name: Corporate Information

Attributes: company name, company contact information, company establishment information, enterprise development scale, enterprise mailbox, enterprise employer intention, enterprise employee information



Corporate information

+ field: type

+ Comany name(): int

+ Business contact(): void

+ Comanyestablishment information(): int

+ Scale of enterprise development(): string

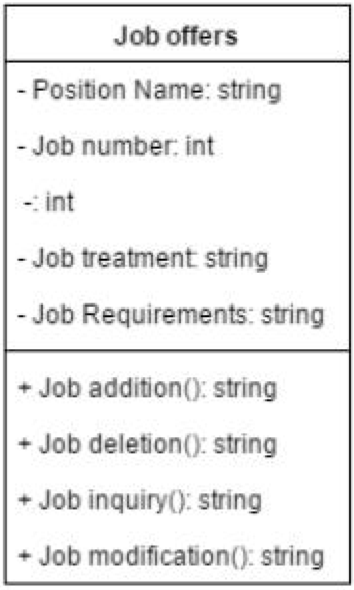
+ Business mailbox(): char

+ Business intention(): char

+ Employee information(): int

I. Job Offers

Class Name: Recruitment Information
Attributes: job title, job number, salary, position treatment, job requirements
Operation: Job Add (), Job Delete (), Job Query (), Job Edit ()



Job offers

- Position Name: string

- Job number: int

-: int

- Job treatment: string

- Job Requirements: string

+ Job addition(): string

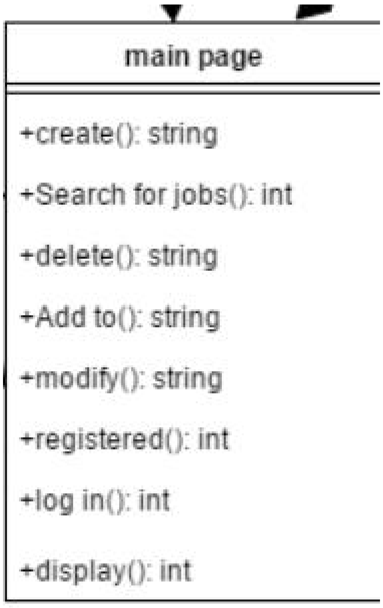
+ Job deletion(): string

+ Job inquiry(): string

+ Job modification(): string

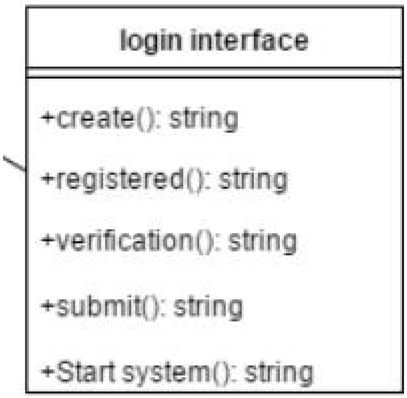
J. Main interface

Class name: main interface
Action: Create (), search for posts (), delete (), add (), modify (), register (), login (), display ()



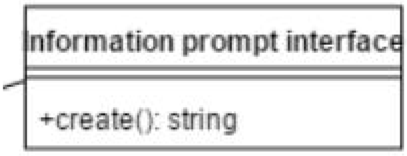
K. Login interface

Class name: login interface
Action: create (), register (), verify (), submit (), start the system ()



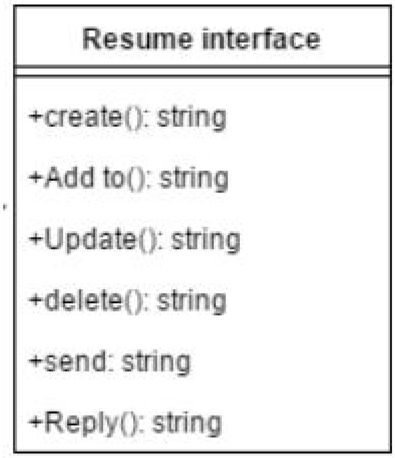
L. Information prompt interface

Class name: information prompt interface
Action: Create ()



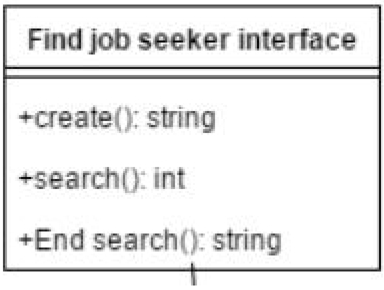
M. Resume interface

Class name: resume interface
Action: create (), add (), update (), delete (), send (), reply ()



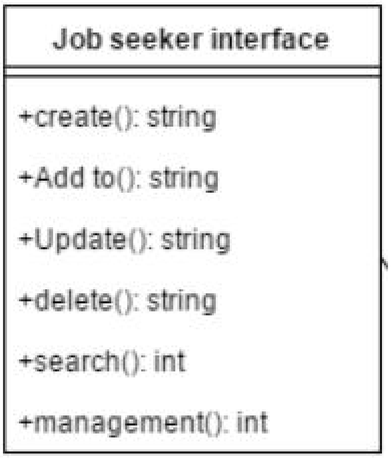
N. Find job seeker interface

Class Name: Find job seeker interface
Action: create (), find (), end the search ()



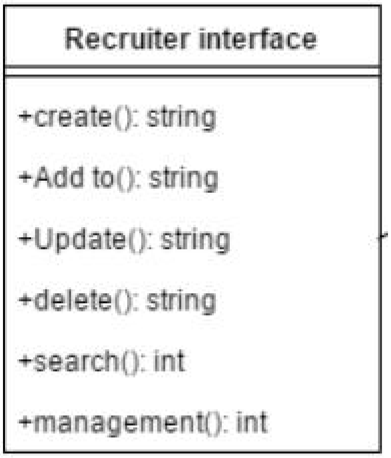
O. Job seeker interface

Class Name: Job Applicant Interface
Action: Create (), add (), update (), delete (), find (), manage ()



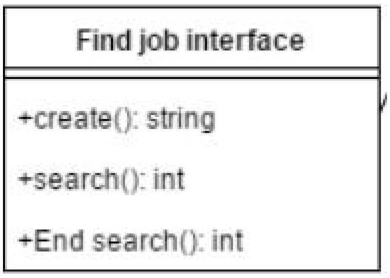
P. Recruiter interface

Class Name: Recruiter Interface
Action: Create (), add (), update (), delete (), find (), manage ()



Q. Find job interface

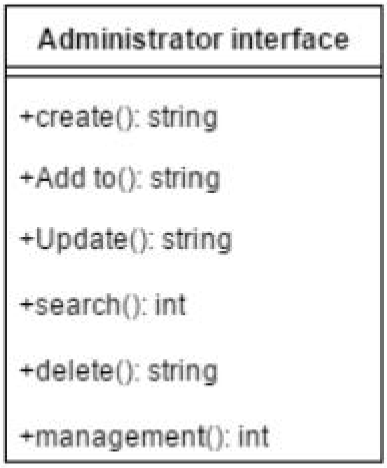
Class name: find job interface
Action: Create (), find (), end the search ()



R. Administrator interface

Class name: administrator interface

Action: Create (), add (), update (), find (), delete (), manage ()



Administrator interface

+create(): string

+Add to(): string

+Update(): string

+search(): int

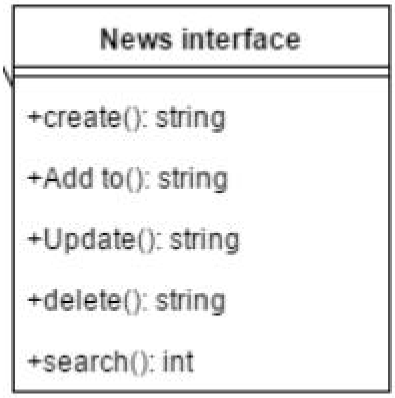
+delete(): string

+management(): int

S. News interface

Class name: news interface

Action: create (), add (), update (), delete (), find ()



News interface

+create(): string

+Add to(): string

+Update(): string

+delete(): string

+search(): int

C.Traceability Matrix

Phase	Requirement Trace	Guidance	Requirement
URS	URS-01	Set your requirement	All entity users (tourists, job seekers, recruiters, managers,) can log in to this online recruitment system. Attributes of entity classes can also be viewed in this system, such as job seekers'personal information and resumes, recruiters' recruitment information, corporate information and resumes.
FS	FS-01	Requirement is described in the form of its functionality	All entity classes should be managed by system administrators
DS	DS-01	Detailed description of how the functionality will be fulfilled	All entity classes can be logged on to this online recruitment system.
DR	DR-01	Verify that your requirement has been accommodated in the design documents. Verify that objects of entities is included in the functional and design documents	Verify (looking at the specifications) that it is able tocomply with the requirements for the syetem. Verify that it is connected to an administer in the functional &design documents.
FAT	FAT-01	N/A (as this would is built directly on site)	N/A (If this was built off site, verify that it is physically present, properly installed and connected)
SAT	SAT-01	The supplier must verify that they have supplied you with an object that can fulfil	1.Can administrators manage all users? 2.Can entity users log on to the system?

		your requirements (physical presence/installati on and functionality)	3. Can users publish their own related properties?
IQ	IQ-01	This is where you ensure that the installation is correct - refer to vendor documents if possible.Also check that the object has been entered into your systems maintenance schedule	Verify that the installation of the instrument and its connections are installed correctly
OQ	OQ-01	Verify the functionality of the object. If possible, refer to vendor test documents here as well.	Test whether the user instance can log on to the online recruitment system, whether the system interface class can be displayed normally after successful login, and whether the user functional experience is good?
PQ	PQ-01	Checking for seasonal variationsor long term functionality (in this case). A PQ is designed to prove that an object works taking the whole picture into account.	Through the management of administrators, verify whether all instances can use the functions of the system in a long period of time?

3. Design pattern:

Here we choose to continue to use the class diagram and interface specification created before, I will introduce this design pattern below.

Design mode: Facade

Idea: Provides a consistent interface to a set of interfaces in a subsystem that makes this subsystem easier to use.

Scenario: When you want to provide a simple interface to a complex subsystem. Subsystems are often becoming more complex as they evolve. Most of the modes will produce more and smaller classes when used. This makes the subsystem more reusable and easier to customize the subsystem, but it also presents some difficulties for users who do not need a custom subsystem. Facade can provide a simple default view that is sufficient for most users, and those who need more customization can cross the Facade layer. There is a large dependency between the client and the implementation part of the abstract class. The introduction of Facade separates this subsystem from customers and other subsystems, improving subsystem independence and portability. When you need to build a hierarchy of subsystems, use the Facade pattern to define the entry points for each layer in the subsystem. If the subsystems are interdependent, you can make them communicate only through the Facade, simplifying the dependencies between them.

Implementation: The implementation of this pattern needs to define a Layer on a new system architecture that provides a new set of interfaces up and down to the original interface of the subsystem.

Refactoring cost: high. There are still a lot of things to do to modify all the calls directly to the subsystem to call the Fagade layer. However, in modern IDEs, if we remove the assembly reference to the subsystem of the call layer, then all the calls we need to modify can be marked, because the compilation can not pass, so the risk of refactoring is not particularly large. However, the workload is not small.

4. Object Constraint Language:

Log in：

Invariant: The maximum number of attempts to fail at login must be a positive integer

Prerequisite: The number of failed login attempts must be less than the maximum number of allowed attempts.

The postcondition of log in() is

(POC1) prompt login failed

(Poc2) Remind to change password or reminder if the number of failed attempts reaches the maximum allowed

Job selection：

Invariant: All positions can be selected when selecting a position

Prerequisite: The number of positions selected must be less than the number of positions

The postcondition for selecting a position () is

(POC1) prompts successful selection

(Poc2) If the number of selections reaches the maximum allowed, you cannot select a position

Resume submission：

Invariant: you can choose your resume on your computer

Prerequisite: CV must be in PDF format

The postcondition for submitting a resume () is

(POC1) prompts the resume to be submitted successfully

(Poc2) If the submission format fails, the prompt is submitted in PDF format.

System message board：

Invariant: Can submit in unlimited number of times

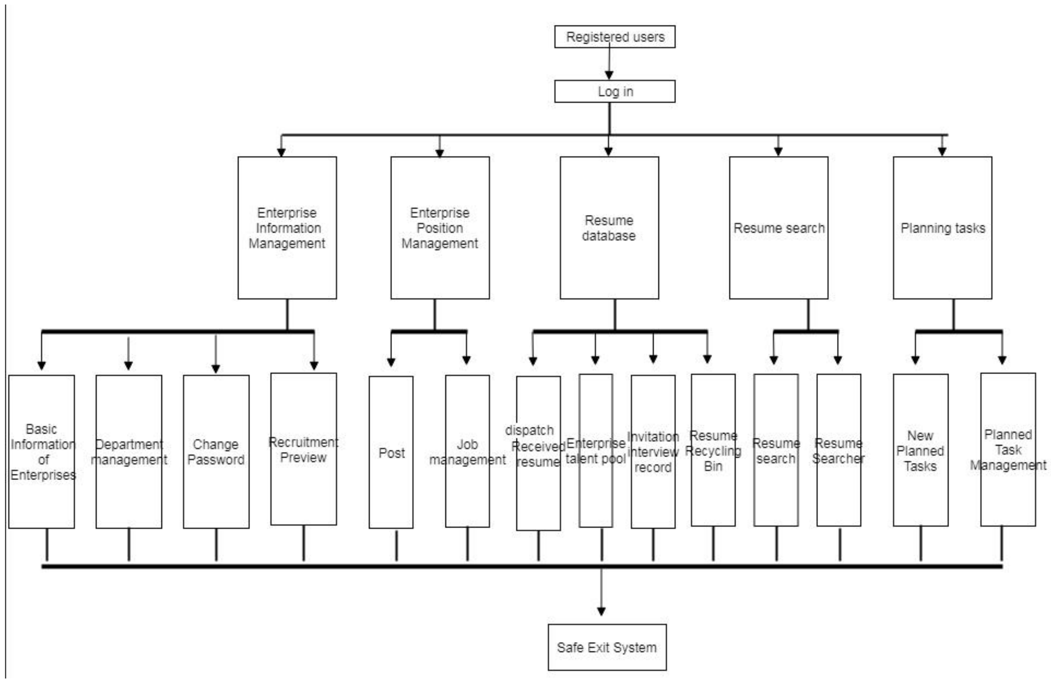
Prerequisite: User login system

The postcondition for the message board () is

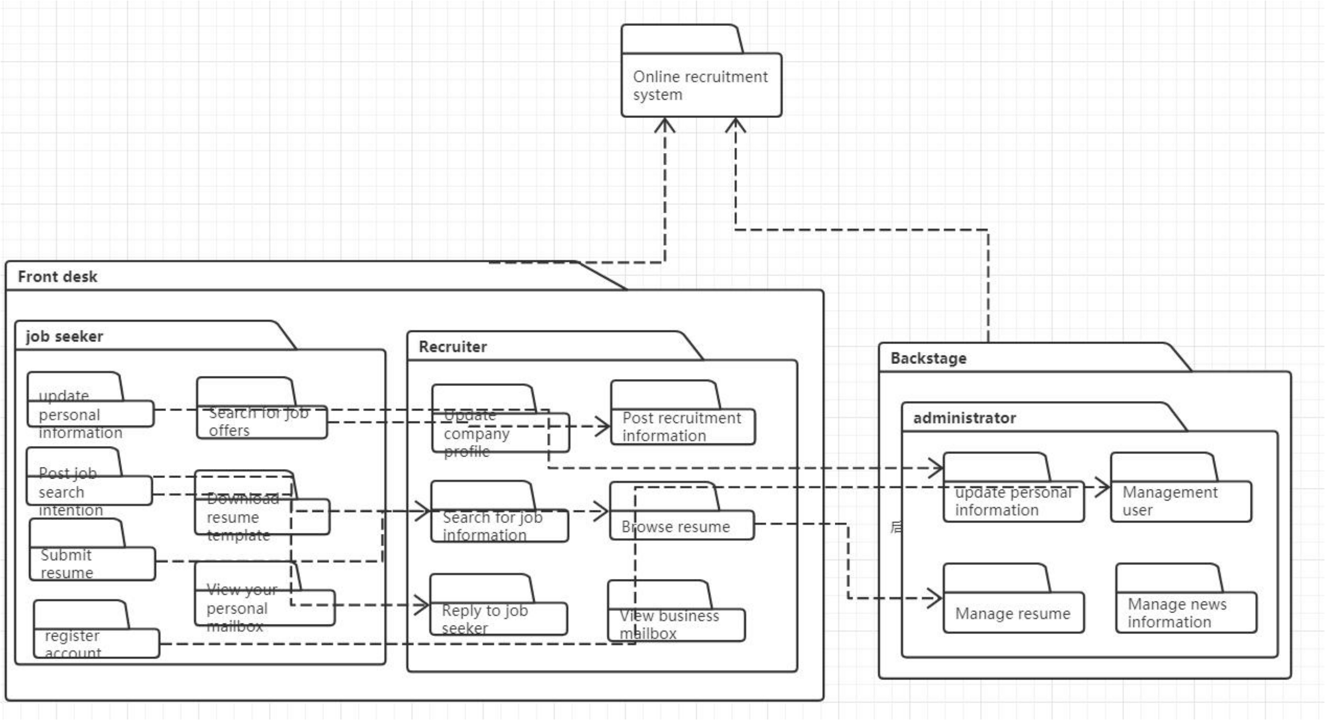
(POC1) prompts successful submission

9. System Architecture and System Design

a Architectural Styles



b Identifying Subsystems



d Persistent Data Storage

In our system, data such as personnel information, company information, interview information, etc. need to be stored persistently.

Persistent data should be stored in files, relational databases and object-oriented databases

There are six tables in our system database.

(1) User table

Store user information

(2) Role table

Whether the identity is a corporate user or a normal user and administrator

(3) Resume table

Store the user's resume information according to the user ID

(4) Company table

Store company information

(5) Recruitment information table

Store job postings from company users

(6) Job information table

Store job information for users to send resumes

f Global Control Flow

1.In the online recruitment system, each user must perform the same steps. In order to be fair and prevent the occurrence of vulnerabilities, each user needs to generate actions one by one in the order of waiting.
2. In this system, a timer is provided for security reasons;The administrator knows the dynamic information in real time, each cycle time is 60 seconds.
3. The system is dual-core and four-threaded, and each arrow connected by a dotted line identifies an object with a separate control thread and describes synchronization between threads.

g Hardware Requirements

1, processor: 1GHz 32-bit or 64-bit processor;
2, memory: 1GB and above Graphics card: support DirectX 9 128M and above (open AERO effect);
3, hard disk space: 16G or more (primary partition, NTFS format);
4, display: the required resolution is 1024X768 pixels and above (below the resolution can not display some functions);
5, graphics card DirectX 9 graphics card supports WDDM 1.0 or higher (if your graphics card is lower than this standard, the transparent effect of Aero theme special effects may not be achieved.);
6, other equipment: DVD-R/W drive Internet connection

10. Algorithms and Data Structures

A. Algorithms

Our system has no algorithm

B. Data Structures

We use a linked list of data structure lists, including single-linked lists, circular linked lists, doubly linked lists, and static linked lists. The linked list uses dynamic storage allocation, which can be applied when needed, and the operation time complexity is released when not needed: Insert, delete O(1), query, modify, traverse, and find the length as O(n). In terms of performance, the dynamic linked list is dynamically allocated space and is not easy to overflow. Suitable for occasions with large length changes, so it is more suitable for our system.

11. User Interface Design and Implementation

a Preliminary Design

A.

Enter the registration interface and successfully register the account of online recruitment platform

Assuming the APP has been opened, what you need to do is :(1). Fill in the specific information. (2) bind the mobile account to complete registration

1. Fill in the specific information: 13 mouse clicks in total, as shown below

a. Click on each field

b. Complete each item

c. To complete, click next

2. Bind mobile account to complete registration: 4 mouse clicks in total, as shown below

a. Click the register mobile phone number/E-mail input box to enter the mobile phone number/E-mail

b. Click get captcha request

c. Click the captcha input box to enter the captcha received by your phone/email

d. Click finish registration

Note: please make sure that every item of information is filled in truthfully and there are no typos, otherwise the system will not be able to recognize it.

B.

Enter the login interface and log in the online recruitment APP successfully

Assuming you haven't opened the APP yet, what you need to do is :(1). Open the APP. (2) fill in the account information and log in

1. Open the APP: 1 mouse double click in total

2. Fill in account information to log in: 3 mouse clicks in total, as shown below

a. Click the mobile phone number/E-mail input box and enter the mobile phone number/E-mail

b. Click the get captcha option to get the captcha

c. Click the login key to log in successfully

Note: please make sure it is your mobile phone number/email address, otherwise you will not be able to log in successfully

C.

Successfully registered for online recruitment

Assuming the APP has been opened, what you need to do is :(1). Open the recruitment and registration service. (2) confirm personal information (the registration informati on is confirmed again). (3) fill in personal expectation and complete the registration. (4) successful registration

1. Open the recruitment application service: 1 mouse click in total
2. Confirm personal information (the registration information is confirmed again) without mouse operation
3. Fill in the expectation of the person and complete the registration, with a total of 4 mouse clicks, as shown below

a. Click on each box (expected company, expected position, expected salary)
b. Click next

4. Please wait for the interview notification if your application is successful. No mouse operation is required

Note: personal information must be confirmed in person, do not make mistakes, otherwise it may lead to the failure of the resume submitted at your own risk

D.

Deal with the problems in the process of online recruitment

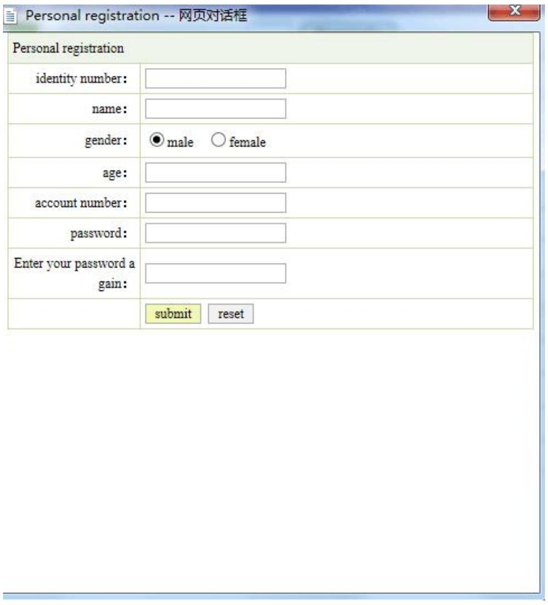
Suppose you have opened the APP and finished the registration. Now there is a problem. What you need to do is :(1). (1) online recruitment progress query. 2. Other questions). (3). If you select the recruitment progress query, just watch the progress query. (4). If you choose other questions, please submit your questions and click finish

1. Open the problem handling icon in the recruitment, and click it once in total
2. Select the type of question (online recruitment progress query or other questions) and click next, 2 times in total
3. If you select the recruitment progress query, you can watch the progress query without mouse operation
4. If you choose other questions, please submit your questions and click finish, one mouse click in total

Note: please submit the questions truthfully, the target company will have a special person to verify, please wait patiently

b. Interface implementation

UC-1 User Registration



Personal registration

identity number:

name:

gender: ● male ○ female

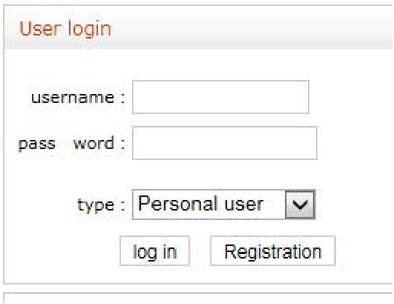
age:

account number:

password:

Enter your password a gain:

UC-2 user login

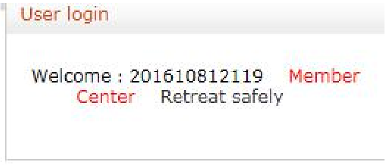


User login

username :

pass word :

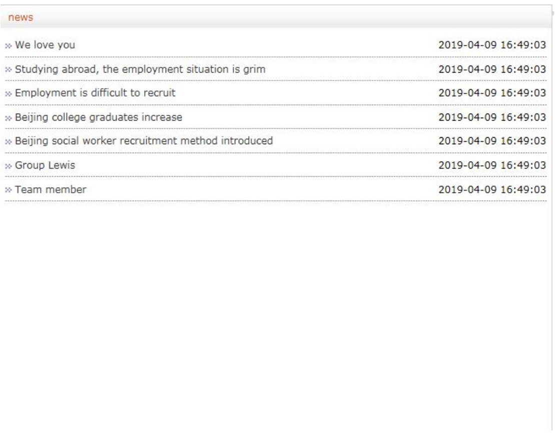
type : Personal user



User login

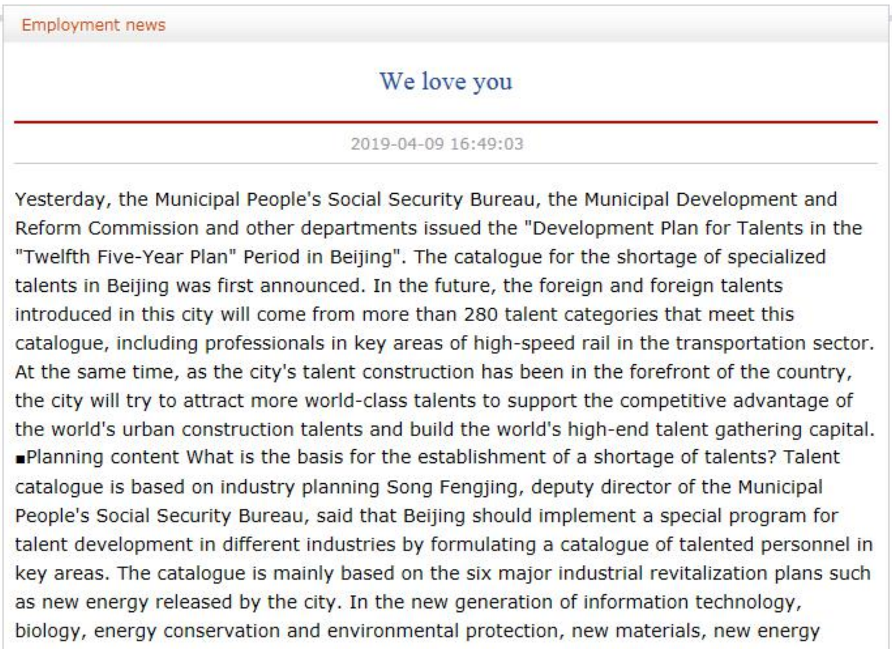
Welcome : 201610812119

UC-3 Employment news



news

» We love you	2019-04-09 16:49:03
» Studying abroad, the employment situation is grim	2019-04-09 16:49:03
» Employment is difficult to recruit	2019-04-09 16:49:03
» Beijing college graduates increase	2019-04-09 16:49:03
» Beijing social worker recruitment method introduced	2019-04-09 16:49:03
» Group Lewis	2019-04-09 16:49:03
» Team member	2019-04-09 16:49:03

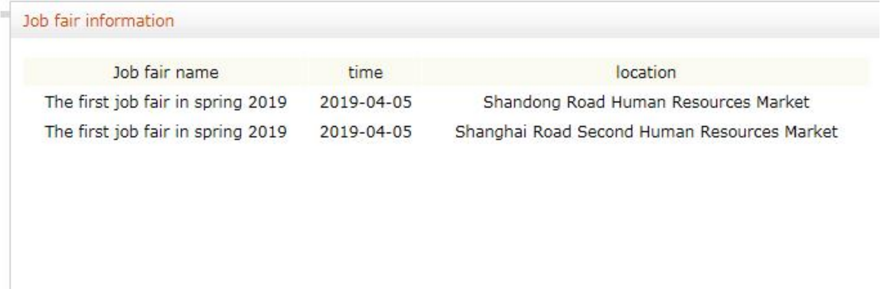


We love you

2019-04-09 16:49:03

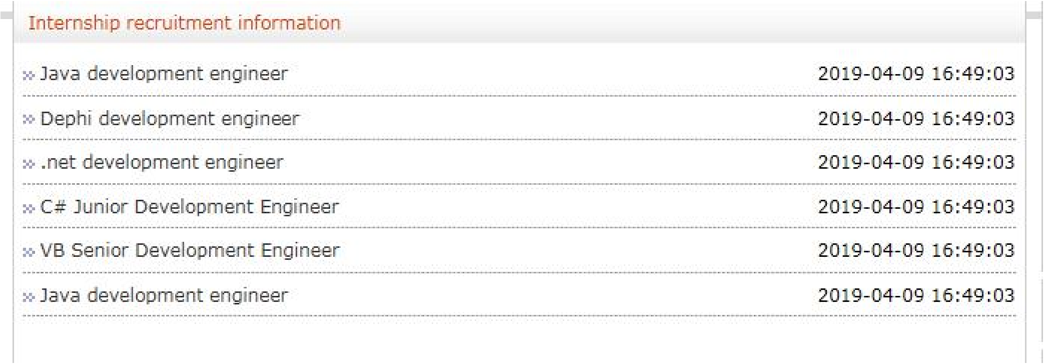
Yesterday, the Municipal People's Social Security Bureau, the Municipal Development and Reform Commission and other departments issued the "Development Plan for Talents in the "Twelfth Five-Year Plan" Period in Beijing". The catalogue for the shortage of specialized talents in Beijing was first announced. In the future, the foreign and foreign talents introduced in this city will come from more than 280 talent categories that meet this catalogue, including professionals in key areas of high-speed rail in the transportation sector. At the same time, as the city's talent construction has been in the forefront of the country, the city will try to attract more world-class talents to support the competitive advantage of the world's urban construction talents and build the world's high-end talent gathering capital. ■Planning content What is the basis for the establishment of a shortage of talents? Talent catalogue is based on industry planning Song Fengjing, deputy director of the Municipal People's Social Security Bureau, said that Beijing should implement a special program for talent development in different industries by formulating a catalogue of talented personnel in key areas. The catalogue is mainly based on the six major industrial revitalization plans such as new energy released by the city. In the new generation of information technology, biology, energy conservation and environmental protection, new materials, new energy

UC-4 Job fair activities



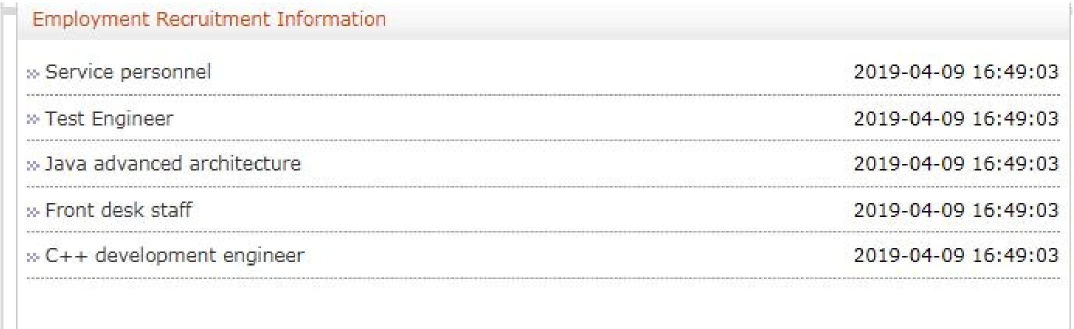
Job fair name	time	location
The first job fair in spring 2019	2019-04-05	Shandong Road Human Resources Market
The first job fair in spring 2019	2019-04-05	Shanghai Road Second Human Resources Market

UC-5 Job Post



» Java development engineer	2019-04-09 16:49:03
» Dephi development engineer	2019-04-09 16:49:03
» .net development engineer	2019-04-09 16:49:03
» C# Junior Development Engineer	2019-04-09 16:49:03
» VB Senior Development Engineer	2019-04-09 16:49:03
» Java development engineer	2019-04-09 16:49:03

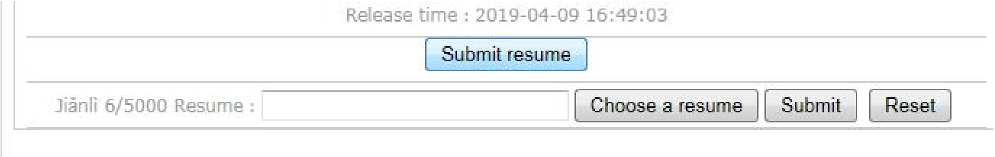
UC-6 Job Selection



Employment Recruitment Information

Service personnel	2019-04-09 16:49:03
Test Engineer	2019-04-09 16:49:03
Java advanced architecture	2019-04-09 16:49:03
Front desk staff	2019-04-09 16:49:03
C++ development engineer	2019-04-09 16:49:03

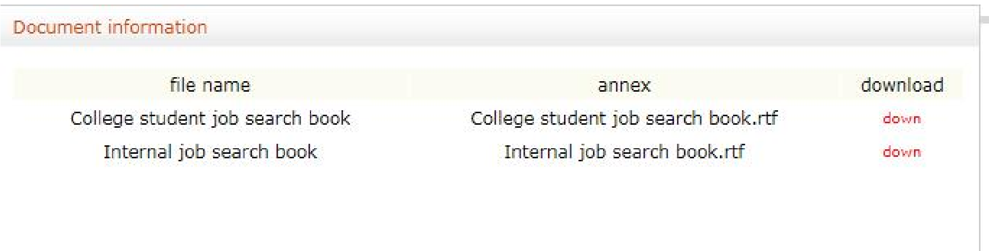
UC-7 Submit your resume



Release time : 2019-04-09 16:49:03

Jiǎnlì 6/5000 Resume :

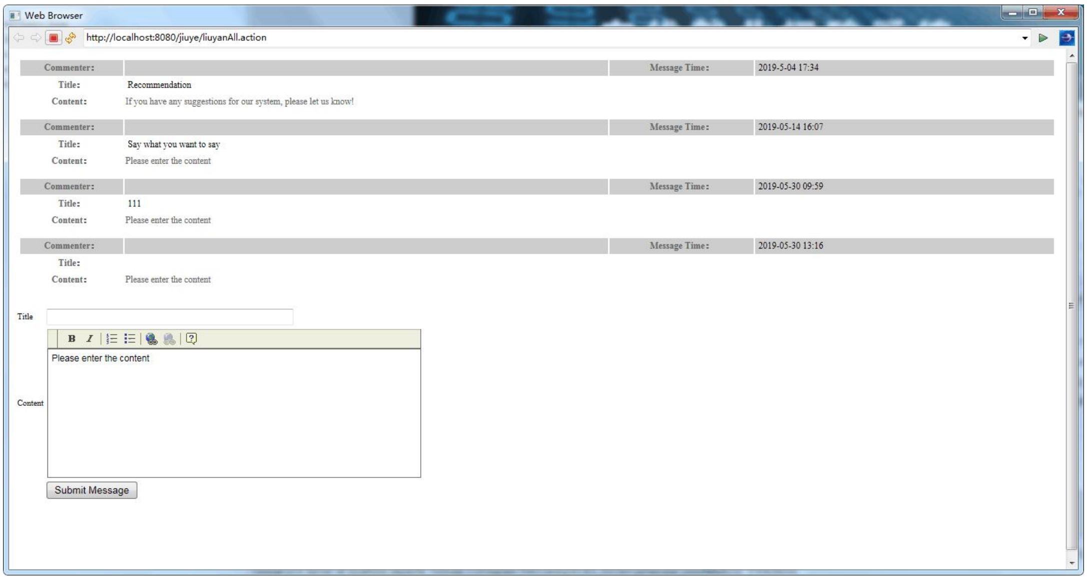
UC-9 Interview information



Document information

file name	annex	download
College student job search book	College student job search book.rtf	down
Internal job search book	Internal job search book.rtf	down

UC-10 System message board



http://localhost:8080/jiuye/liuyanAll.action

Commenter: Message Time: 2019-5-04 17:34
Title: Recommendation
Content: If you have any suggestions for our system, please let us know!

Commenter: Message Time: 2019-05-14 16:07
Title: Say what you want to say
Content: Please enter the content

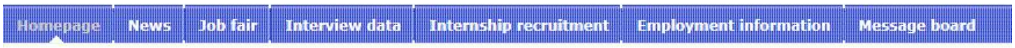
Commenter: Message Time: 2019-05-30 09:59
Title: 111
Content: Please enter the content

Commenter: Message Time: 2019-05-30 13:16
Title:
Content: Please enter the content

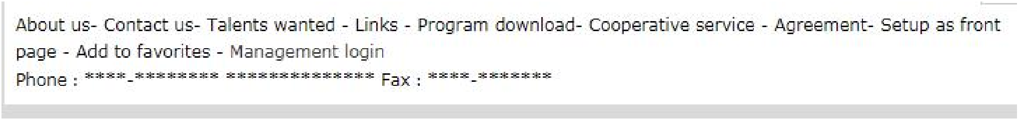
Title

Content Please enter the content

Function page：



company information：



About us- Contact us- Talents wanted - Links - Program download- Cooperative service - Agreement- Setup as front page - Add to favorites - Management login

Phone : ****-******** *************** Fax : ****-********

Compared to the user interface design in Report 1, our final design chose a simpler and more convenient way to operate, and users can easily log in to the account and perform the operations they need.

12. Design of Test

I, interface check
Enter a page test, first check the title, page layout, fields, etc., instead of entering the text box check immediately
1. Is the page name title correct?
2. Is the current location visible? Your location: xxx>xxxx
3, text format uniformity
4. Is the typesetting neat?
5, list items show whether the field is complete, list item field name is consistent with the form
6. On the same page, if there is a problem with the same field name and different values.
7, data loading situation: In addition to the value of the text box, also pay attention to:
Check box, whether to save snoring, or save without snoring
Drop-down box, whether to save the selected value
Multi-text box, whether values are saved, spaces, line breaks are saved

II, single text box (type=text)
Boundary: field length
Empty: Can it be empty?
Uniqueness: Whether it is unique (small resolution: boundary, judgment, uniqueness, special characters, correctness)
Consider language, operating environment
Special symbol test input:
' or 1<>'1 ' or '1'='1 ' or '1'<>'2 "|?><
Where a='xxx' Underline is allowed to enter all spaces Input Single quotes
><script>alert("123");</script>>
Special field input restrictions:
Whether the contents of the box are legal (tel, ip, url, email) serial number, etc., directly limit the input number, and other filtering
Enter the amount text box, the first digit of the integer is 0, filtered out, after the decimal point, generally retain two significant digits.
Correctness test: (essential step)
1), (When the length of the field is entered, the maximum allowable length) Test of the allowable length of data:
a, whether the page is extruded test (all input long English string, whether it is broken);
b. Whether the database allows the largest characters (all input Chinese characters, all input English, mixed...);
c. The correct process for the shortest length and the correct process coverage for the maximum length.
2) For fields that are allowed to be empty, do not fill in, and after data transfer again, see if a 500 error is reported.
3), the length of the field (or the value of the size) is not specified, do not press the rigid input, enter a very large number of characters (or very large values), do the correctness check of the allowed action, see if the error is reported. The final page cannot throw a database exception.
Description: See if there is a length check by continuously entering a long string;
In the end, one of the following two situations will occur:
A. The page (foreground) has a check length and size.
B, no verification, the database reports an error.
Therefore: All fields have to be limited in length and size. The maximum length limit can be qualified:
1, no further input is allowed; 2, automatic truncation processing, and prompt the user.
About the length concept:
1, the specified byte length A of the database
2, the number of characters that can be entered on the page B
Control Method:
1) On the page, no matter what characters are entered (full-width characters such as Chinese characters, half-widths such as letters), the uniform rule cannot exceed B characters.

Test point: all input full-width B, test (B * 3 bytes) will not exceed the database byte length

Enter all half angle B, test (B * 1 byte) will not exceed the database byte length

Mixed input full angle X half angle Y, test (X * 3 + Y bytes) will not exceed the database length

2), on the page, not counting by characters, counting the total number of input bytes. For example, all input full-width characters, allowing A/3 characters to be input, all input half-width characters, and allowing input of A characters (

Test point: Enter all full angles to see if A/3 characters are allowed.

Enter all half angles to see if you can enter A characters

Mix input full angle X, half angle Y to see if X*3+Y=A is allowed

(5: null, unique, boundary value, special characters, correct flow (multiple data, multiple branches))

+ Test check position: ajax mouse event check, foreground submit button js check, server again to get data after verification.

III, multi-text box (type=textarea)

1), spaces and line breaks, see the requirements, whether you need to support HTML Encoding

When all the spaces are entered, is it judged to be completely empty?

Enter a line, does it also show a line break?

For example, if the column indicates the reason, you need support.

2), the problem of letter truncation

For a string of letters, developers tend to forget to do truncation, so if displayed on our platform, this string of letters will open our UI

3), length control format, you can also enter *** characters

IV, add button

Add action check range:

Failed: Is it prompted?

Prompt content is correct

On failure: save what the user has entered, avoid re-entering

Success: the dialog disappears

Is the record viewable directly (does it still need to be refreshed?)

List record order

Repeat the submission, after clicking once, whether it becomes disabled

Add attachments to add:

A. File name: The file name is very long; the file name characters are diversified (Chinese characters, English, symbols); the file names are duplicated.

B. Airworthy?

C. What is the attachment format type support?

D. What is the number of attachments?

E. The size of the attachment space.

V, remove button

1. Generally, a prompt operation "OK to remove this..." is given at the front desk.

2. The associated thing, whether you need to limit the removal of "there is an

application under this type, can not be removed"
3. After the determination, the removal operation is actually performed.
Result:
After the removal, the list data disappears immediately.
Must have a prompt to confirm the deletion

VI, list

1), list record order
2), whether you need to turn pages, there is no page turning function
3) Whether the field name is consistent with the form

VII, search - text box

1, function points, demand points to consider:
Whether to provide fuzzy query, input values have a limited type of timing, whether to consider switching to a drop-down box search;
2, checkpoint:
Whether the value of the text box disappears (whether or not the condition value is backfilled), click "Query" again to view all the records;
Consider the search results: whether there is paging, whether the paging is normal; whether it is ordered;
Note: Whether the paging still saves the query condition and checks whether the following records meet the conditions.
3. Query data diversity:
Enter a field value test that does not exist, including a special character query test such as: ' or '1' = '1;
Whether to execute a query when entering a condition similar to a program statement, such as: XXXX", XXX and ;
4, the type of operation:
1) Do not enter the query
2) Enter the query for all spaces
3) Fuzzy query (enter some fields, or enter English letters, query relevant Chinese data)
4) Enter a query that does not exist
5) Enter the existing query
6) Single query and multiple conditional compound queries.

VIII, search - drop down box

checking point:
a) whether the search results are in order;
b) Whether the drop-down box value is complete; (the drop-down box value itself is also the result of a dynamic query)
c) Whether the value of the drop-down box disappears automatically, click “Query” again to view all the records (whether to backfill the condition value);
d) Whether to save the search criteria when paginating.
(tested from UI, development, business logic, user usage, etc.)

For important forms, a large number of systems with slow response, when the commit is made, there are still pages in the loading state. At this time, two clicks are made in succession, which often causes various errors. In this case, you need to propose the button/ After the link is clicked once, do a disable test:

1）、Check if the page source code has script control：

```
<a   href="javascript:   $('#next').val('true');   buttonDisable();headerFormSubmit();"
type="submit" class="btn" id="nextButton"> Next </a>
function buttonDisable(){
$("#nextButton").attr("disabled", "disabled");
}
```

2）、Debug the script,

With the firebug tool, on the Script Tab, in $("#nextButton").attr("disabled", "disabled"); this line sets the disable, click nextButton, check the run to the breakpoint, the button can't click again . After running the breakpoint, disable is released.

Several points to consider when adding a new database field test

1）、From the database check, check the related table: The original table, the history table, the table with its synchronization library are added to the field, and note that in each table, the field type is unified

2）、Verification: Consider the type of the field itself, the null, boundary, uniqueness, special characters, data allowed by the correctness
In particular, when making a null, if the field is not allowed to be empty, consider: Need to submit the script to initialize the historical data set dafault value

3）、Process coverage: Consider which related pages are covered by the field, test the entire process, and verify the consistency of each page

Check the log test for several operations

Under normal circumstances, the project is deployed in the Linux environment. When testing, some need to check the log, or some services need to restart themselves. At this point, some basic linux operation commands are needed:

1）、First connect to the Linux system machine, use putty software, server address + port + protocol loginName + password, you can log in

2）、Cd to the folder location where the script or log is placed to restart the service or view the log, there are some commonly used commands

Less file name (W page up, F page down, Shift+F page automatically, Ctrl+C to stop page automatically);

Grep "findString" filename;

Execute the script: ../script name or sh./script name

13. History of Work，Current status,and Future Work

Job-hunting is a major problem in our life in the 21st century. Online recruitment system is designed to help and solve the problem of job-hunting. In Report 1, we first set the research objectives, and then completed the preliminary design of online recruitment system under the guidance of Lewis by querying information and using the knowledge we have learned. The system can not be put into use. The use cases designed by our division of labor and cooperation have no practical functions, and there are a few loopholes in the system.

In Report 2, we further improved the system. Lewis assigned tasks to each of us, and let us give use case functions. After continuous discussion and inquiry, we determined the functions of use cases and added these functions to our online recruitment system. It took us about a week to complete this work. The functions of use cases can be reflected in the system. Out, in this stage, the system can be put into use, but there are still a few vulnerabilities, such as login as an administrator and the size of the page.

In Report 3, we further improved the system, which took a week, including the details of modifying the use cases. We finally confirmed the functions of all use cases and use cases, improved the interface size and administrators can not log in. In this stage, the online recruitment system has been put into use, and job seekers can use the system to find a suitable job.

As a member of the Lewis team, I am very honored to have access to this project. From the very beginning, I was very interested in this project. On the one hand, this project can help others, on the other hand, it can show my knowledge in this project. I am Rick, who is responsible for the code and use case function of the registration and login interface. I think if I want to facilitate the registration and use of job seekers. Login, compared with other recruitment platforms in the past, there are some steps that can be omitted. I think my page needs the following points: 1. Reduce tedious information and advertising 2. Improve the security of the page 3. Job seekers encounter registration and login problems can be answered in real time.

With regard to the possible direction and feasibility of online recruitment system in the future, I think that although the opportunities do not seem very big, there are also some. Compared with traditional recruitment, online recruitment system is a new way of recruitment, which changes the face-to-face complex and cumbersome recruitment methods. In the future market, online recruitment system will have its place. In the future, online recruitment system will be applied to some private enterprises, state-owned enterprises and even overseas recruitment modes. Job seekers put in resumes, screen and review online recruitment system, select suitable positions for job seekers, and distribute them to job seekers in the form of e-mail. Job seekers receive e-mails and select the companies they want to apply for jobs.

14. References

The document format requirements are in accordance with China's GB/T8567-1988 national standard and IEEE/ANSI 830-1993 standard specifications. Includes the following documents

(1) Software requirements specification writing specification
(2) Program design training project development task book
(3) Book Borrowing Relationship System Requirements Manual
(4) Software Engineering Project Development Document Example
(5) National Standard Document for Software Engineering
(6) Equipment Management Requirements Specification
[1] Shi Jimin, Gu Chunhua, Zheng Hong. Software Engineering (3rd Edition). Beijing: Higher Education Press, 2009
[2] Zheng Renjie, Yin Renkun, Tao Yonglei. Practical Software Engineering (Second Edition). Beijing: Tsinghua University Press, 1997.
[3] Jin Bo. Software Documentation Specification. Beijing: Tsinghua University Press, 2008.
[4] National Standards - Guidelines for the Development of Computer Software Product Development Documents GB 8567-88

URL：
Lewis: https://github.com/Lewis1124
Rick: https://github.com/Rrick001
Wade: https://github.com/WadeDuyongheng
Troy: https://github.com/Troy001

15. Summary of changes

In this report, we made the following changes compared to the previous two reports：

1. We have revised the glossary
2. We have added three use cases, and three previous use cases will not be implemented in the final demo. The three use cases that are not implemented are because these three use cases have little effect on the system and are cumbersome to implement.
3. I also described three new use cases in detail, and only briefly described the use cases that could not be implemented.
4. Compared to Report 1, our user interface has been changed and is shown in the above report.

16. Project management

This is the last report. Lewis gave us a meeting before and set up their own tasks. In the above division of tasks, there is a detailed explanation. Next we will prepare Demo2 and we will do it. Some use cases have not been completed, we will complete them in the future, and will continue to correct the system errors, such as some Chinese, or unsuccessful login problems.