B2B MATCHMAKING SYSTEM

Assignment 2

Members:

1. Askari, Majid
2. Ghorbanian, Mahta
3. Jaberzadeh Ansari, Mahdi
4. Mirshafiee Khoozani, Mitra Sadat

4. Detailed Design Document

4-0. Actors

Our B2B Matchmaking System contains four main actors which are listed below:

1. Admin
2. Provider
3. Guest
4. Client

4-1. Use cases

In the following you can find the role of each actor in more detail and the related use case diagram. Please note that message sequences also has been shown in the use case diagrams.

1. Admin

The admin agent enables superusers to moderate and manage the system with unlimited access. A simple example is suspending a user or deactivating the system for a few hours to apply some updates. Also, we assume that the duty of the accountant user is done by the admin user. Performing a project can charge a provider's bank account by the admin.
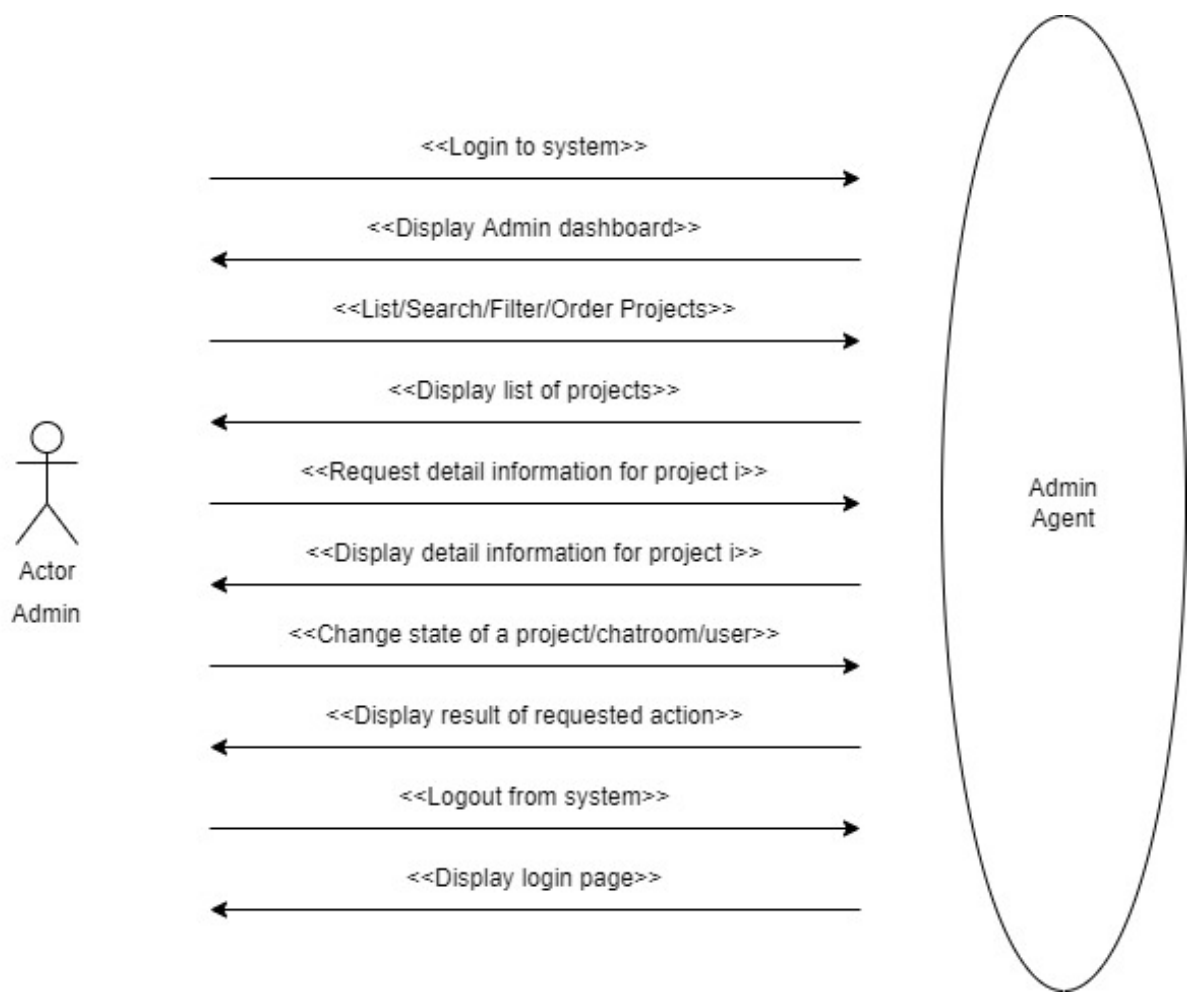
Figure 4.1: Admin use case diagram

2. Provider

The provider agent provides services associated with registering providers in the system. Providers can submit some keywords and upload a resume file related to the services they can offer to consumers. The provider will receive bids for their services from a number of customers. The provider can either accept or reject the bid request here. In addition, providers can chat with customers and keep them up to date on project progress.
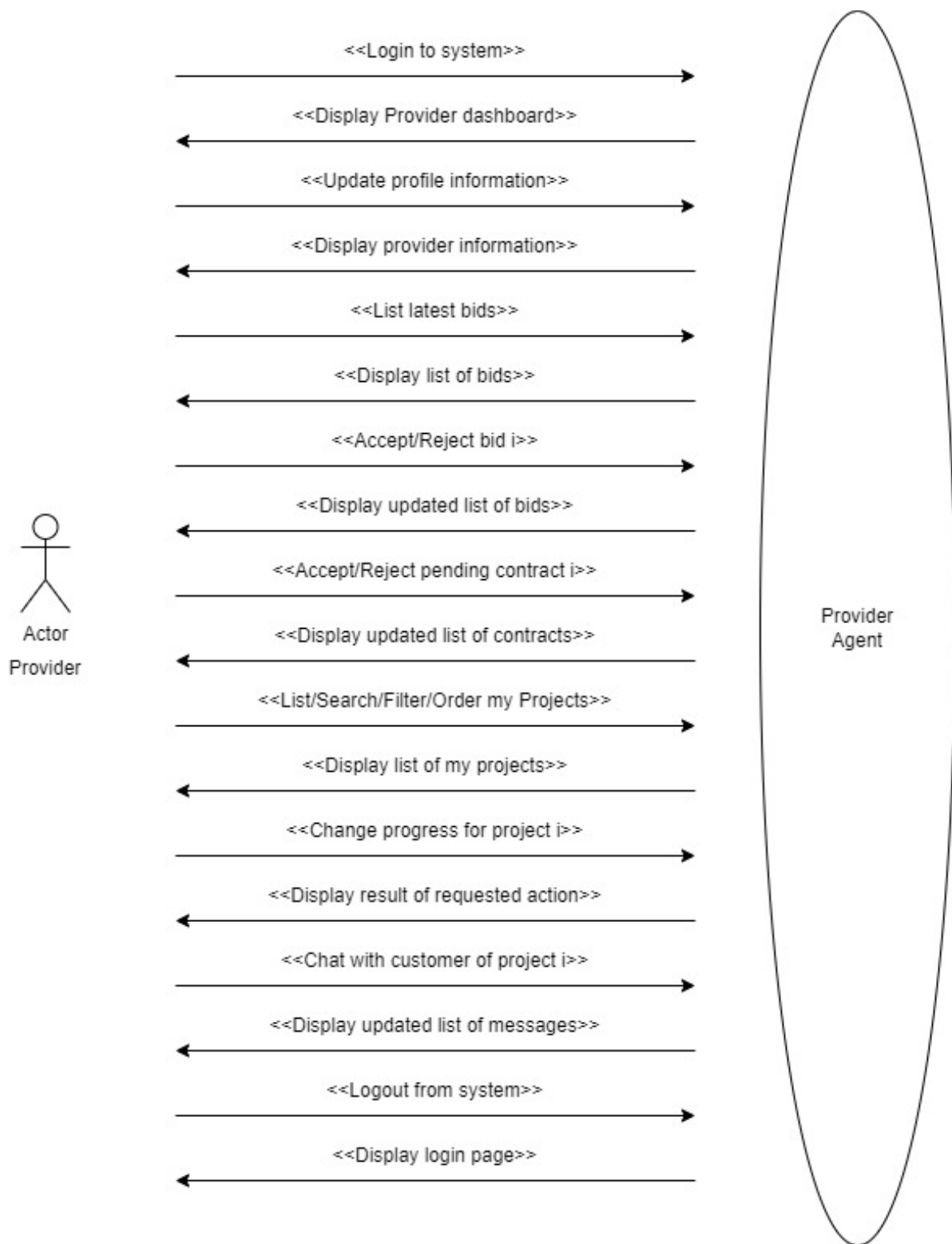
Figure 4.2: Provider use case diagram

3. Guest

Guest users can only search for providers based on keywords. Therefore, the guest agent provides limited functionalities. For instance, searching the database of providers and gaining access to limited information about them, such as keywords, resumes, and compensation. Guests cannot place a bid or access the contact information of providers.
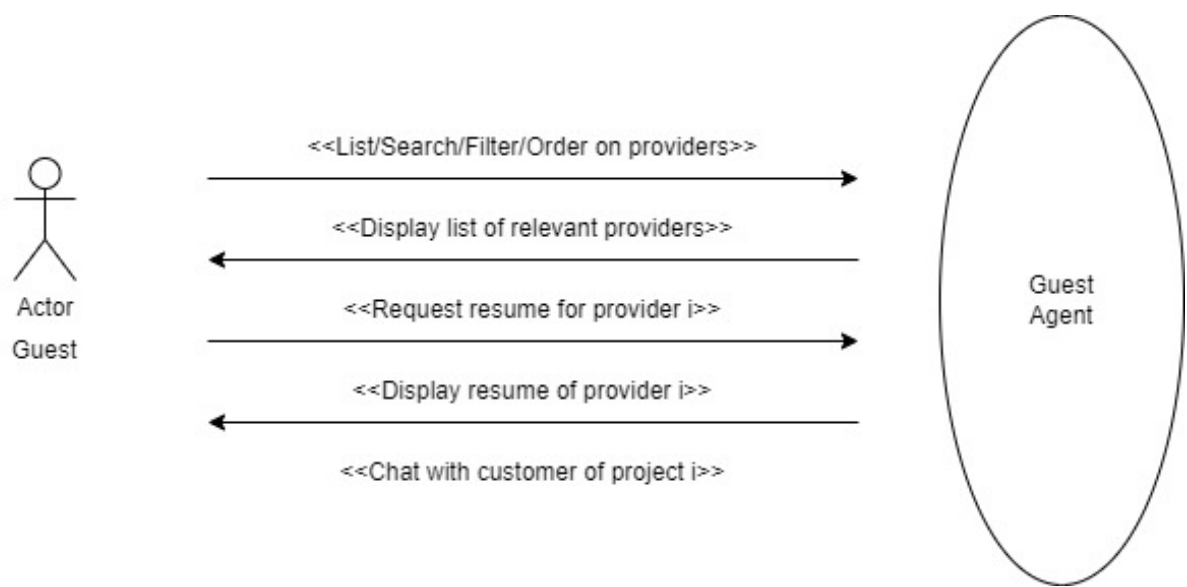
Figure 4.3: Guest use case diagram

4. Client

A customer/client can search the providers database and then place a bid on a provider. A contract must be signed by both parties after the bid has been accepted by the provider. Customers can check the progress of their projects and chat with related providers. The client service agent must provide services to fulfill customers' needs.
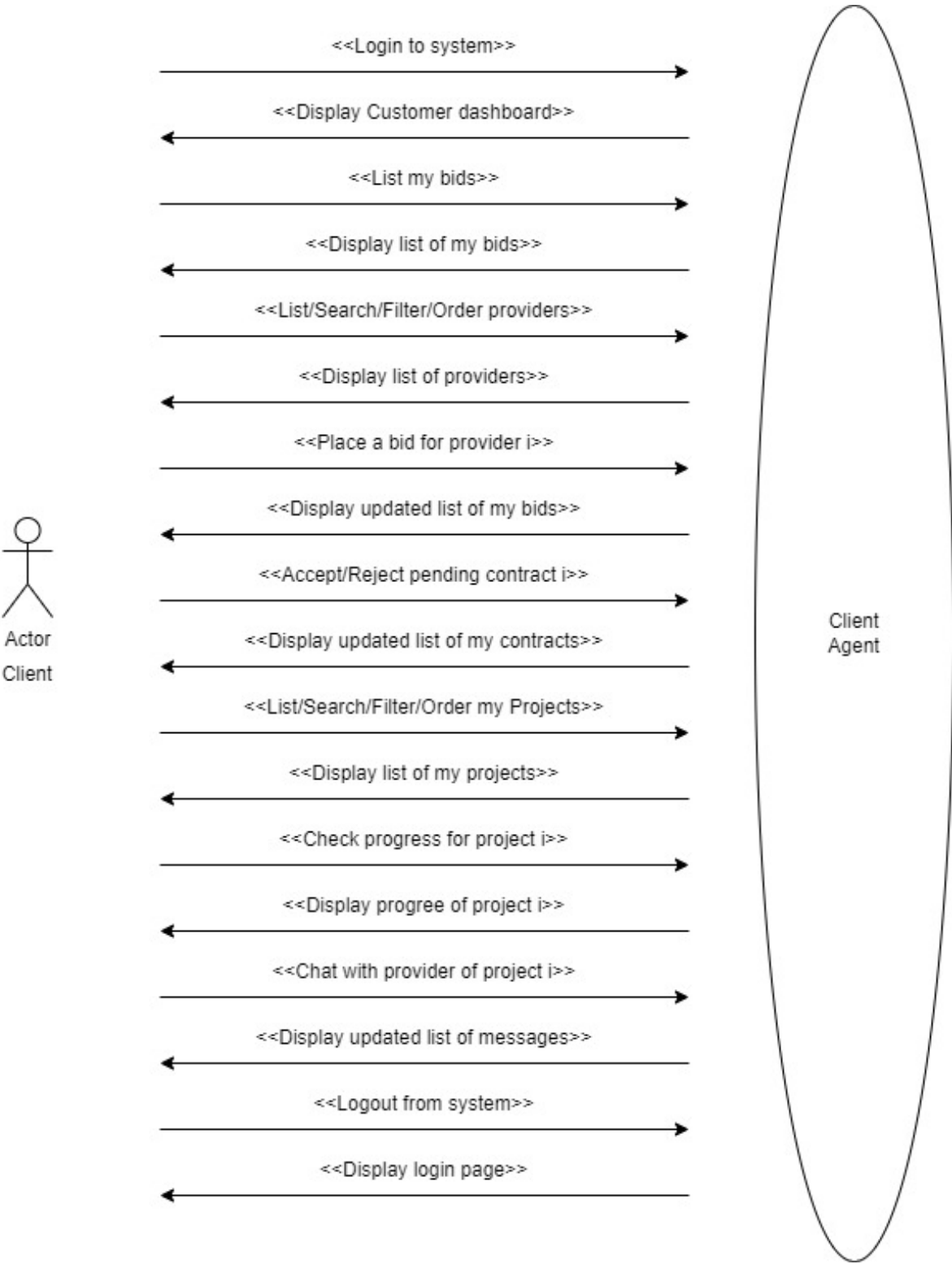
Figure 4.4: Client use case diagram

4-2. Class Diagram

Here is a figure which illustrates the relationship between our classes.
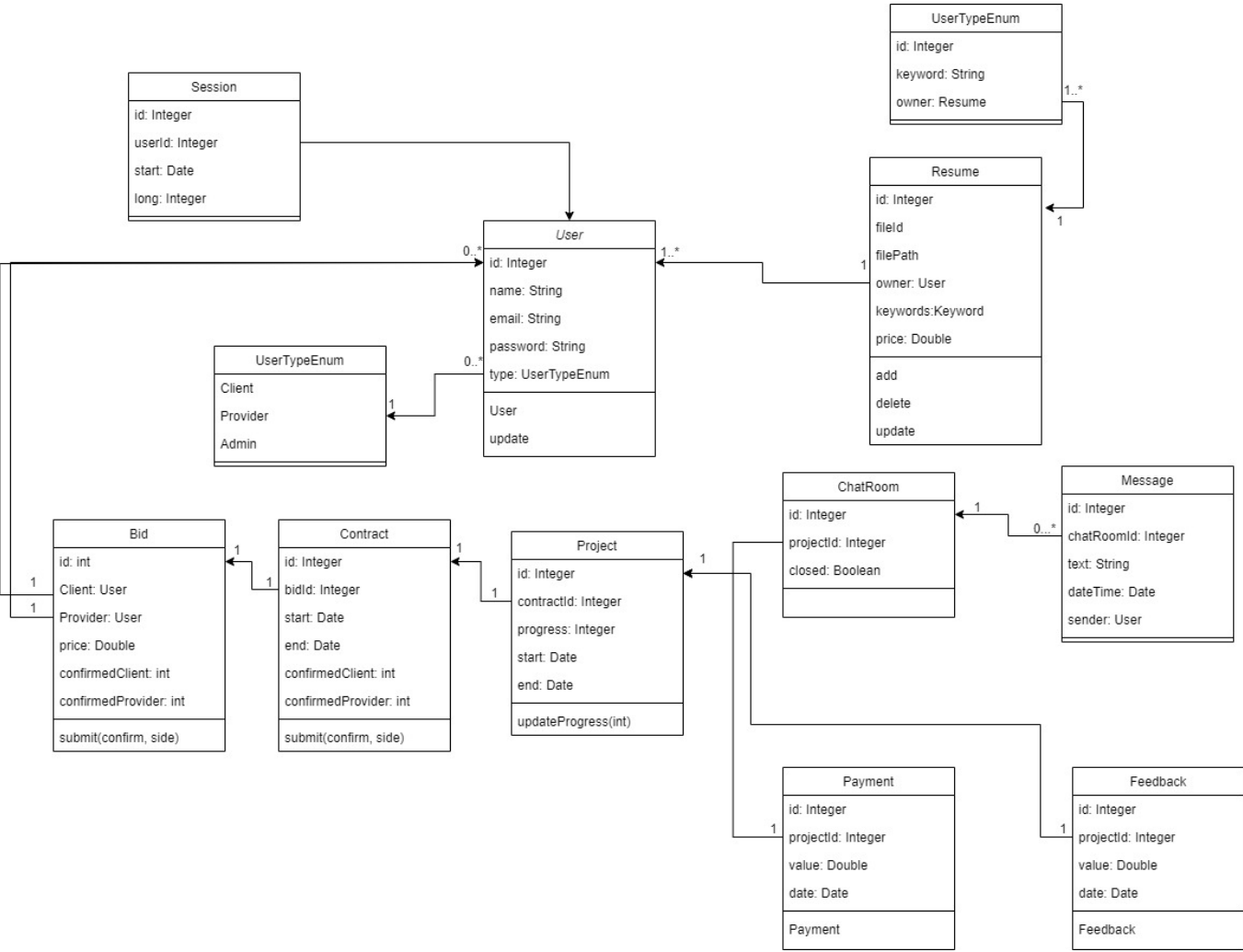
Figure 4.5: Class diagram

5. Data Dictionary

E-R Diagram:
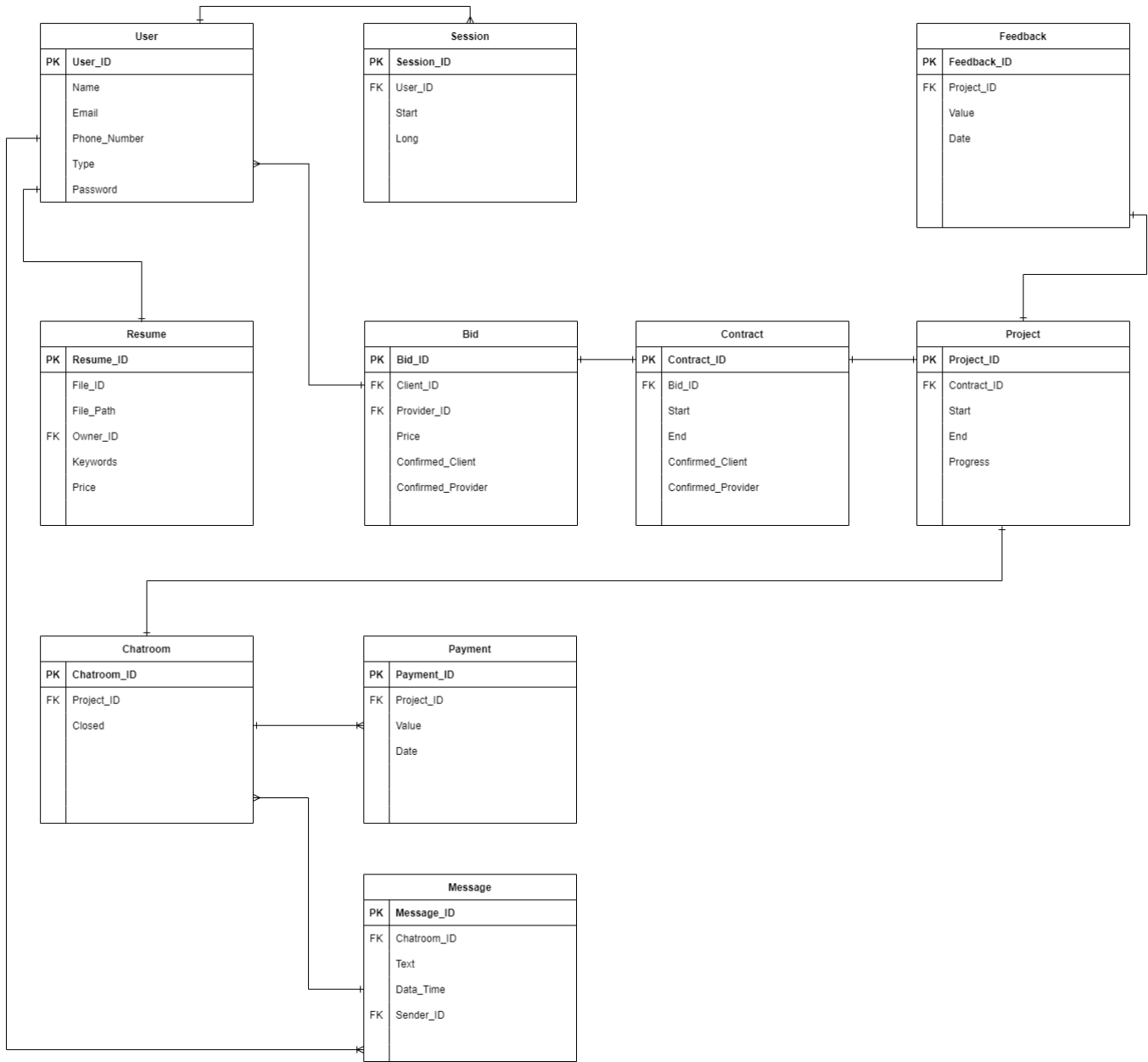
User:

Field	Description	Type
User_ID	Unique ID of User	Integer
Name	User Name	String
Email	User Email Address	String
Password	User Password	String
Type	User Type	String

Session:

Field	Description	Type
Session_ID	Unique ID of Session	Integer
User_ID	ID of User	Integer
Start	Start Date	Date
Long	Session duration	Integer

Resume:

Field	Description	Type
Resume_ID	Unique ID of Resume	Integer
File_ID	File ID	Integer
File_Path	Path of File	String
Owner_ID	Owner's ID of Resume (User_ID)	Integer
Keywords	User Skill Keywords	Keyword
Price	Hourly Wage	Double

Bid:

Field	Description	Type
Bid_ID	Unique ID of Bid	Integer
Client	ID of Client (User_ID)	Integer
Provider_ID	ID of Provider (User_ID)	Integer
Price	Price	Double
Confirmed_Provider	Is Provider confirmed or Not?	Boolean
Confirmed_Client	Is Client confirmed or Not?	Boolean

Contract:

Field	Description	Type
Contract_ID	Unique ID of Contract	Integer
Bid_ID	ID of Bid	Integer
Start	Start Date	Date
End	End Date	Date

Field	Description	Type
Confirmed_Provider	Is Provider confirmed or Not?	Boolean
Confirmed_Client	Is Client confirmed or Not?	Boolean

Project:

Field	Description	Type
Project_ID	Unique ID of Project	Integer
Contract_ID	ID of Contract	Integer
Start	Start Date	Date
End	End Date	Date
Progress	Percentage of Project Progress	Integer

ChatRoom:

Field	Description	Type
ChatRoom_ID	Unique ID of ChatRoom	Integer
Project_ID	ID of Project	Integer
Closed	Is it closed or not?	Boolean

Message:

Field	Description	Type
Message_ID	Unique ID of Message	Integer
ChatRoom_ID	ID of ChatRoom	Integer
Text	Text of Message	String
Date_Time	Date	Date
Sender	Sender's ID of Message (User_ID)	Integer

Payment:

Field	Description	Type
Payment_ID	Unique ID of Payment	Integer
Project_ID	ID of Project	Integer
Value	Amount of Paymenmt	Double
Date	Date of Payment	Date

Feedback:

Field	Description	Type
Payment_ID	Unique ID of Payment	Integer
Project_ID	ID of Project	Integer
Value	Score of Feedback	Double
Date	Date of Payment	Date

6. Inter-Agents Messages

In this document you can find the list of IAMs.

Login

Input

Parameter	Description
`<User>`	
`<Email>String</Email>`	
`<Password>String</Password>`	Request Login.
`</User>`	

Output

Parameter	Description
`<Session>`	
`<Session_ID>Integer</Session_ID>`	
`<User_ID>Integer</User_ID>`	Get login session information.
`<Date>Date</Date>`	
`</Session>`	

Get Bids (Client)

Input

Parameter	Description

`<Bid>`
 	
`<Client_ID>Integer</Client_ID>`
 	
`</Bid>`
	Get client's bids.

Output

Parameter	Description

`<Bids>`
 	
`<Bid>`
 	
`<Client_ID>Integer</Client_ID>`
 	
`<Provider_ID>Integer</Provider_ID>`
 	
`<Price>Double</Price>`
 	
`<Confirmed_Client>Boolean</Confirmed_Client>`
 	
`<Confirmed_Provider>Boolean</Confirmed_Provider>`
 	
`</Bid>`
 	
.
 	
n
 	
.
 	
`</Bids>`
	List of bids for this client.

Get Providers

Input

Parameter	Description
`<User>` `<Type>"Provider"</Type>` `<Resume>` `<keywords>String</keywords>` `</Resume>` `<Price>Double</Price>` `</User>`	Information of providers user wants.

Output

Parameter	Description
`<Users>` `<User>` `<Name>String</Name>` `<Type>"Provider"</Type>` `<Resume>` `<File_Path>String</File_Path>` `<keywords>String</keywords>` `</Resume>` `<Price>Double</Price>` `</User>` `.` `n` `.` `</Users>`	List of providers based on user filters.

Place a Bid

Input

Parameter	Description

`<Bid>`
 	
`<Provider_ID>Integer</Provider_ID>`
 	
`<Price>Double</Price>`
 	
`</Bid>`
	Place a bid for a specific provider.

Output

Parameter	Description

`<Bids>`
 	
`<Bid>`
 	
`<Client_ID>Integer</Client_ID>`
 	
`<Provider_ID>Integer</Provider_ID>`
 	
`<Price>Double</Price>`
 	
`<Confirmed_Client>Boolean</Confirmed_Client>`
 	
`<Confirmed_Provider>Boolean</Confirmed_Provider>`
 	
`</Bid>`
 	
`.`
 	
`n`
 	
`.`
 	
`</Bids>`
	Returns all the client's current bids.

Accept/Reject Contract

Input

Parameter	Description
`<Contract>` `<Contract_ID>Integer</Contract_ID>` `<Bid_ID>Integer</Bid_ID>` `<Confirmed_Client>Boolean</Confirmed_Client>` `</Contract>`	Accept a contract. This can be called by both client and provider to their respective agents.

Output

Parameter	Description
`<Contracts>` `<Contract>` `<Contract_ID>Integer</Contract_ID>` `<Bid_ID>Integer</Bid_ID>` `<Start>Date</Start>` `<End>Date</End>` `<Confirmed_Client>Boolean</Confirmed_Client>` `<Confirmed_Provider>Boolean</Confirmed_Provider>` `</Contract>` . n . `</Contracts>`	Get and updated list of contracts.

Get Projects

Input

Parameter	Description
`<User>`	
`<User_ID>Integer</User_ID>`	Get the list of projects for this user.
`</User>`	

Output

Parameter	Description
`<Projects>`	
`<Project>`	
`<Project_ID>Integer</Project_ID>`	
`<Contract_ID>Integer</Contract_ID>`	
`<Start>Date</Start>`	
`<End>Date</End>`	
`<Progress>Double</Progress>`	List of projects for this user.
`</Project>`	
.	
n	
.	
`</Projects>`	

Send Message

Input

Parameter	Description
`<Message>`	
`<Chat_ID>Integer</Chat_ID>`	
`<Text>String</Text>`	Send a message to a chat.
`<Sender_ID>Integer</Sender_ID>`	
`</Message>`	

Output

Parameter	Description
`<Messages>`	
`<Message>`	
`<Chat_ID>Integer</Chat_ID>`	
`<Text>String</Text>`	
`<Date_Time>Date</Date_Time>`	
`<Sender_ID>Integer</Sender_ID>`	List of updated messages for each chat.
`</Message>`	
`.`	
`n`	
`.`	
`</Messages>`	

Update Profile

Input

Parameter	Description
<User>	
<Name>String</Name>	
<Type>"Provider"</Type>	
<Resume>	
<File_Path>String</File_Path>	
<keywords>String</keywords>	
</Resume>	
<Price>Double</Price>	
<Email>String</Email>	
<Phone_Number>String</Phone_Number>	
<Password>String</Password>	
</User>	

Output

Parameter	Description
`<User>`	
`<Name>String</Name>`	
`<Type>"Provider"</Type>`	
`<Resume>`	
`<File_Path>String</File_Path>`	
`<keywords>String</keywords>`	
`</Resume>`	
`<Price>Double</Price>`	
`<Email>String</Email>`	
`<Phone_Number>String</Phone_Number>`	
`</User>`	

Accept/Reject Bid

Input

Parameter	Description

`<Bid>`
 	
`<Bid_ID>Integer</Bid_ID>`
 	
`<Confirmed_Provider>Boolean</Confirmed_Provider>`
 	
`</Bid>`
	Accept or reject a bid.

Output

Parameter	Description

`<Bid>`
 	
`<Client_ID>Integer</Client_ID>`
 	
`<Provider_ID>Integer</Provider_ID>`
 	
`<Price>Double</Price>`
 	
`<Confirmed_Client>Boolean</Confirmed_Client>`
 	
`<Confirmed_Provider>Boolean</Confirmed_Provider>`
 	
`</Bid>`
	Return the updated bid information.