SENG 696 AGENT-BASED SOFTWARE ENGINEERING

UNIVERSITY OF CALGARY

RESEARCH MATCHMAKING

PROJECT - 2 – DETAILED DEVELOPMENT DOCUMENT

GROUP - 14

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CONTENT

Use Case Definition……3

Detailed Class Diagram……12

Message Sequence Chart……..12

Use Case Diagram……13

E-R Diagram……15

Use Case Definition

1) Access Agent Use Case Definition

Brief Description:

The actor makes use of this use case to register for the service, access it after login in, and confirm the business proof.

Pre-conditions:

The system should be accessible to users via a GUI.

S.No	PROCESS STEPS	Exceptions (if any)	Exception description
1	Actor requests access to the system as a visitor, supplier, or customer.	The system is currently inaccessible.	An error message is produced stating that the system is now inaccessible. Use Case Complete.
2	The user is presented with information by the access agent based on the request that was received.		
3	When a user wants to sign up or log in, the access agent first examines the user's information before either storing it in the database or reading the information and verifying the user.	Database not reachable.	A message of error is sent, requesting another request from the user. Use Case Complete.
4	The GUI for submitting the proof of business is displayed by the access agent if the user is logged in as a provider.		
5	The access agent then accesses the database and validates the proof of business.		
6	Depending on whether the user is a guest, provider, or client, it then shows the appropriate GUI after successful registration or login in.		

Relationships & Data requirements:

Initiating	Graphical User Interface
Collaborating	Database
Data Requirements	1. Actor role (Guest, Provider, Client) 2. Actor Login ID 3. Actor Password 4. Actor data written in the database

2) GUI Agent Use Case Definition

Brief Description:

This use case is used by the actor to access the service.

Pre-conditions:

The system ought to be manageable by the user.

S.No	Process Steps	Exceptions (if any)	Exception description
1	Actor logs into the system and requests access as a guest, provider, or client.	The system is currently inaccessible.	An error message is produced stating that the system is now inaccessible. Use Case Complete.
2	The user is shown the services by the access agent based on the request they have made.		
3	If the actor is a client or guest, he may submit a search request, and the search agent will use that information to show a list of providers.		
4	The GUI for submitting the proof of business is displayed by the access agent if the actor is registering as a provider.		
5	The access agent then accesses the database and validates the proof of business.		
6	Contract agent communicates the		

	contract to the actor via GUI agent after verifying the proof.		
7	A GUI agent can be used by an actor to submit a bid, and the contract agent will handle it.		
8	Project creator agent builds the project and shows the chat through GUI agent after the bid is placed and signed.		
9	The project tracker agent monitors the project's progress and uses a GUI agent to present the data.		
10	After the project is finished, the AfterMarket agent provides the GUI agent the feedback questions, which the GUI agent then shows to the user and reads the responses to.		

Relationships & Data requirements:

Initiating	Graphical User Interface
Collaborating	Database
Data Requirements	1. Actor role (Guest, Provider, Client) 2. Actor Login ID 3. Actor Password 4. Actor data written in the database

3) Search Agent Use Case Definition

Brief Description:

This use case is used by the GUI to register the provider for either the basic or premium plan.

Pre-conditions:

The user needs to be logged in as a provider.

S.No	Process Steps	Exceptions (if any)	Exception description
1	Actor uses the client or guest login to access the system.		
2	Actor requests the list of providers by entering the keywords.		
3	The GUI agent reads the information and transmits the request and keywords to the Search agent.		
4	The GUI for the search agent then retrieves the database's list of providers and organizes it according to the keywords.	Database is not accessible.	A message of error is sent, requesting another request from the user. Use Case Complete.
5	The GUI agent then presents the sorted list of providers to the actor after being sent by the search agent.		

Relationships & Data requirements:

Initiating	GUI Agent
Collaborating	Database, Actor
Data Requirements	1. Keywords 2. List of Providers

4) Plan Handler Agent Use Case Diagram

Brief Description:

This use case is used by the GUI to register the provider for either the basic or premium plan.

Pre-conditions:

The user needs to be logged in as a provider.

S.No	Process Steps	Exceptions (if any)	Exception description
1	Actor uses a provider login to access the system.		
2	Actor chooses a premium or basic plan.		
3	The plan handler agent receives the request from the UI agent after it has read the data.		
4	After registering the actor in one of the plans, the plan handler agent relays the notification to the GUI agent.	It fails to register for one of the plans.	A message of error is sent, requesting another request from the user. Use Case Complete.
5	The GUI agent then shows whether the registration was successful in the plan.		

Relationships & Data requirements:

Initiating	Access Agent
Collaborating	GUI Agent, Database, Actor
Data Requirements	1. Plan data 2. User ID

5) Tracker Agent Use Case Definition

Brief Description:

This use case is used by the GUI to track the project status and to handle the change requests.

Pre-conditions:

After both the concerned parties have signed the contract, a project should have been created.

Process Steps and Exceptions:

S.No	Process Steps	Exceptions (if any)	Exception description
1.	The project creator agent creates the project once the contract is signed by the provider and client.		
2.	Project creator agent calls the tracker agent to start tracking the project.		
3.	Tracker agent asks GUI agent to display the progress of the project and to read any change request.		
4.	GUI Agent reads the change request and sends it to tracker agent.	GUI agent does not read the change request.	Use case terminated, Error message is generated asking the user to request again.
5.	Tracker agent receives the change request from the GUI agent and changes the scope of the project based on it. Additionally, it also stores it in the database and sends the updated message to the GUI.	Database is not accessible.	Use case terminated, Error message is generated asking the user to request again.
6.	GUI agent displays the updated status.		

Relationships & Data requirements:

Initiating	Project Creator Agent
Collaborating	GUI Agent, Database, Actor
Data Requirements	1. Project Data 2. Change Request Data 3. Provider details 4. User details

6) After Market Agent Use Case Definition

Brief Description:

This use case is used by the actor to handle the payments and feedbacks.

Pre-conditions:

The project should have been completed.

Process Steps and Exceptions:

S.No	Process Steps	Exceptions (if any)	Exception description
1.	When the project is completed, the tracker agents mark the project as complete and sends the info to the AfterMarket agent.		
2.	AfterMarket agent reads the project data and asks the GUI agent to request payment info to the actor.		
3.	GUI agent then reads the payment info and sends it to the AfterMarket agent.		
4.	GUI agent also reads the feedback and sends it to the AfterMarket agent.		
5.	AfterMarket agent then stores the feedback in the database.		
6.	AfterMarket agent also reads the provider details from the database and pays the provider after deducting 30 percent of the amount.	Wrong payment details entered.	Use Case terminated, Error message is displayed asking the user to enter the details again.
		Database is not accessible.	Use case terminated, Error message is generated asking the user to request again.

Relationships & Data requirements:

Initiating	Tracker Agent
Collaborating	GUI Agent, Database, Actor
Data Requirements	1. Provider Bank Details 2. Client Bank Details 3. Project Data

7) Project Creator Agent Use Case Definition

Brief Description:

This use case is used by the GUI Agent to create the new project.

Pre-conditions:

Bid should have been accepted by client as well as provider.

Process Steps and Exceptions:

S.No	Process Steps	Exceptions (if any)	Exception description
1.	Contract Agent sends the information regarding bid acceptance to the project creator agent.		
2.	Project Creator creates the project and stores the data in the database.	Database is not accessible.	Use case terminated, Error message is generated asking the user to request again.
3.	Project Creator also creates a chat for the project and asks the GUI agent to display it to the actor.		
4.	Project Creator also sends this information to the tracker agent.		

Relationships & Data requirements:

Initiating	Contract Agent
Collaborating	GUI Agent, Actor, tracker Agent
Data Requirements	1. Provider Details 2. Client Details 3. Project Details

8) Contract Agent Use Case Definition

Brief Description:

This use case is used by the GUI Agent to create the new project.

Pre-conditions:

Bid should have been accepted by client as well as provider.

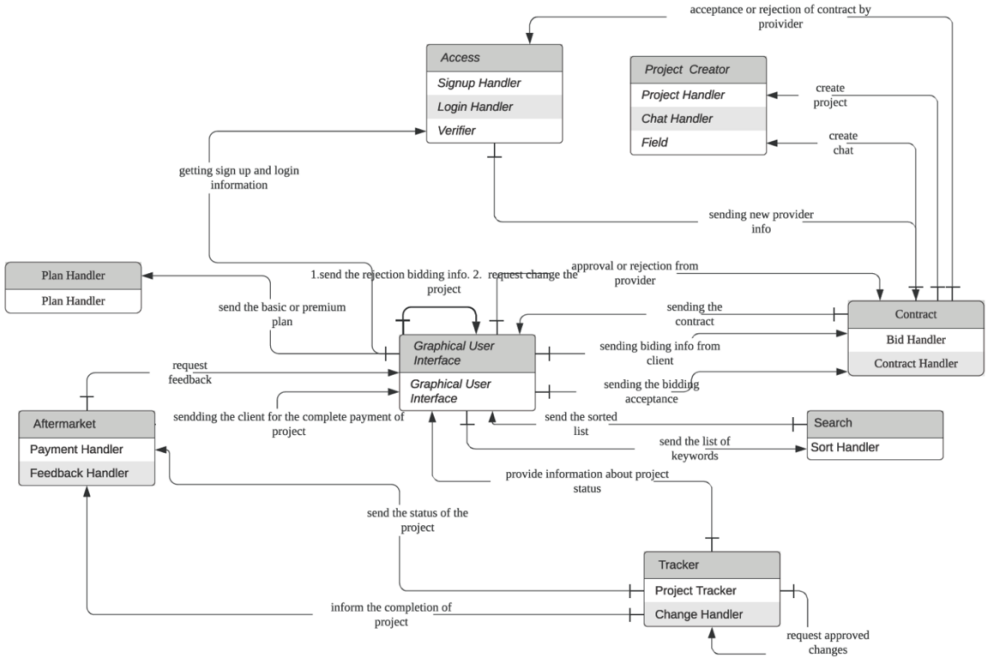
Process Steps and Exceptions:

S.No	Process Steps	Exceptions (if any)	Exception description
1.	Contract Agent sends the information regarding bid acceptance to the project creator agent.		
2.	Project Creator creates the project and stores the data in the database.	Database is not accessible.	Use case terminated, Error message is generated asking the user to request again.
3.	Project Creator also creates a chat for the project and asks the GUI agent to display it to the actor.		
4.	Project Creator also sends this information to the tracker agent.		

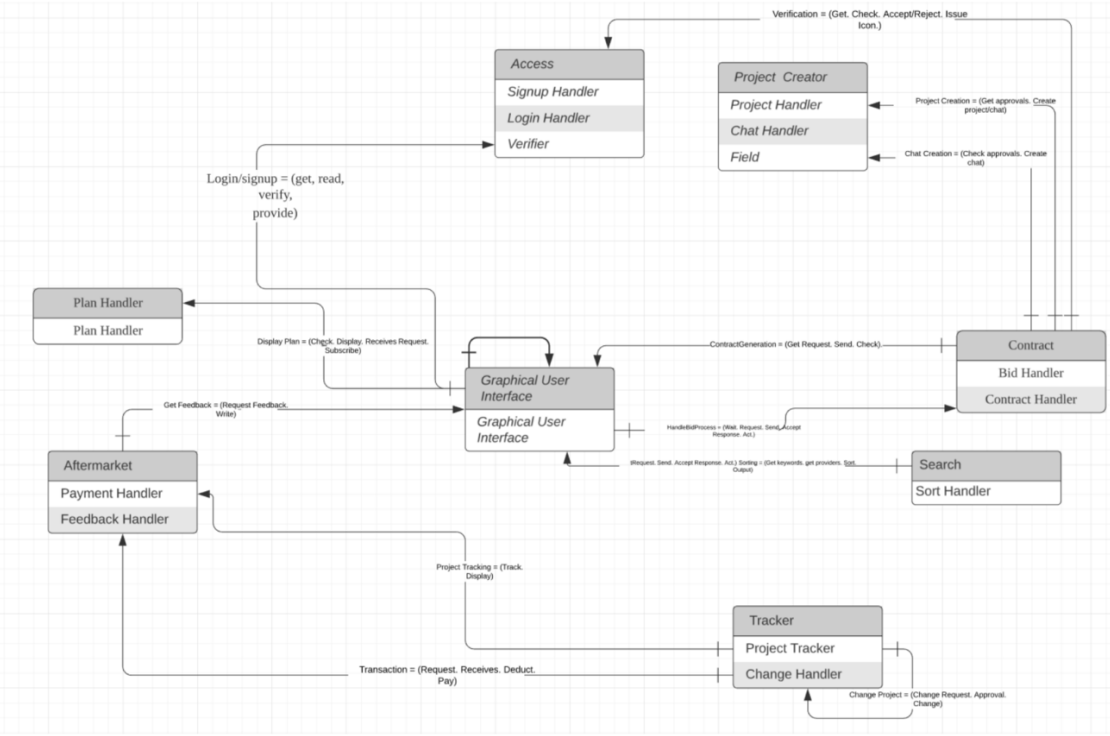
Relationships & Data requirements:

Initiating	Contract Agent
Collaborating	GUI Agent, Actor, tracker Agent
Data Requirements	1. Provider Details 2. Client Details 3. Project Details

Detailed Class Diagram

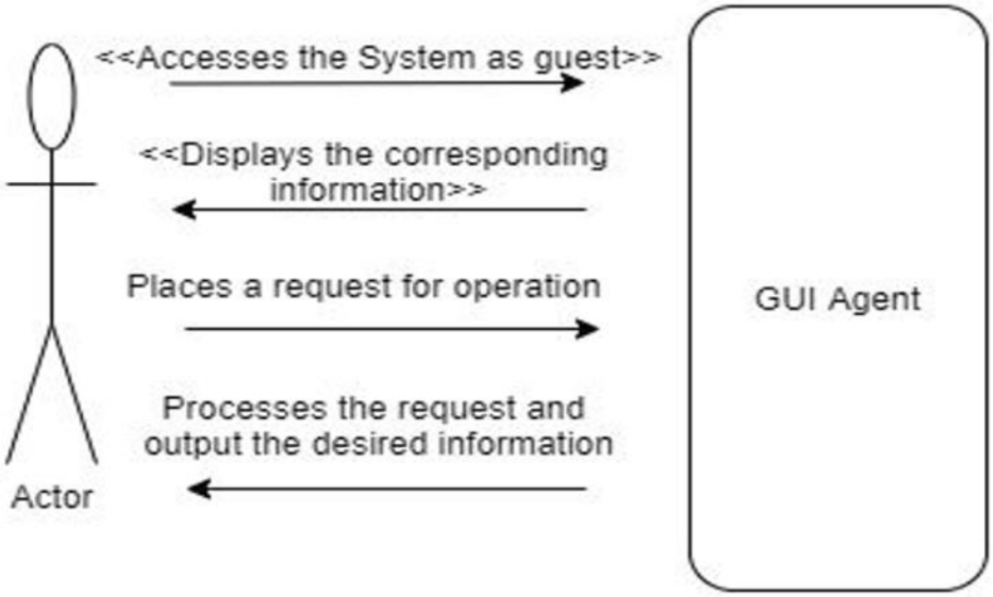


Message Sequence Chart

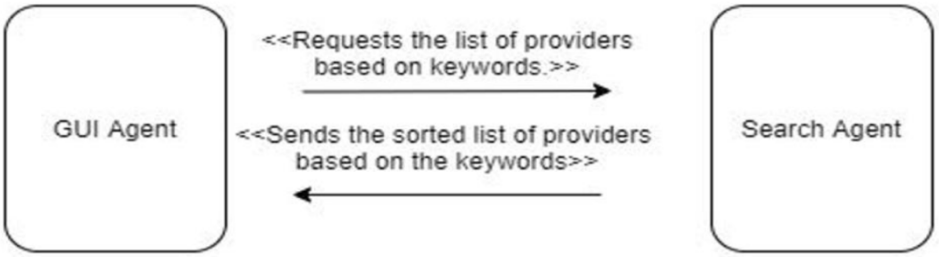


Use Case Diagram

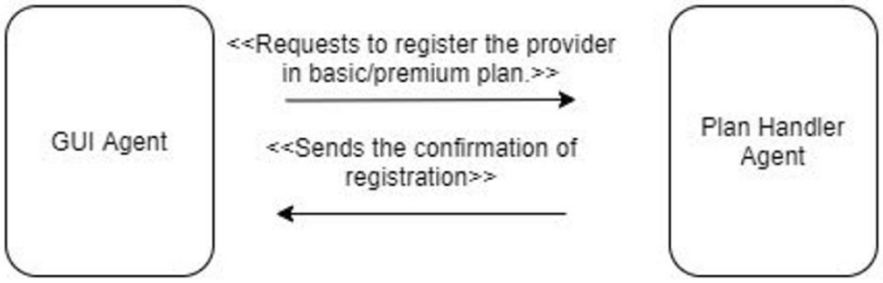
Use Case for GUI Agent



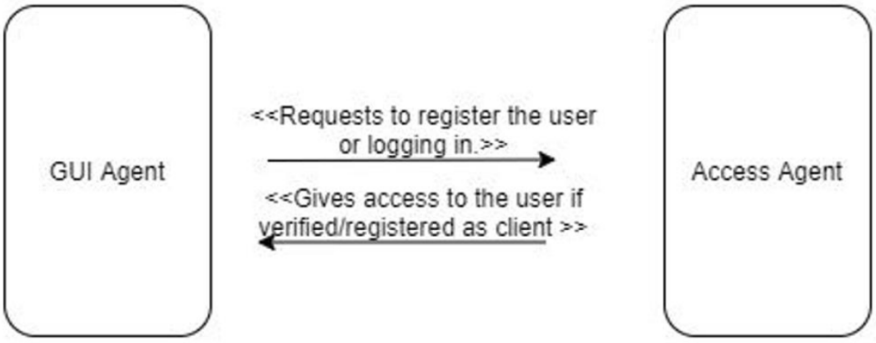
Use Case for Search Agent



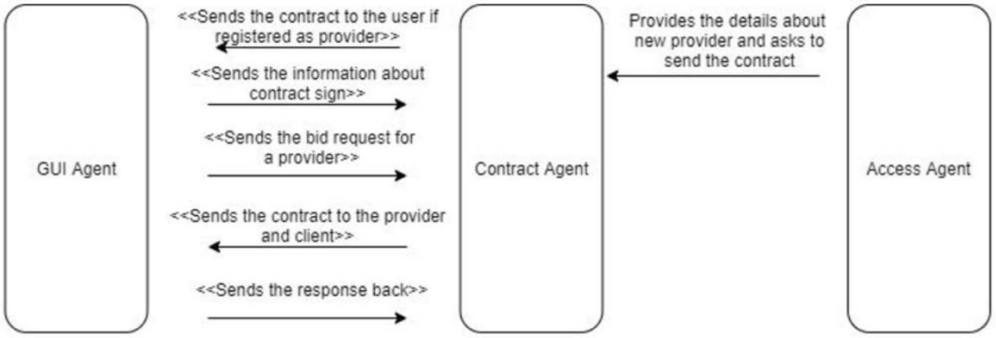
Use Case for Plan Agent



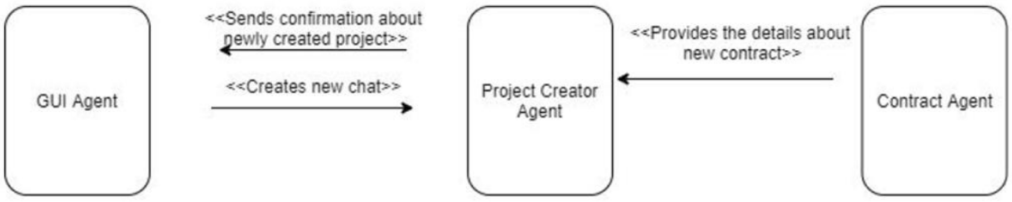
Use Case for Access Agent



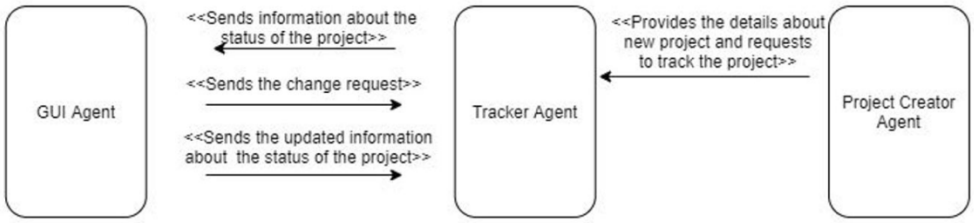
Use Case for Contract Agent



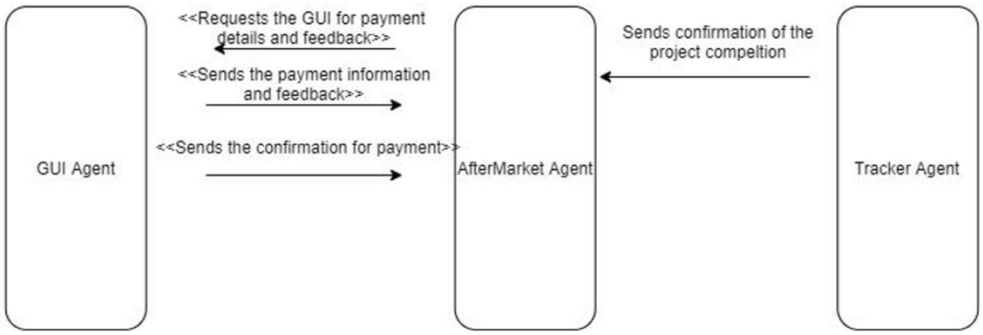
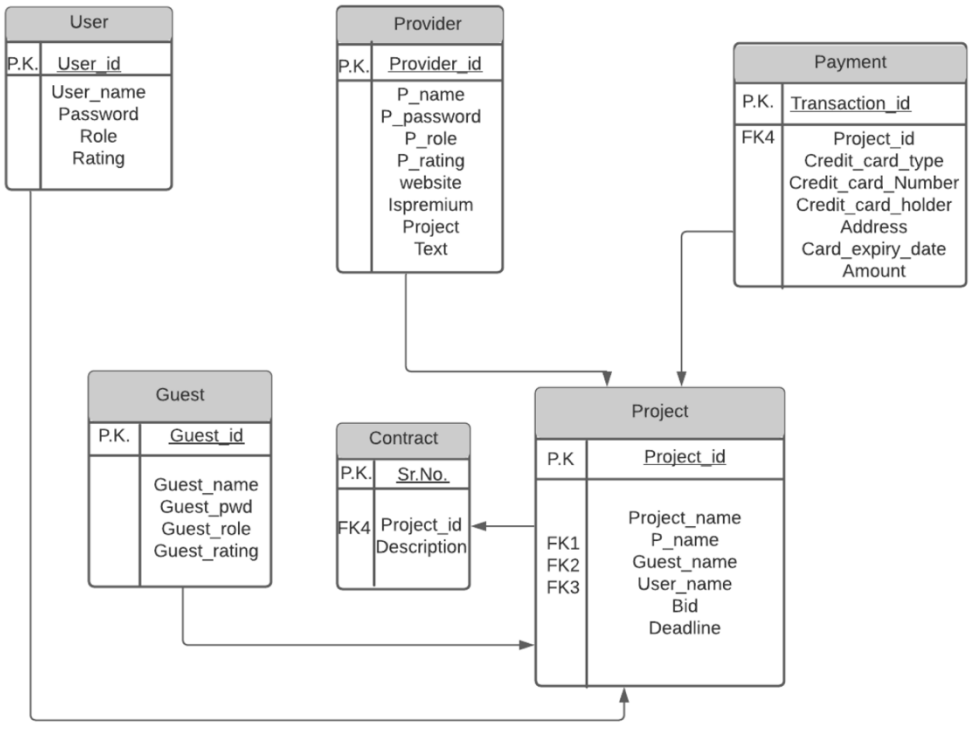
Use Case for Project Creator Agent



Use Case for Tracker Agent



Use Case for After Market Agent



E-R Diagram