

SENG 696 (Agent Based Software Engineering)

University of Calgary

Research Matchmaking

Project – 2 (Detailed Development Document)

Group C

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1. Use Case Definition

1. Access Agent Use Case Definition

Brief Description	The actor uses this use case for signing up for the service, accessing the service after logging in, and for verifying the proof of business.	
Pre-conditions	User should be able to access the system using GUI.	
Process Steps		
1	Actor makes a request to access the system as a guest, provider, or client.	
2	Based on the received request, access agent displays the information to the user.	
3	If the user wants to register or login, then the access agent reads the user information and then either stores the in the database or reads the data and verify the user.	
4	If the user is registered as provider, then access agent displays the GUI for submitting the proof of business.	
5	Proof of business is then verified by the access agent after accessing the database.	
6	After successful registration or logging in, it then displays the corresponding GUI depending upon the user is guest, provider, or client.	
Exceptions:		
1a	System is not accessible at this point.	Error message is generated stating that System is not accessible at this point. Use Case Terminated
3a	Database is not accessible	Error message is generated asking the user to request again. Use

		Case Terminated
Relationships:		
Initiating	Graphical User Interface	
Collaborating	Database	
Other Diagrams:		
Data Requirements		
	Data Required: Data Required for Access agent 1. Actor Role (i.e. guest, provider, or client) 2. Actor Login ID 3. Actor Password 4. Actor data written in the database	

2.GUI Agent Use Case Definition

Brief Description	The actor uses this use case for accessing the service.
Pre-conditions	User should be able to run the system.
Process Steps	
1	Actor accesses the system and makes a request to access the system as a guest, provider, or client.
2	Based on the received request, access agent displays the services to the user.
3	If the actor is client/guest, he can place a search request and based on that search agent will display the list of providers.
4	If the actor is registering as provider, then access agent displays the GUI for submitting the proof of business.
5	Proof of business is then verified by the access agent after accessing the database.
6	After verification of the proof, contract agent sends the contract to the actor through GUI agent.
7	Actor can place a bid using GUI agent, which will be handled by contract agent.
8	Once the bid is placed and signed, project creator agent creates the project and displays the chat through GUI agent.
9	Project tracker agent tracks the progress of the project and displays the information through GUI agent.
10	After the completion of the project, AfterMarket agent sends the feedback questions to GUI agent, which then displays to the user and reads its answers.

Exceptions:		
1a	System is not accessible at this point.	Error message is generated stating that System is not accessible at this point. Use Case Terminated
Relationships:		
Initiating	Actor	
Collaborating	Plan Handler, Search, Access, Contract, Project Creator, Project Tracker, After Market.	
Other Diagrams:		
Data Requirements		
	Data Required: Data Required for GUI agent 1. Actor Role (i.e., guest, provider, or client) 2. Actor Login ID 3. Actor Password 4. Actor data written in the database	

3. Search Agent Use Case Definition

Brief Description	The GUI uses this use case for sorting the list of providers and displaying it to the actor.	
Pre-conditions	User should be able to run the system as and access the GUI as client or as guest.	
Process Steps		
1	Actor accesses the system as a guest, or client.	
2	Actor enters the keywords and places a request for the list of providers.	
3	GUI agent reads the data and sends the request to the Search agent along with the keywords.	
4	Search agent then gets the list of providers from the database and sorts it based on the keywords.	
5	Search agent then send the sorted list of providers to the GUI agent, which then displays it to the actor.	
Exceptions:		
4a	Database is not accessible	Error message is generated asking the user to

		request again. Use Case Terminated
Relationships:		
Initiating	GUI agent	
Collaborating	Database, Actor	
Other Diagrams:		
Data Requirements		
	Data Required: Data Required for Search Agent 1. Keywords 2. List of Providers	

4. Plan Handler Agent Use Case Definition

Brief Description	The GUI uses this use case for registering the provider to either basic/premium plan.	
Pre-conditions	User should be signed in as a provider.	
Process Steps		
1	Actor accesses the system as a provider.	
2	Actor selects one of the premium/basic plans.	
3	GUI agent reads the data and sends the request to the plan handler agent.	
4	Plan handler agent then registers the actor in one of the plans and sends back the message to the GUI agent.	
5	GUI agent then displays the registration in the plan as successful or unsuccessful.	
Exceptions:		
4a	Registration in one of the plans is not successful.	Error message is generated asking the user to request again. Use Case Terminated
Relationships:		
Initiating	Access Agent	
Collaborating	GUI Agent, Database, Actor	
Other Diagrams:		

Data Requirements	
	Data Required: Data Required for Plan Handler Agent 1. Plan data 2. User Id

5. Tracker Agent Use Case Definition

Brief Description	The GUI uses this use case to track the project status and also to handle change requests.	
Pre-conditions	A project should have been created after both the parties sign the contract.	
Process Steps		
1	When the contract is signed by the provider and client, project creator agent creates the project.	
2	Project Creator Agent then calls the tracker agent to start tracking the project.	
3	Tracker agent then asks the GUI agent to display the progress of the project and to read any request for change in project.	
4	GUI agent reads and change in request and sends it to the tracker agent.	
5	Tracker agent receives the request and change the scope of the project based on the request, stores it in the database, and sends the updated message to GUI.	
6	GUI agent then displays the updated status.	
Exceptions:		
4a	GUI agent does not read the change request	Error message is generated asking the user to request again. Use Case Terminated
5a	Database is not accessible.	Error message is generated asking the user to request again. Use Case Terminated
Relationships:		
Initiating	Project Creator Agent	
Collaborating	GUI Agent, Database, Actor	

Other Diagrams:	
Data Requirements	
	<p>Data Required: Data Required for Tracker Agent</p> <ol style="list-style-type: none"> 1. Project data 2. Change request Data read by GUI agent 3. Provider Details 4. User Details

6. After Market Agent Use Case Definition

Brief Description	The actor uses this use case to handle the payments and feedbacks.	
Pre-conditions	Project should have been completed.	
Process Steps		
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.	
Exceptions:		
6a	Payment details are wrong	Error message is generated asking the user to enter the details again. Use Case Terminated
6b	Database is not accessible.	Error message is generated asking the user to request again. Use Case

		Terminated
Relationships:		
Initiating	Tracker Agent	
Collaborating	GUI Agent, Database, Actor	
Other Diagrams:		
Data Requirements		
	Data Required: Data Required for After Market Agent 1. Provider Bank Details 2. Client Bank Details 3. Project Data	

7. Project Creator Agent Use Case Definition

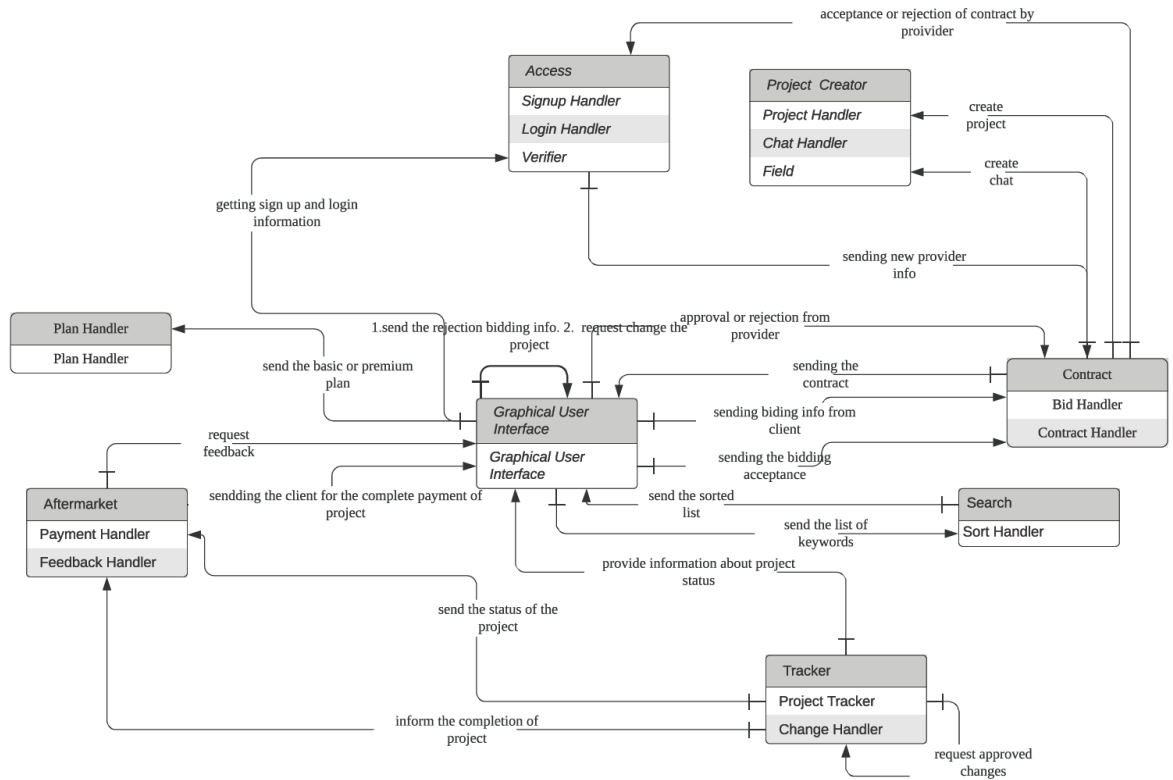
Brief Description	The GUI agent uses this use case to create the new project.	
Pre-conditions	Bid should have been accepted by both client and provider.	
Process Steps		
1	Once the bid is accepted by both client and provider, contract agent sends the information to the project creator agent.	
2	Project creator then creates the project and stores the data in the database.	
3	Project creator agent further creates a chat for the project and asks the GUI agent to display it to the actor.	
4	Project creator also sends the info to the tracker agent.	
Exceptions:		
2a	Database is not accessible.	Error message is generated asking the user to request again. Use Case Terminated
Relationships:		
Initiating	Contract Agent	
Collaborating	GUI Agent, Database, Actor, Tracker Agent	
Other Diagrams:		
Data Requirements		

	Data required: Data Required for After Market Agent 1. Provider Details 2. Client Details 3. Project Details
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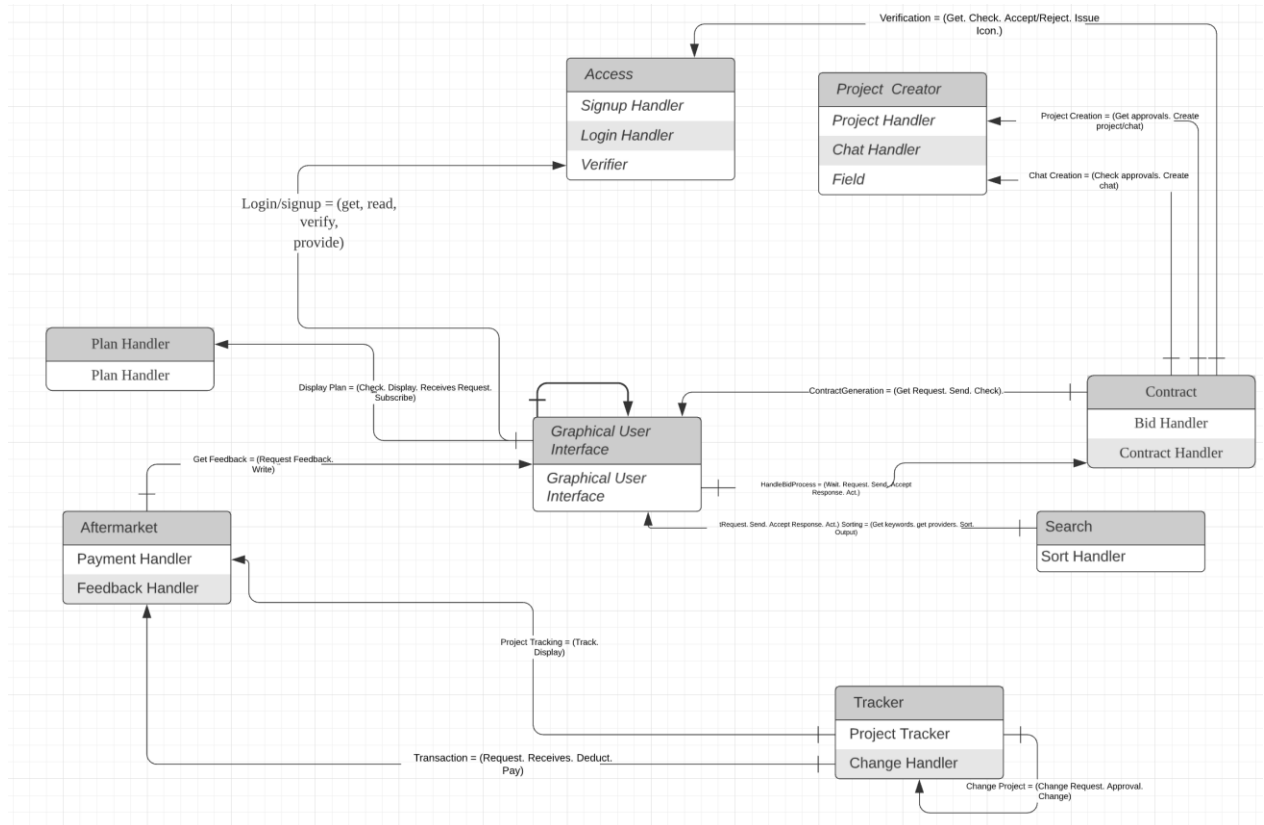
8. Contract Agent Use Case Definition

Brief Description	The actor uses this to sends the contract to the Provider as they sign up and checks if the provider accepts it or not. It also sends the contract to the provider and client on the creation of the new project.	
Pre-conditions	Client should have placed a bid for the provider.	
Process Steps		
1	Once the bid is placed by the client for a provider, GUI agent reads the bid data and sends it to the contract agent.	
2	Contract agent then sends the contract to the client and the provider.	
3	GUI agent then reads the provider and client data and sends it to the contract agent.	
4	If the project is accepted, contract agent sends the data to project creator agent which then creates the project.	
5	If the contract is rejected, the contract agent updates the actor through GUI agent.	
6	Contract agent is also called by the access agent if new provider is registered.	
7	Contract agent then sends the contract to the provider through the GUI agent.	
8	Based on the accepted or rejected response read by GUI agent, new provider is registered as provider or as client.	
Exceptions:		
Relationships:		
Initiating	Access Agent, or GUI agent	
Collaborating	GUI Agent, Actor, Tracker Agent	
Other Diagrams:		
Data Requirements		
	Data Required: Data Required for Contract Agent 1. Bid details 2. Client Details 3. Project Details 4. Contract details	

2. Detailed class diagram

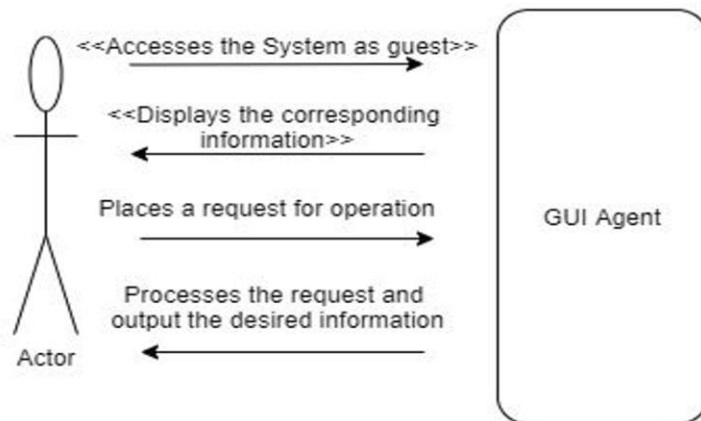


3. Message sequence chart

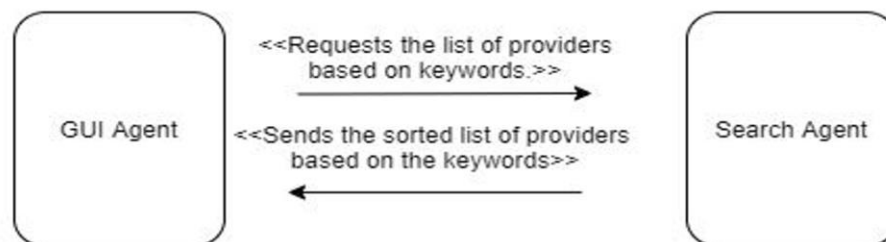


4. Use Case diagram

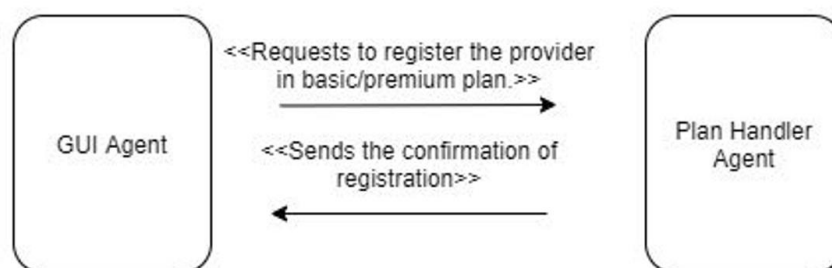
Use Case for GUI Agent



Use Case for Search Agent



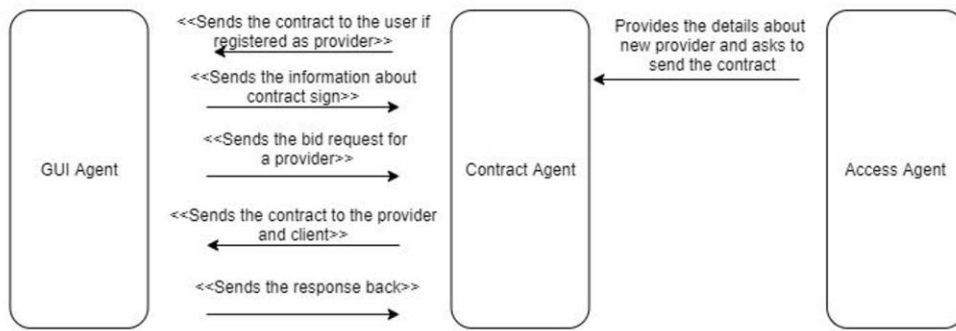
Use Case for Plan Agent



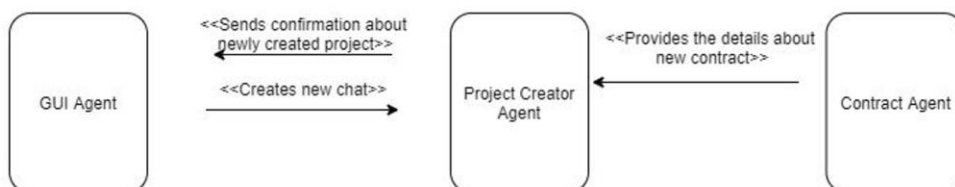
Use Case for Access Agent



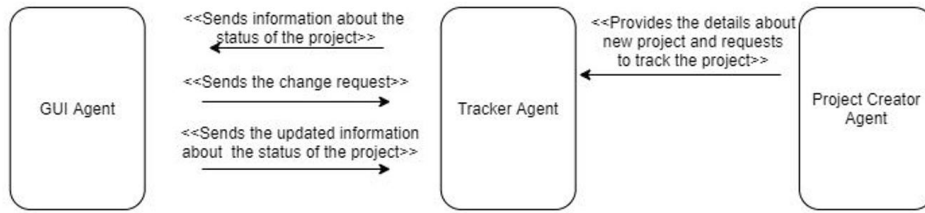
Use Case for Contract Agent



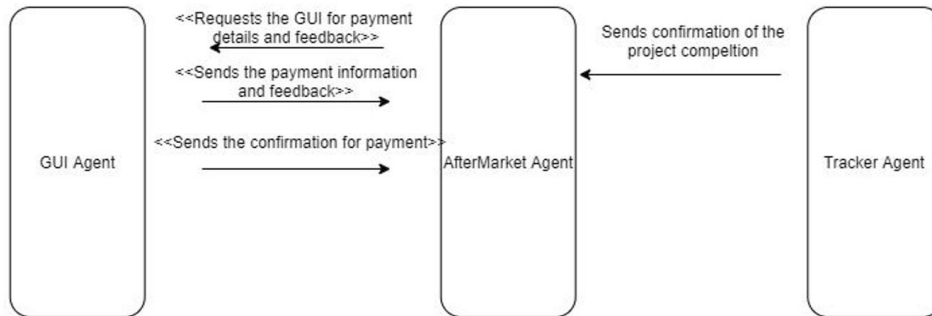
Use Case for Project Creator Agent



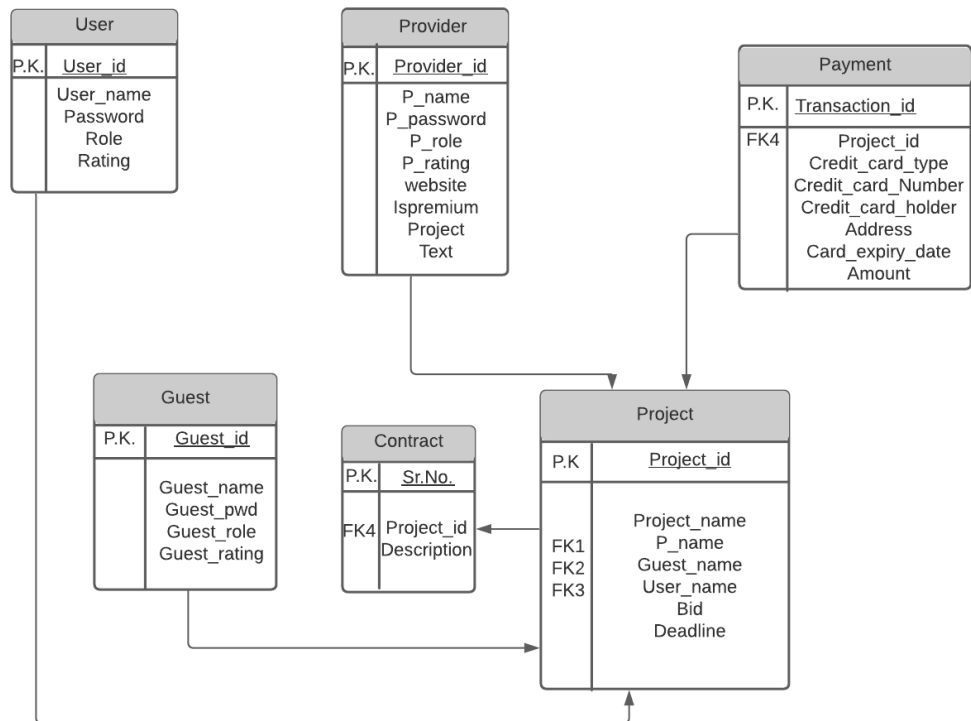
Use Case for Tracker Agent



Use Case for After Market Agent



5. E-R Diagram



Research- Matchmaking ER Diagram