

**Assignment 2 Cover Sheet**

<b>CASE STUDY NAME</b>	<b>Online Customer Support System</b>
<b>PROJECT ID</b>	<b>MLB_14.01_05</b>

**Group Details:**

	<b>Student Registration Number</b>	<b>Student Name</b>
<b>1</b>	<b>IT22320582</b>	<b>Jayasundara D.W.S</b>
<b>2</b>	<b>IT22305350</b>	<b>Rajapakshe P.H.Y.L</b>
<b>3</b>	<b>IT22337412</b>	<b>D.Rajapaksha</b>
<b>4</b>	<b>IT22341136</b>	<b>M.A.S Gunathilaka</b>
<b>5</b>	<b>IT22315632</b>	<b>R.N.D K.Rajapakshe</b>

**Assignment 2 Certify Sheet**

I hereby certify,



The attached is my own work and no further changes will be made.




I have contributed in this assignment to the best of my ability.

And I understand,



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**Student Details:**

<b>Student Name</b>	<b>Student Registration Number</b>	<b>Date</b>	<b>Signature</b>
<b>Rajapakshe P.H.Y.L</b>	<b>IT22305350</b>	<b>2023/05/29</b>	

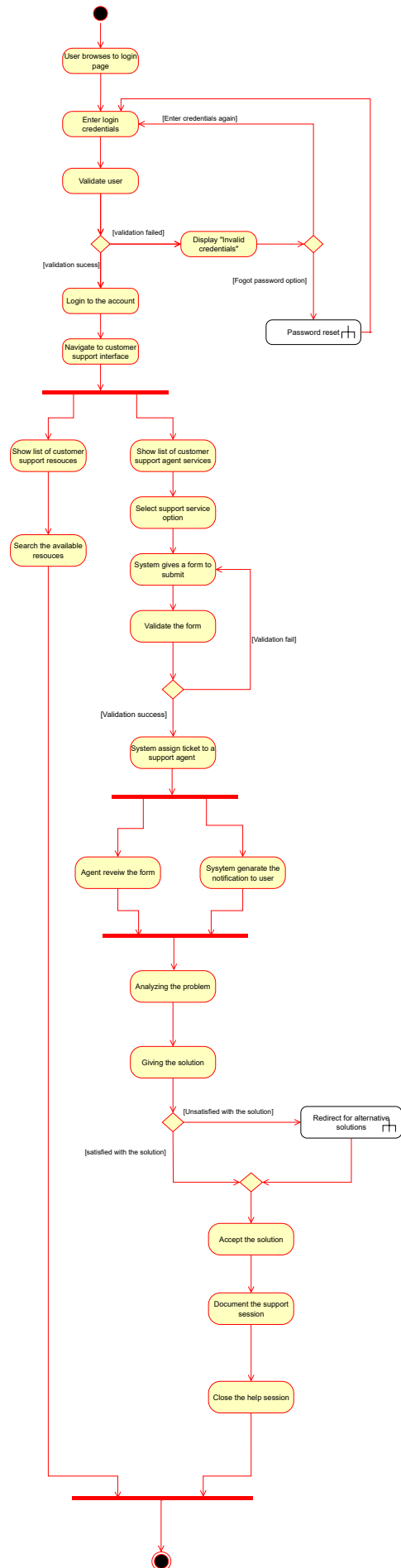
## Part 1

### Use Case scenario.

<b>Number</b>	OCSS001	
<b>Name</b>	Accessing customer support resources/services.	
<b>Summary</b>	A registered user who needs customer support will be able to access customer support resources and the services.	
<b>Priority</b>	5	
<b>Preconditions</b>	The registered user must have a basic or premium valid account.	
<b>Postconditions</b>	Registered customer gets requested resources or service.	
<b>Primary Actor(s)</b>	Registered user	
<b>Main Scenario</b>	<b>Steps</b>	<b>Action</b>
	01	User browses to login page.
	02	User enters login credentials.
	03	System validates the username and password.
	04	User logs into the account.
	05	Registered user navigates into the customer support interface.
	06	The system shows the list of customer support resources.
	07	The system shows the list of customer support agent services
	08	Customer search through available customer support resources.
	09	The user selects the relevant support option for their problem.
	10	The system gives the form to submit their support request.
	11	The registered user fills out the form according to their support request.
	12	System will validate the form for all the required information.

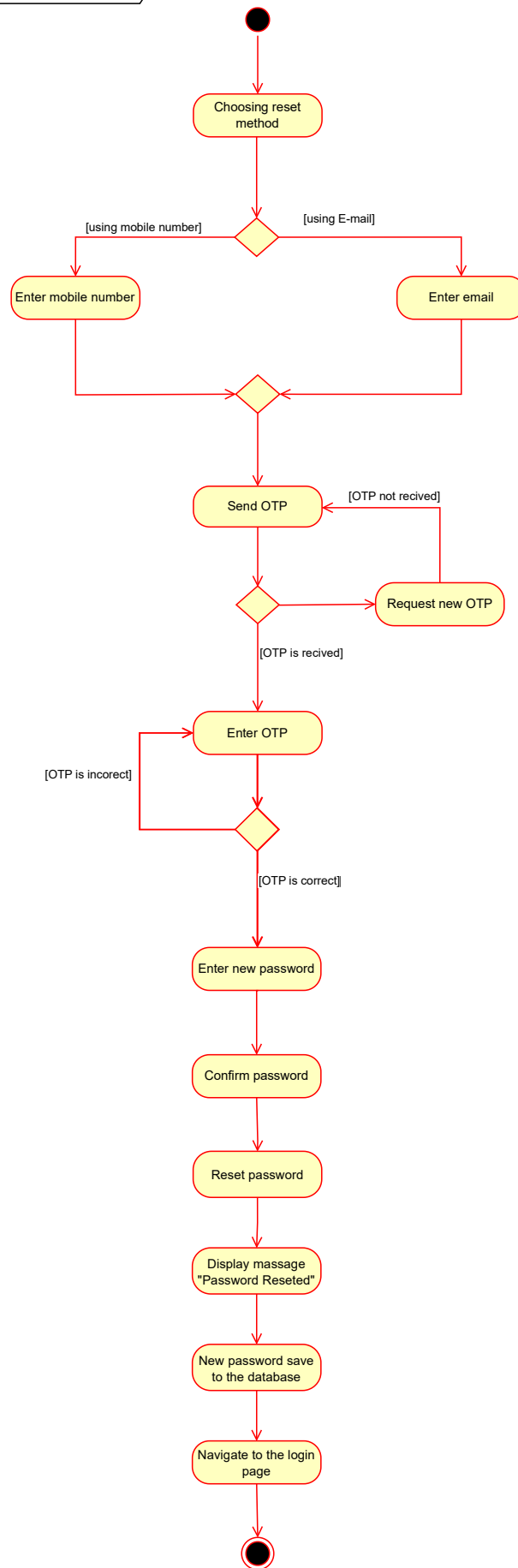
	13	System assign ticket to a relevant support agent
	14	A customer support agent reviews the filled form and system generate email to confirm.
	15	A customer support agent comes up with the solution about the problem.
	16	A customer support agent responds with a solution to the user.
	17	The user will accept the given solution.
	18	Customer support agent document the support session of the customer.
	19	The customer support agent will close the process.
	20	System display feedback form
<b>Extension</b>	<b>Steps</b>	<b>Branching Action</b>
	03.a	<b>If the login credentials invalid</b> 03.a. system will ask to re-enter the username and password or select forgot password option
	12.a	<b>If user does not fill out all required information</b> 12.a. user will be redirected to fill in the necessary information.
	16.a	<b>If customer is not satisfied with the solution</b> 16.a. The problem is redirected to the customer support agent to generate alternative solutions.

# **Activity diagram**

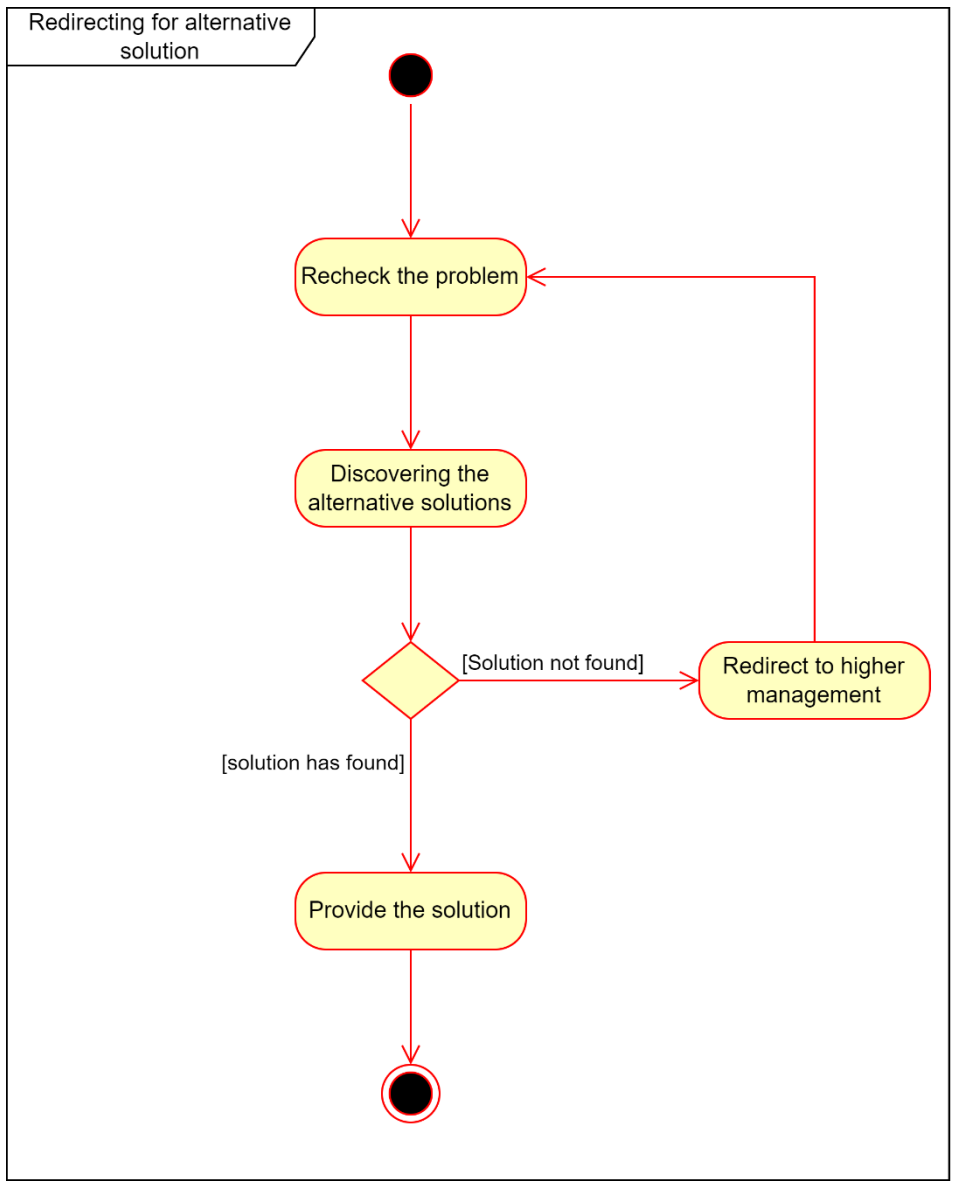


# **Calling Actions**

# Resetting the password

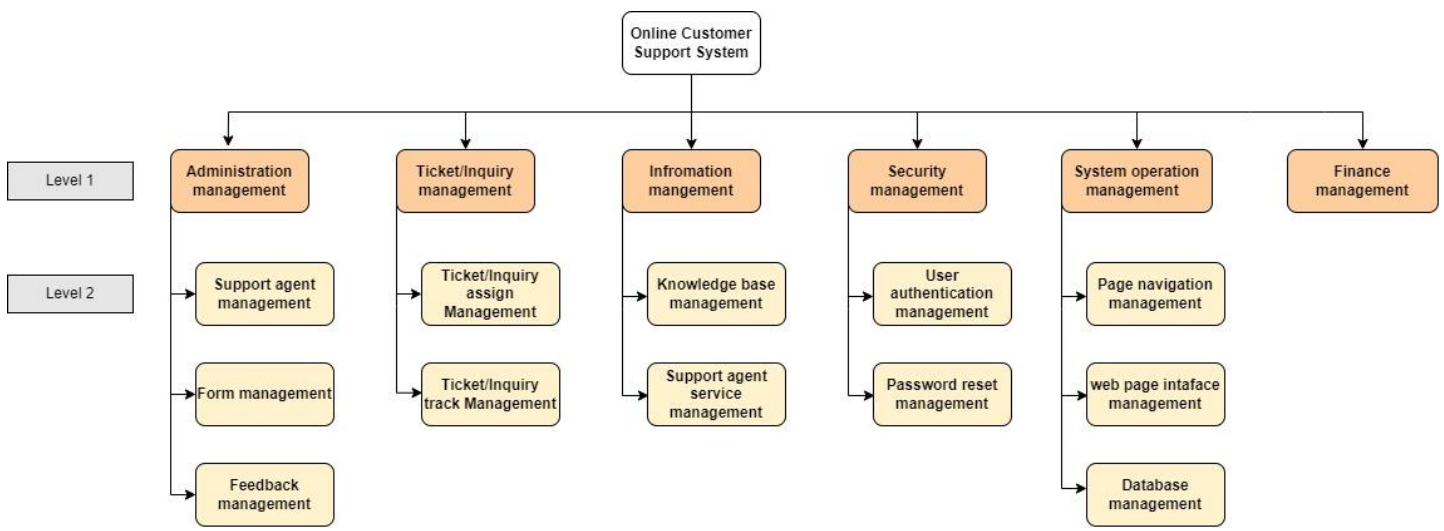






## Part II

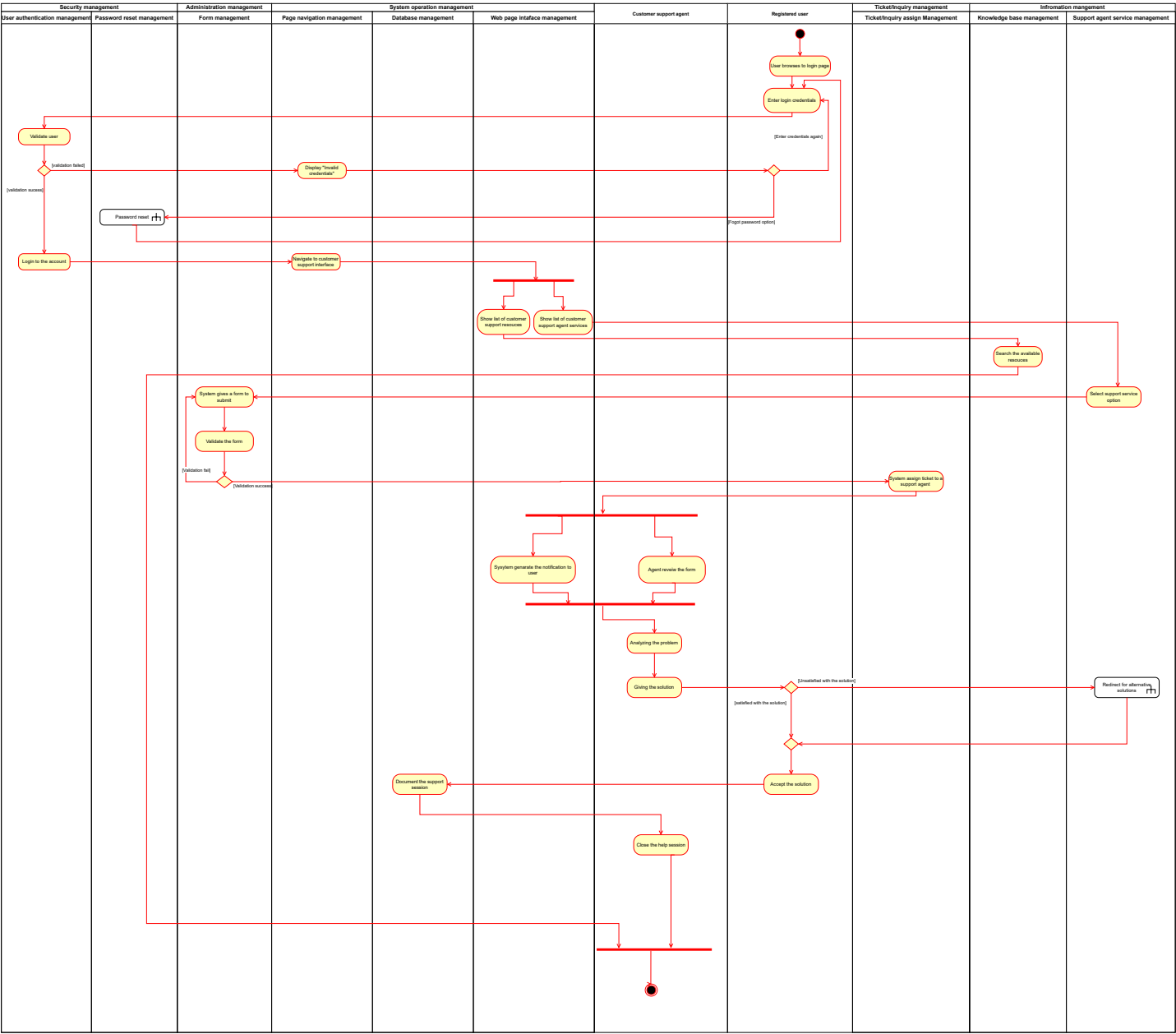
# Sub-Systems



## **Subsystem Explanation.**

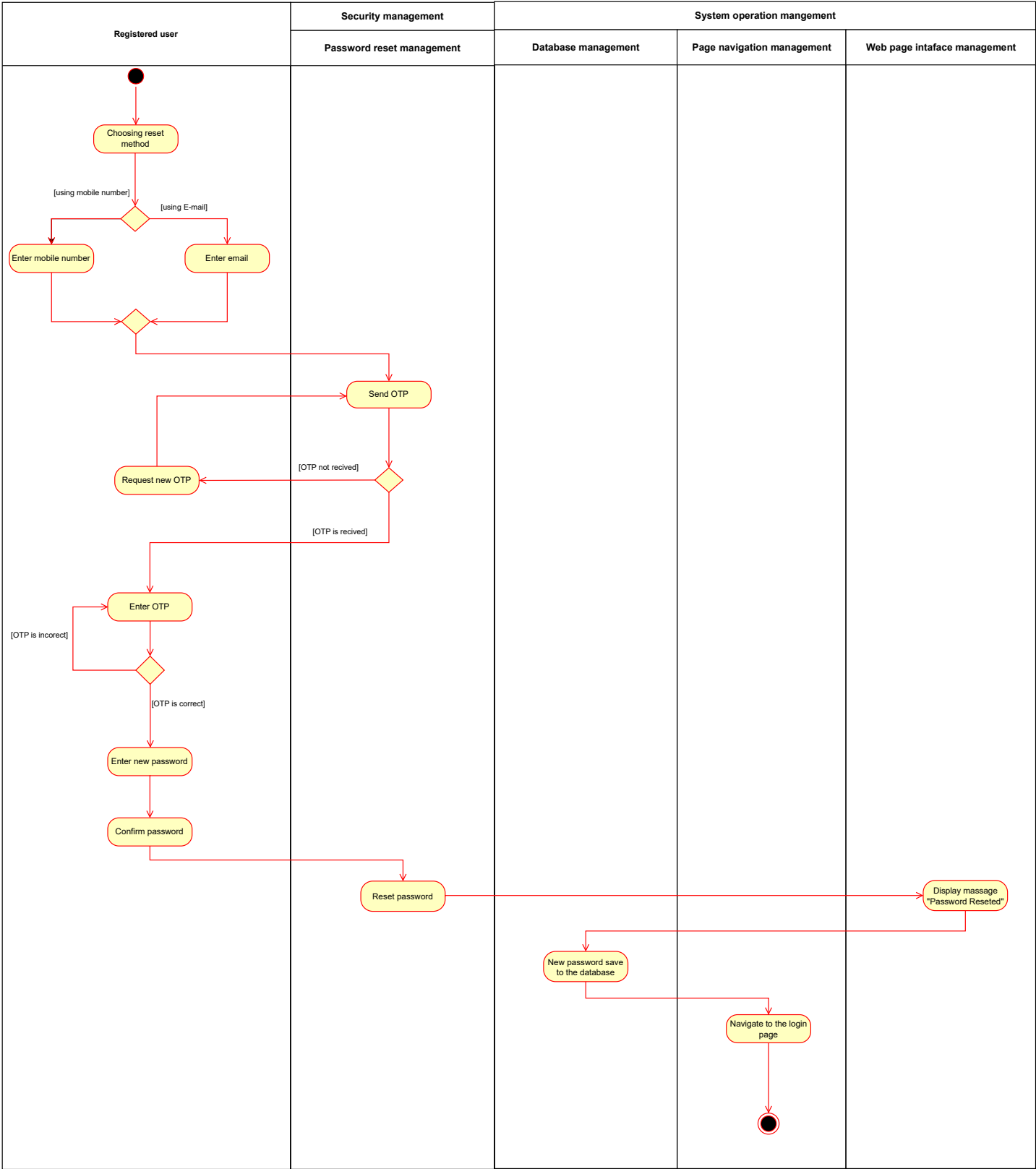
1. Administration management – Includes function of administrative tasks of the system.
  - Support agent management – This will provide the facility to handle customer support agents effectively.
  - Form management – This subsystem is responsible for form generation and validation in the system.
  - Feedback management – Responsible for managing all the feedback given by the customers.
2. Ticket/Inquiry management – This subsystem manages and tracks the customer tickets and inquiries efficiently.
  - Ticket/Inquiry assign management – This is responsible for assigning customer tickets or inquiries to appropriate support agents.
  - Ticket/Inquiry track management – This subsystem will track and monitor the progress of the support ticket or inquiries.
3. Information management – This subsystem is responsible for managing and organizing all the information of the customer support system.
  - Knowledge base management – This subsystem searches, creates, organizes, and maintains the knowledge base.
  - Support agent service management – This is responsible for managing and display availability, performance of support service options.
4. Security management – This subsystem is responsible for protecting customer security, confidentiality, customer data and system resources. This system helps to avoid unauthorized access and data breaches.
  - User authentication management – This system validates and protect customer login information.
  - Password reset management – Manage the password reset process for the customers who forgotten or want to change password.
5. System operations management – Include the functions that are related to main operations of the system.
  - Page navigation management – Giving easy and fast navigation though the different sections.
  - Web page interface management – This is responsible for managing and rendering layout, presentation of the web interface.
  - Database management – This subsystem manages the system's database in an efficient and reliable manner.

# **Activity Diagram with partitioning**

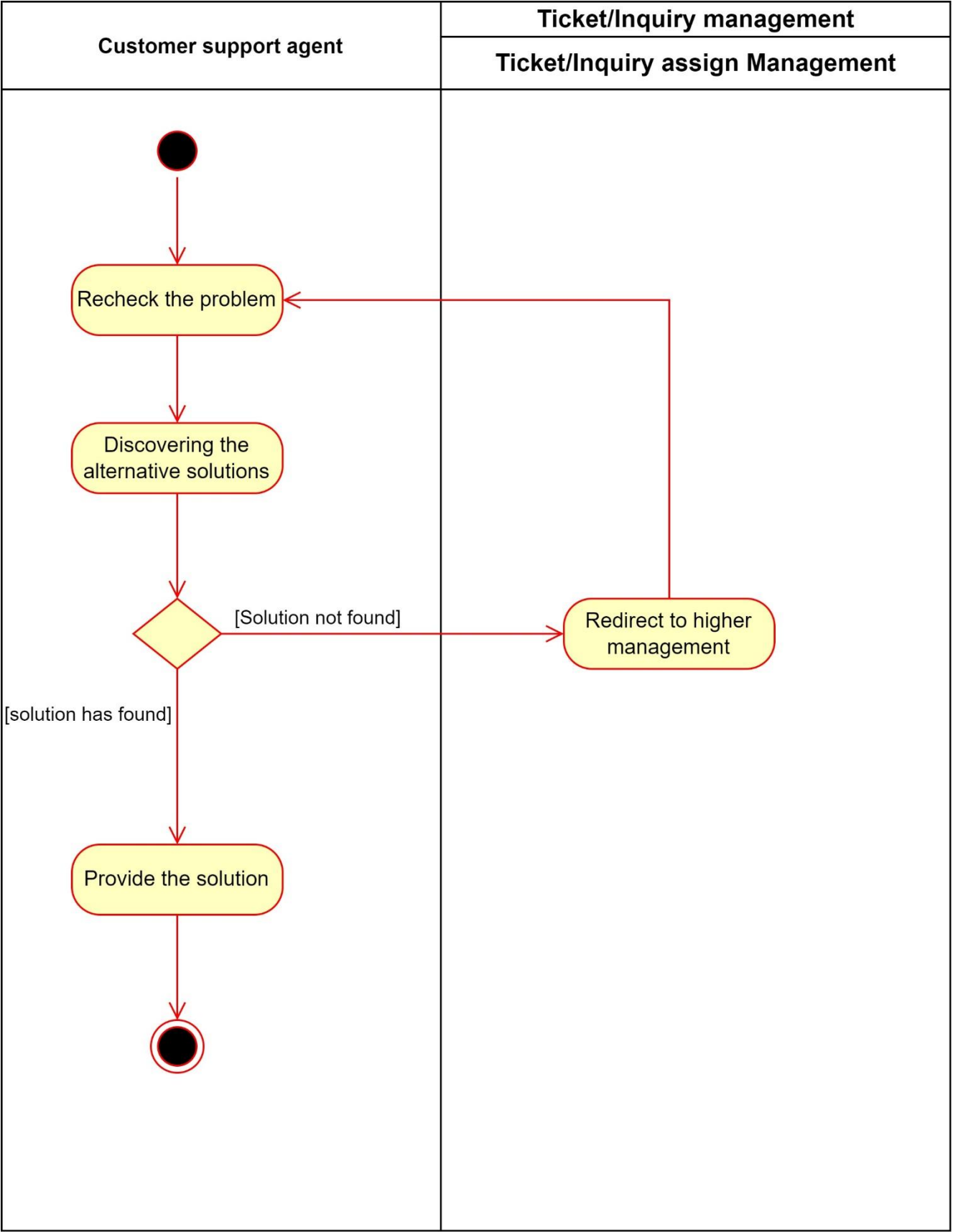


# **Call Actions with** **partitioning**

# Reset password calling action with partitioning



Redirecting for





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**Student Details:**

<b>Student Name</b>	<b>Student Registration Number</b>	<b>Date</b>	<b>Signature</b>
Jayasundara D.W.S	IT22320582	2023/05/29	

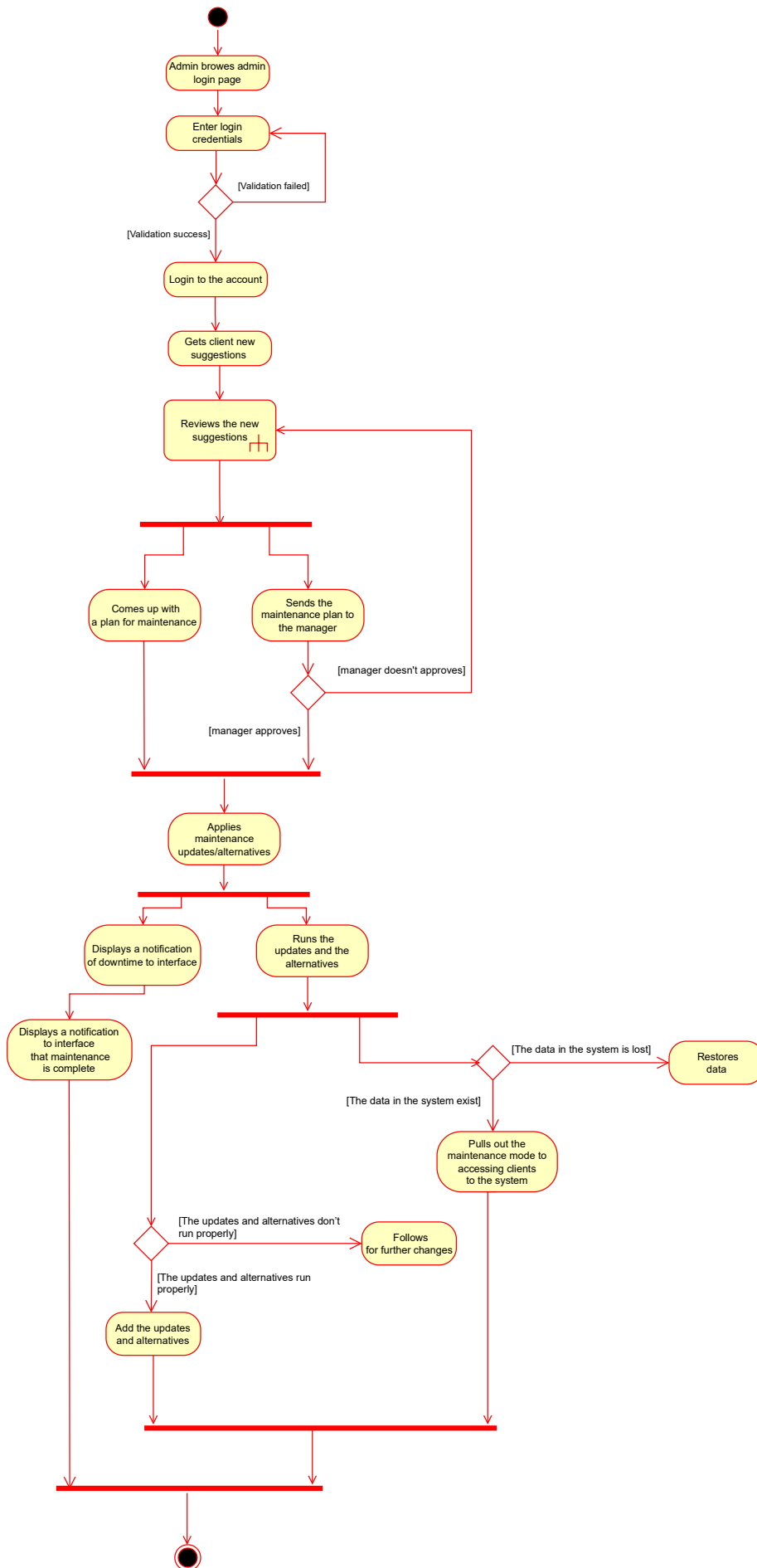
## Part 1

### Use Case scenario.

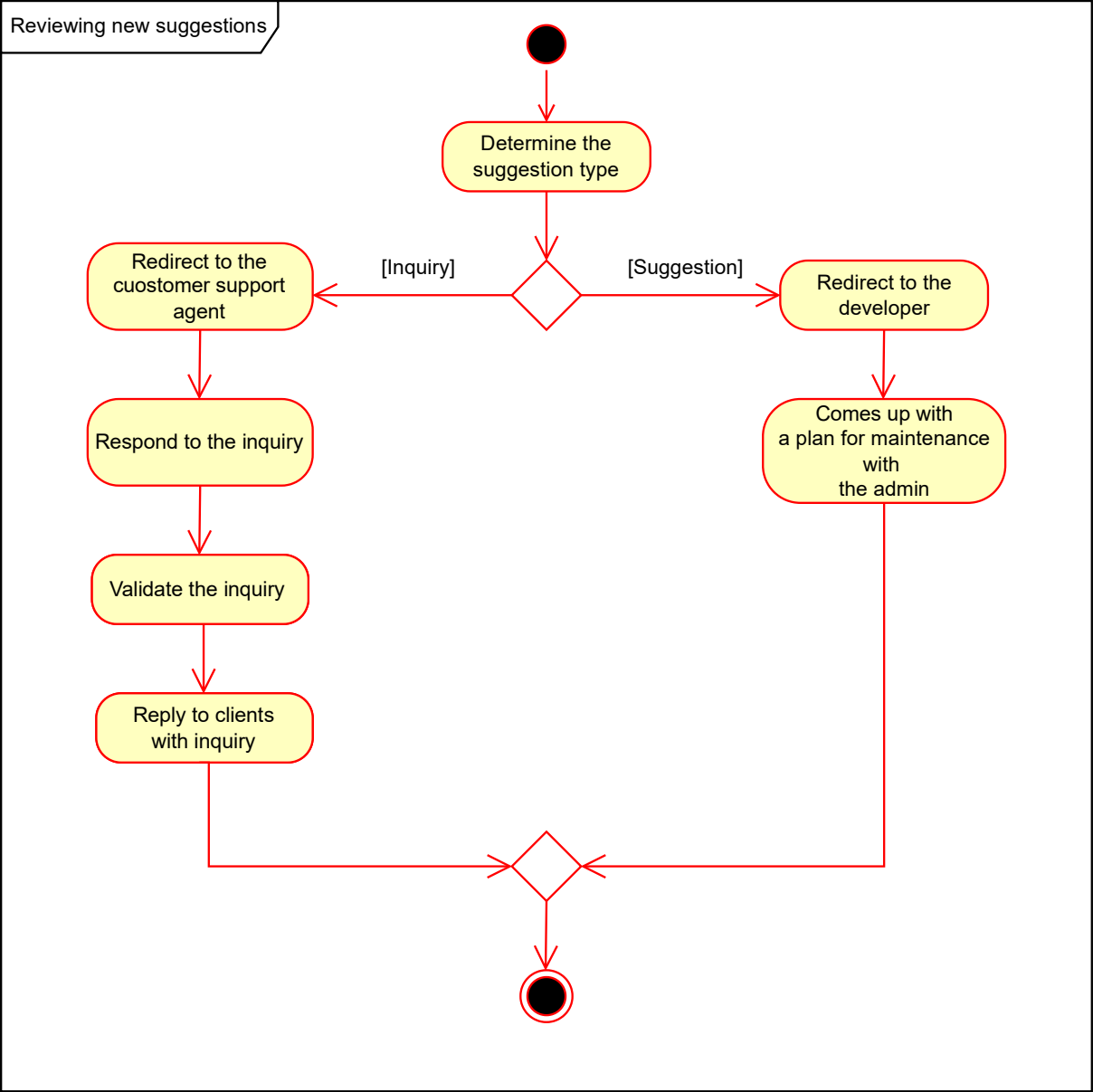
<b>Number</b>	OCSS003	
<b>Name</b>	Performing system maintenance	
<b>Summary</b>	A registered user who needs customer support will be able to access customer support resources and the services.	
<b>Priority</b>	4	
<b>Preconditions</b>	The system administrator is logged into the online customer support system.	
<b>Postconditions</b>	The system administrator updates the system and backups data.	
<b>Primary Actor(s)</b>	System administrator	
<b>Main Scenario</b>	<b>Steps</b>	<b>Action</b>
	01	The system administrator browses into the administrator login page.
	02	The system administrator enters username and password.
	03	System validates the username and password.
	04	System allows the administrator to login to the administrator account.
	05	The system administrator determines needed maintenance activities.
	06	The system administrator gets client suggestions from the customer support agent.
	07	The system administrator reviews the suggestions.
	08	The system administrator comes up with a plan for maintenance with the favor of the developer.
	09	The system administrator sends the maintenance plan to the manager for approval.

	10	The system administrator applies maintenance updates/alternatives with the favor of the developer.
	11	The system administrator informs the support staff and alerts them of the expected downtime to run the trial.
	12	The system administrator runs the updates and the alternatives in the system.
	13	The system administrator restores data.
	14	The system administrator informs the support staff that the maintenance is complete.
	15	The system administrator pulls out the maintenance mode to accessing clients to the system again
<b>Extension</b>	<b>Steps</b>	<b>Branching Action</b>
	3.a	<b>If the username and password mismatches</b> 03.a. The system will ask to re-enter the username and password.
	10.a	<b>If the manager doesn't approve the maintenance plan</b> 03.a. The system administrator redirects new suggestions and changes to the developer.
	13.a	<b>If the data in the system is lost during the maintenance.</b> 08.a. The system administrator restores data by back upping.
	11.a	<b>If the updates and alternatives don't run properly</b> 11.a. The system administrator follows for further changes with the developer.

# **Activity diagram**

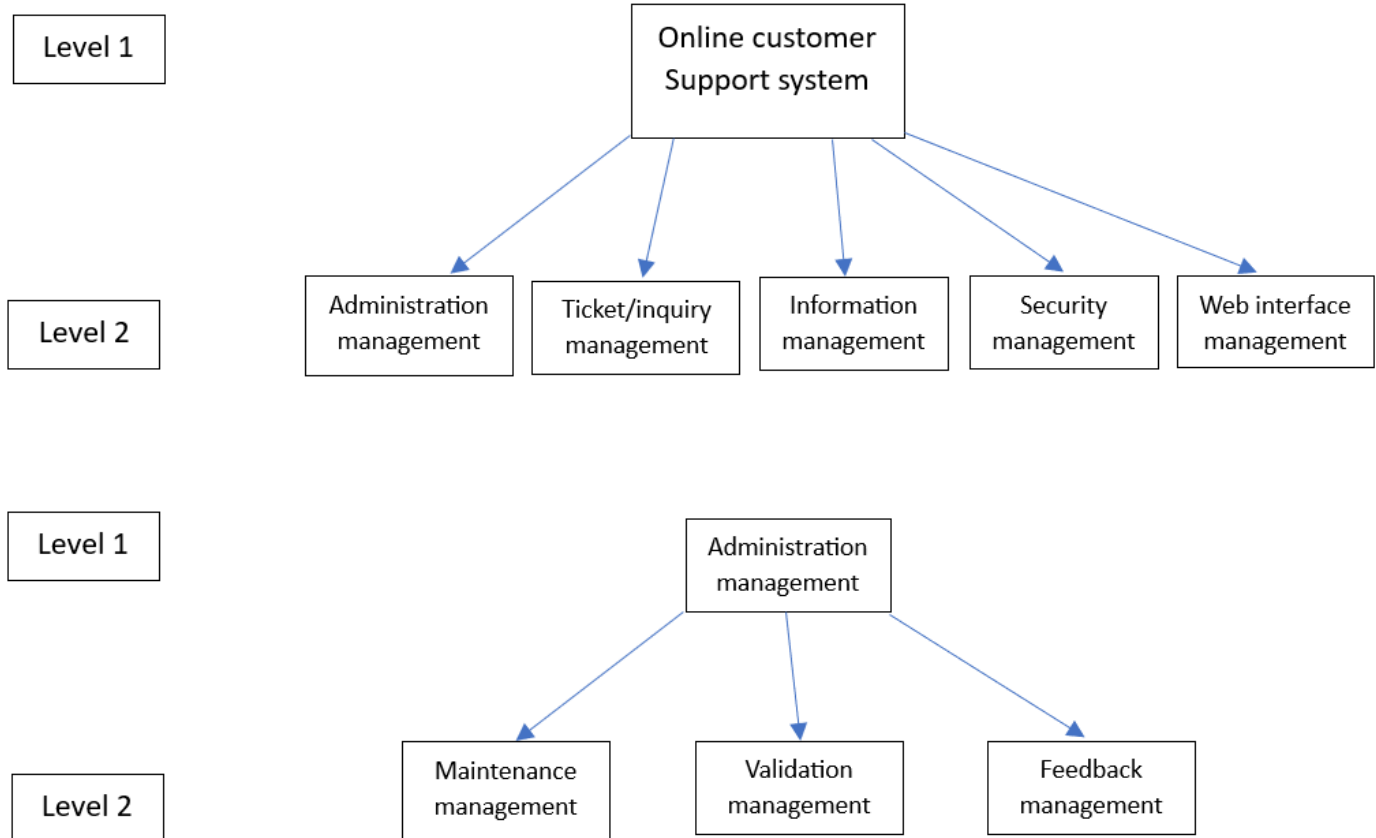


# Calling Actions



# Part II

## Sub-Systems



## **Subsystem Explanation**

Administration management:

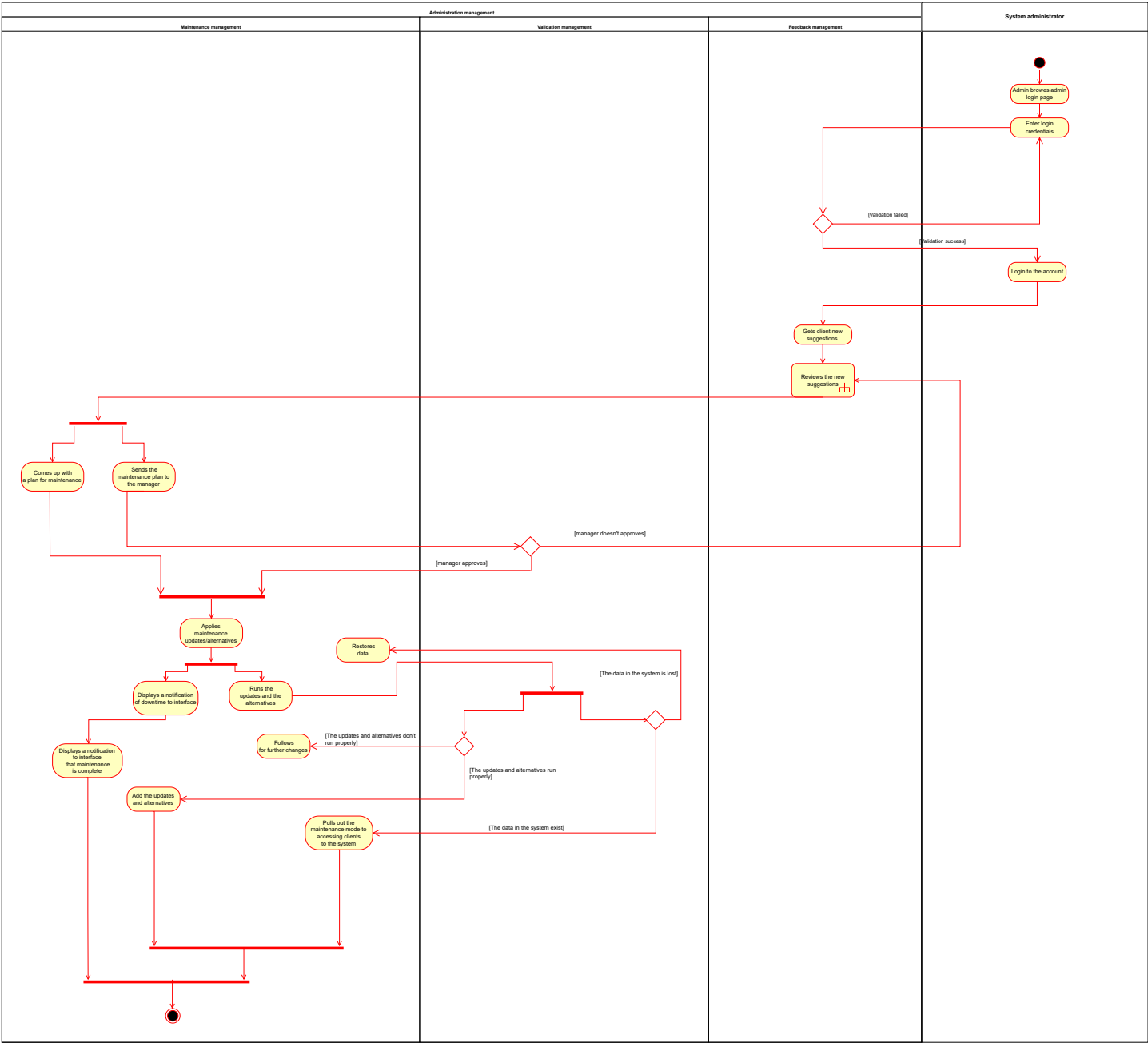
The administration team is responsible for managing user accounts, defining system settings, optimizing workflows, and monitoring system performance.

- Maintenance management - Keeps the customer support system operating at its best to deliver a seamless and reliable support experience to users.
- Validation management - Involves the systematic and thorough verification of various system components, functionalities, and interactions to ensure they meet the specified requirements and standards.
- Feedback management - Provides a platform for customers to share their opinions, suggestions, and concerns regarding their interactions with the customer support team or the organization as a whole.



# **Activity Diagram** **with partitioning**

Activity Diagram with partitioning



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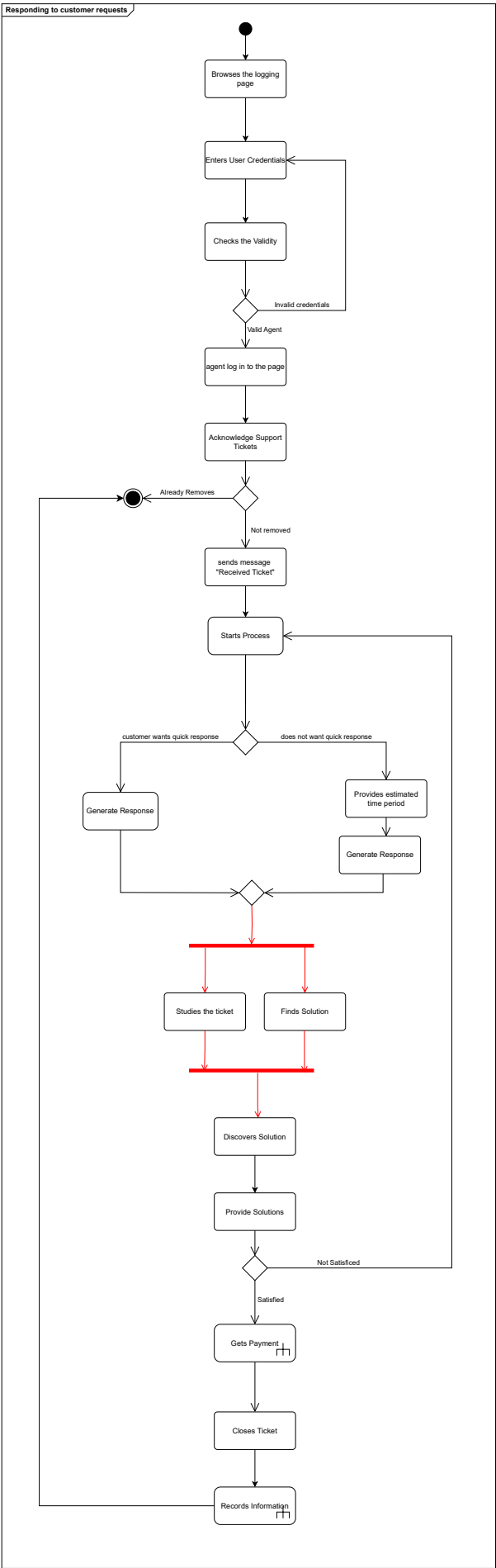
<b>Student Name</b>	<b>Student Registration Number</b>	<b>Date</b>	<b>Signature</b>
R.N.D.K.Rajapaksha	IT22315632	2023/05/29	

## Use Case Scenario

<b>Number</b>	OCSS002	
<b>Name</b>	Responding to customer requests	
<b>Summary</b>	Customer will be given information regarding requested information	
<b>Priority</b>	6	
<b>Precondition</b>	Customer support agent should have a customer support agent account	
<b>Post condition</b>	Customer support agent records all documents about the request	
<b>Primary Actor</b>	Customer Support Agent	
<b>Trigger</b>	Registered User wants to request a help	
<b>Main Scenario</b>	<b>Step</b>	<b>Action</b>
	1	The customer support agent browses into the support agent login page
	2	The customer support agent enters user credentials
	3	System validates the username and password
	4	System allows the customer support agent to login to the customer support agent account.
	5	Customer support agent acknowledges the ticket
	6	Customer support agent sends a reply to the user “Received the request”
	7	Starts the Process
	8	Prioritize the request according to the user expectation
	9	Study the request and find information related to the request
	10	Discover an effective solution to the request
	11	Provide preliminary findings to the customer

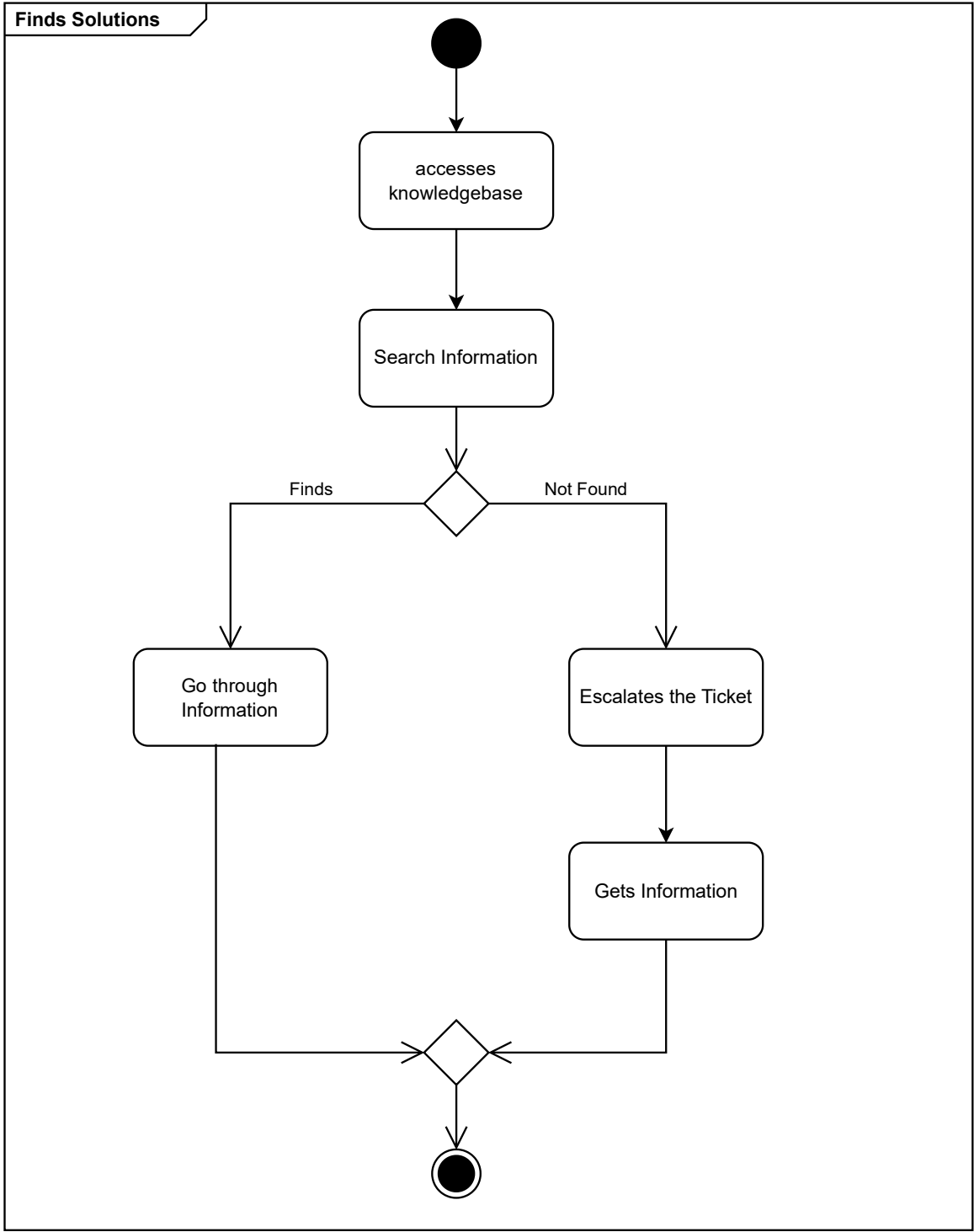
	12	Gets Payment
	13	Closes the ticket
	14	Records all information about ticket
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	2.a	Insert invalid credentials, display a message “Invalid and re-enter”
	5.a	If user already removes the ticket, exist
	7.a	If customer does not want information immediately, provides user with an estimated time period
	7.b	If customer wants information immediately, quickly starts the process
	9.a	If information can be found from the database, Find information autonomously
	9.b	If agent cannot find information from the data base escalates the problem
	10a	If there are more solutions, Sort out solutions
	11.a	If customer not satisfied with the solution, regenerate the solution

# Responding To Customer Request Activity Diagram

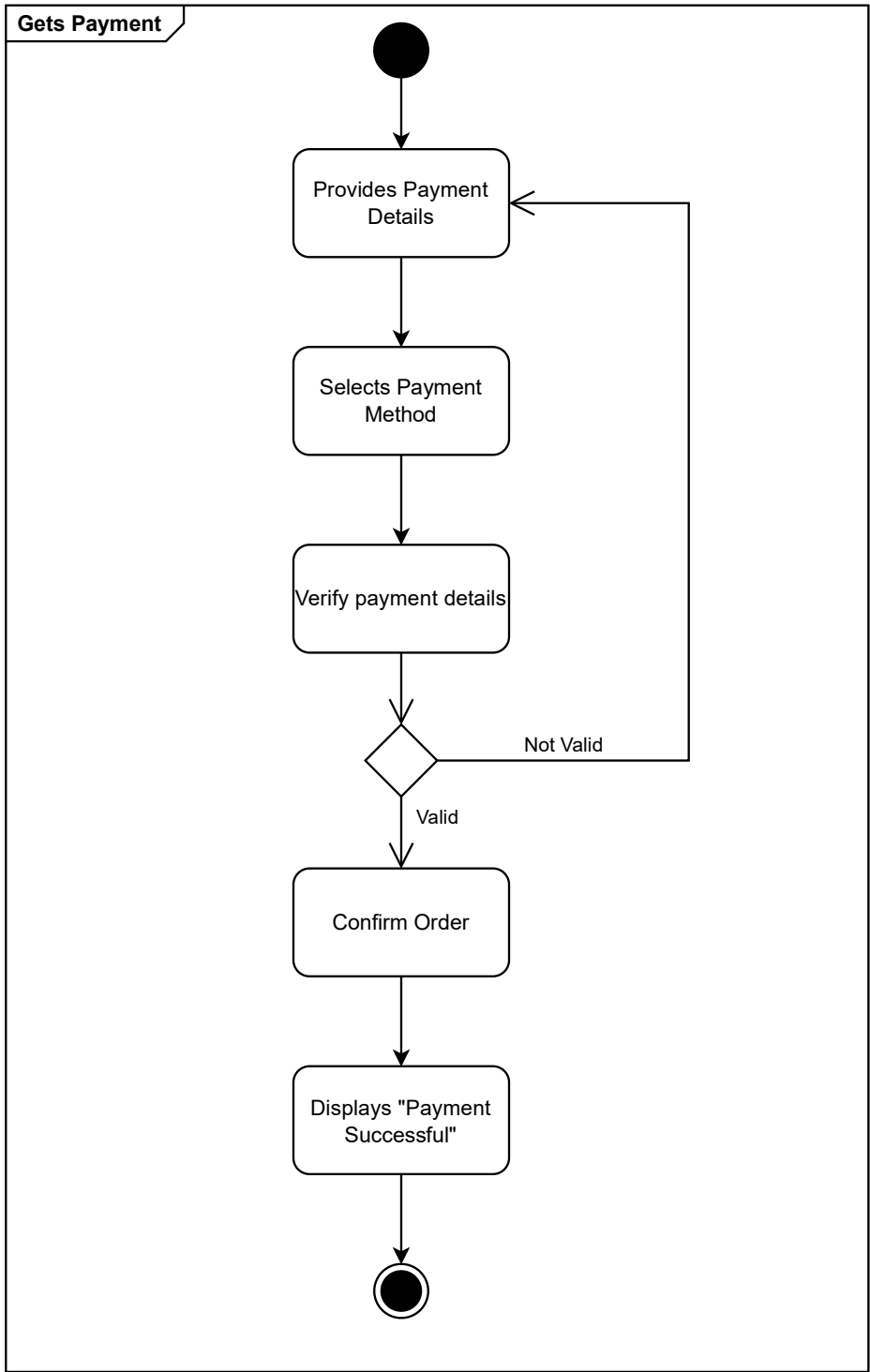


Sub Activities

Sub Activity 01 – Finds Solutions

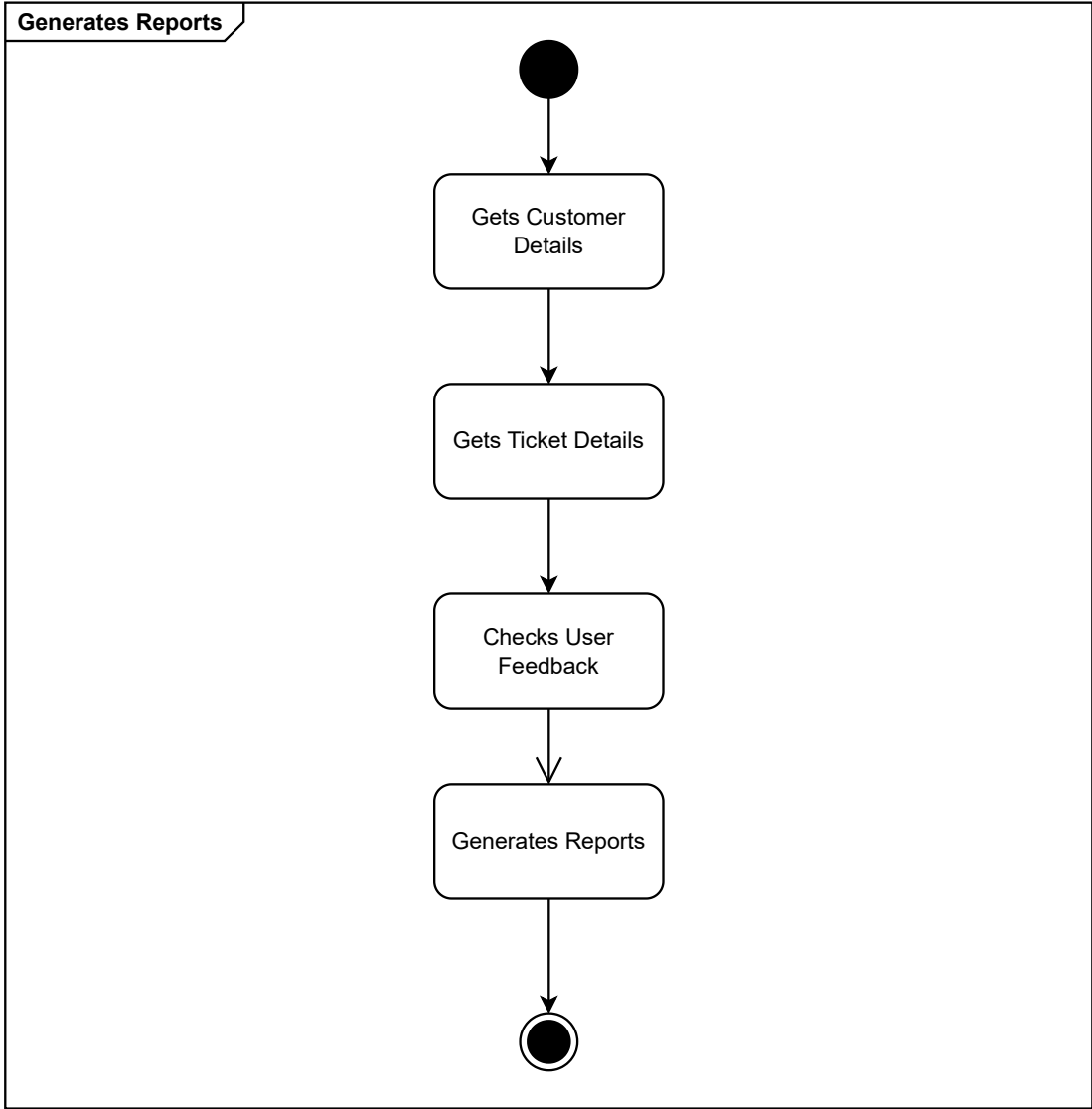


Sub Activity 02 – Gets Payment

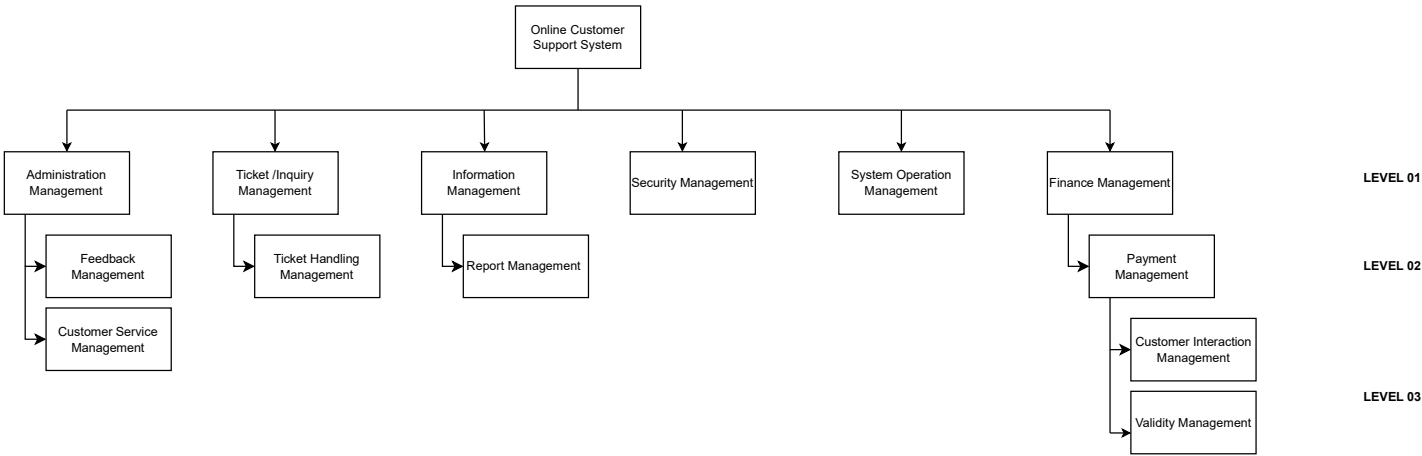




Sub Activity 03 – Generate Reports

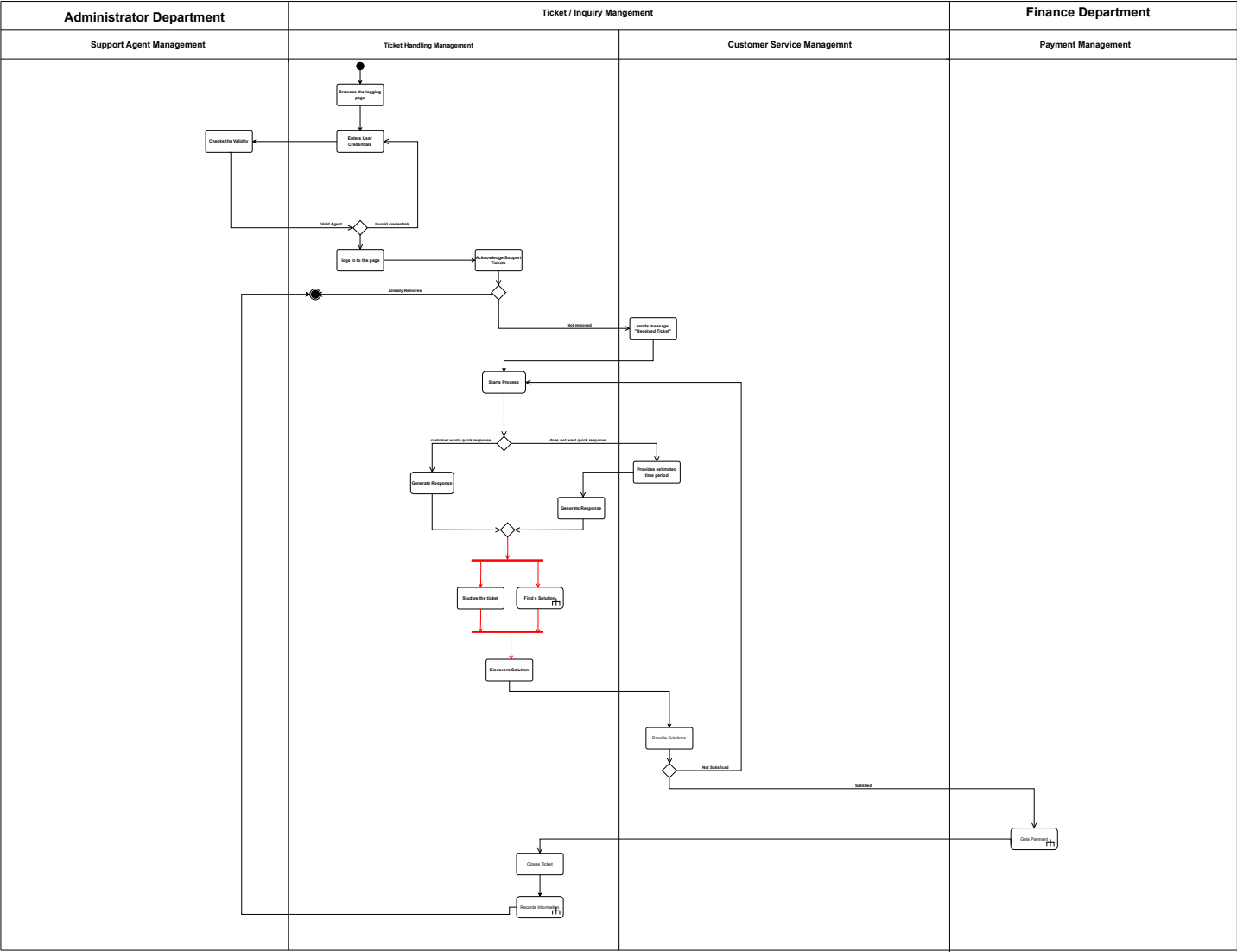


**Sub Systems**

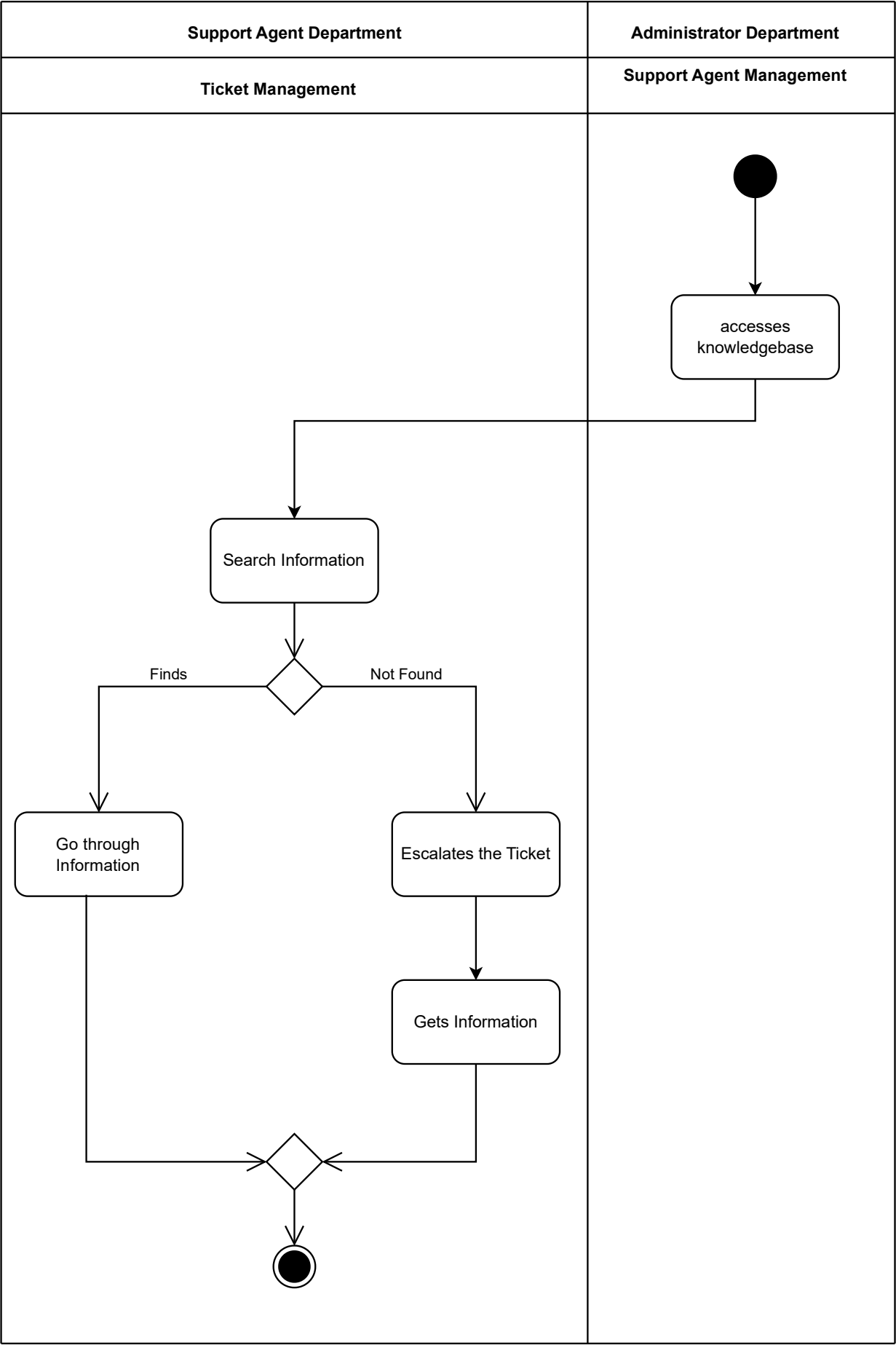


# Activity Diagram with Partitioning

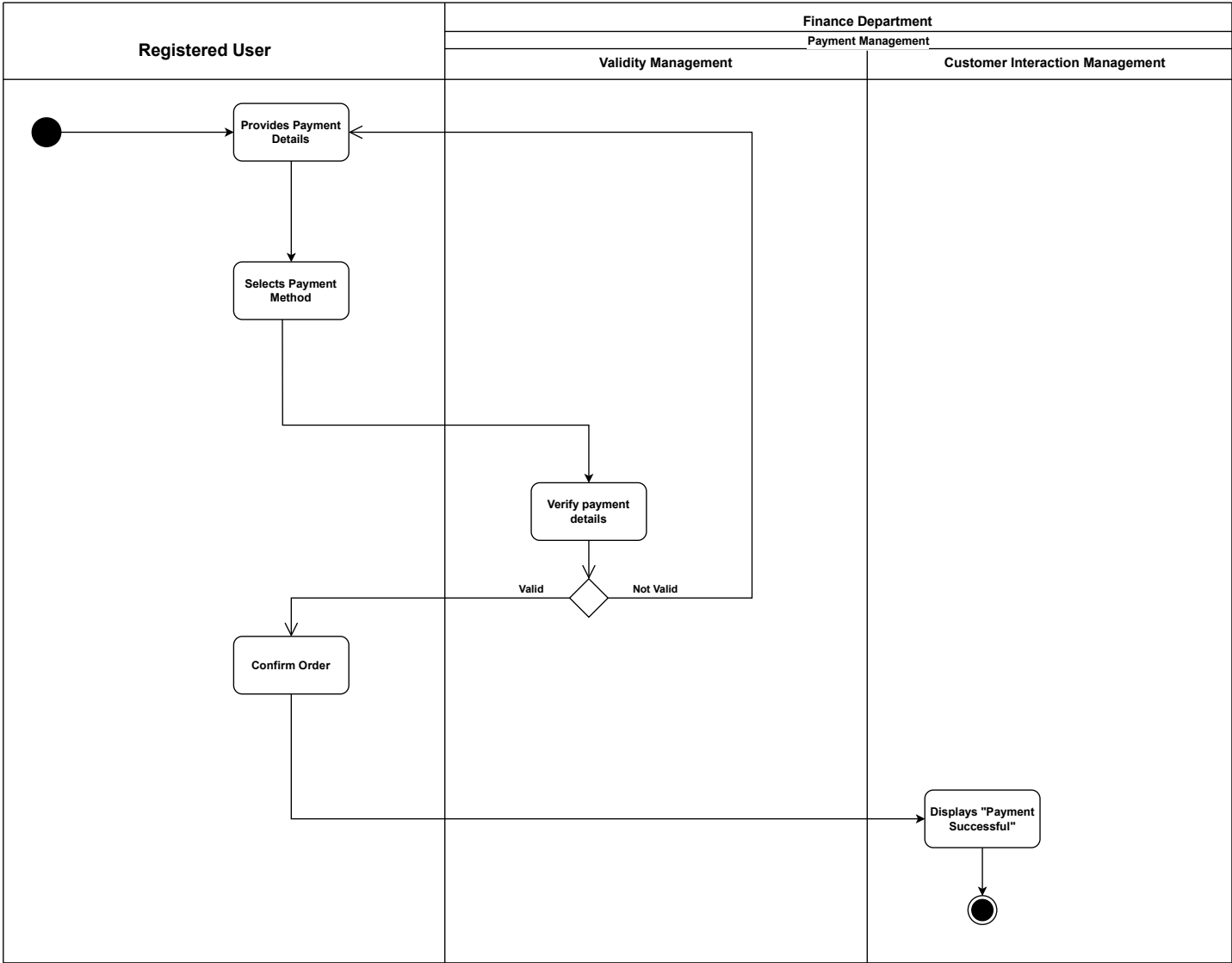
Responding To Customer Request Activity Diagram :



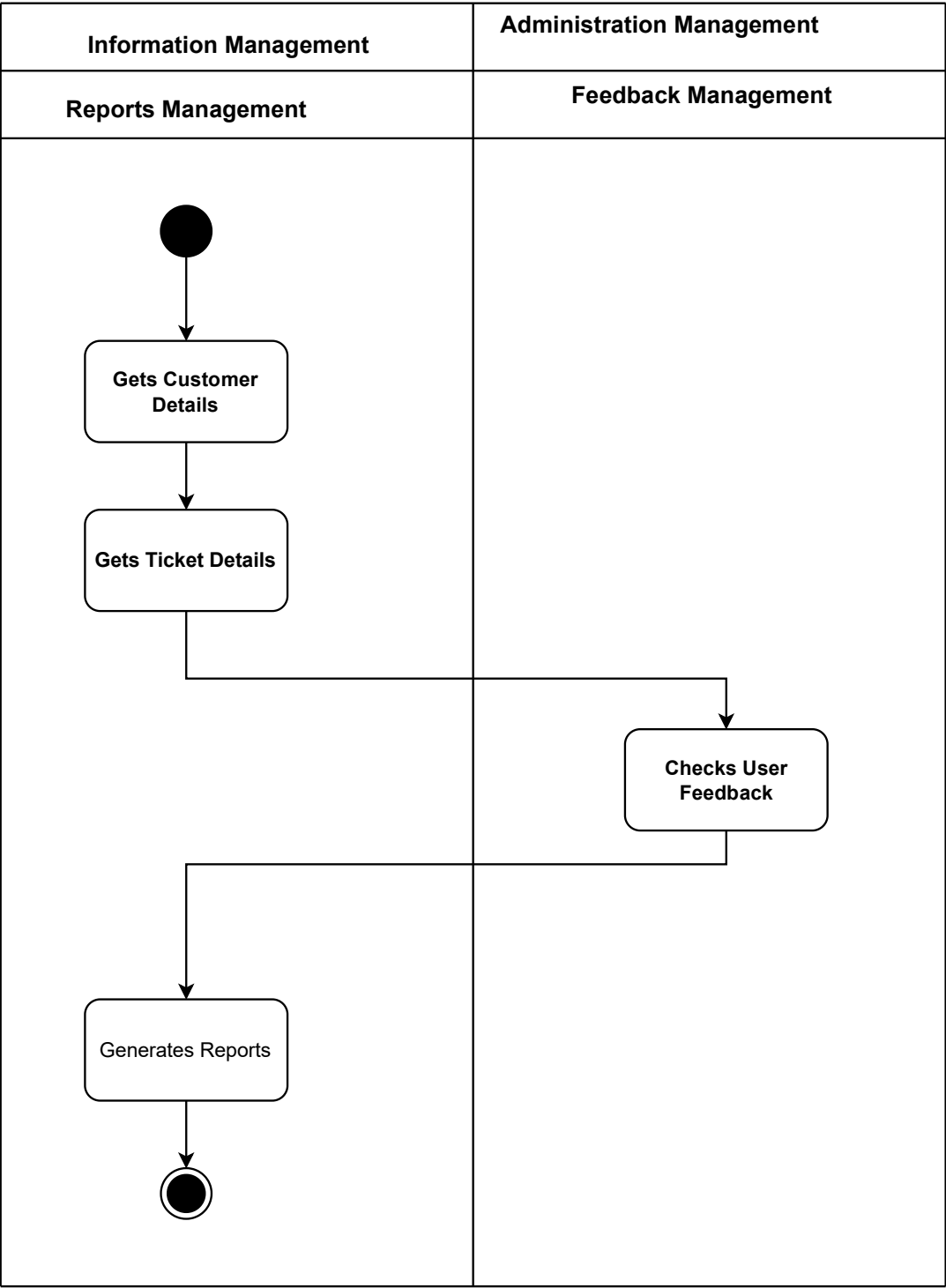
Sub Activity 01 – Finds Solutions



Sub Activity 02 – Gets Payment



Sub Activity 03 – Generate Reports



**Assignment 2 Certify Sheet**

**IT1060 – Software Process Modeling**  
**Semester II-**  
**2023**

**Semester 1 Year 01**

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<b>Student Name</b>	<b>Student Registration Number</b>	<b>Date</b>	<b>Signature</b>
Gunathilaka M.A.S	IT2234113	27/05/2023	Ashan

IT22341136

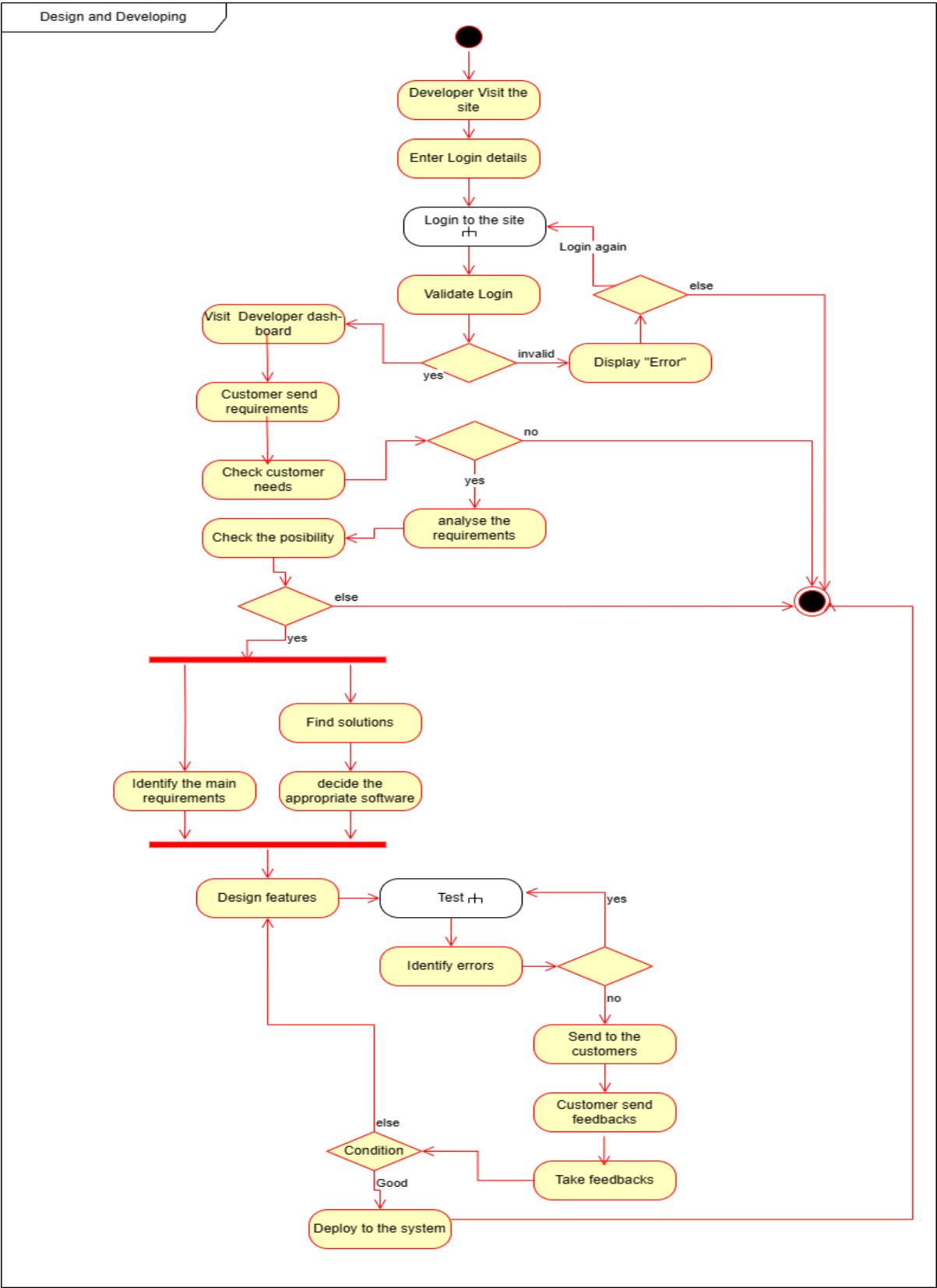
M.A.S Gunathilaka

<b>Number</b>	001	
<b>Name</b>	Design and developing	
<b>Summary</b>	Developer designing and developing the system	
<b>Priority</b>	5	
<b>Preconditions</b>	Developer Check whether there is any development to be done to the system	
<b>Postconditions</b>	Developer will design the system according to requirement	
<b>Primary Actor(s)</b>	Developer	
<b>Trigger</b>	-	
<b>Main Scenario</b>	<b>Step</b>	<b>Action</b>
	1	Developer login to the system
	2	System shows the customer needs and requirements
	3	Analyse the requirements
	4	Identify the main requirements (specific requirements)
	5	Find solutions for the requirements
	6	Developer selects the appropriate software to develop the system
	7	Design the new features for the specific requirements of the user
	8	Developer do the testing to identify the faults

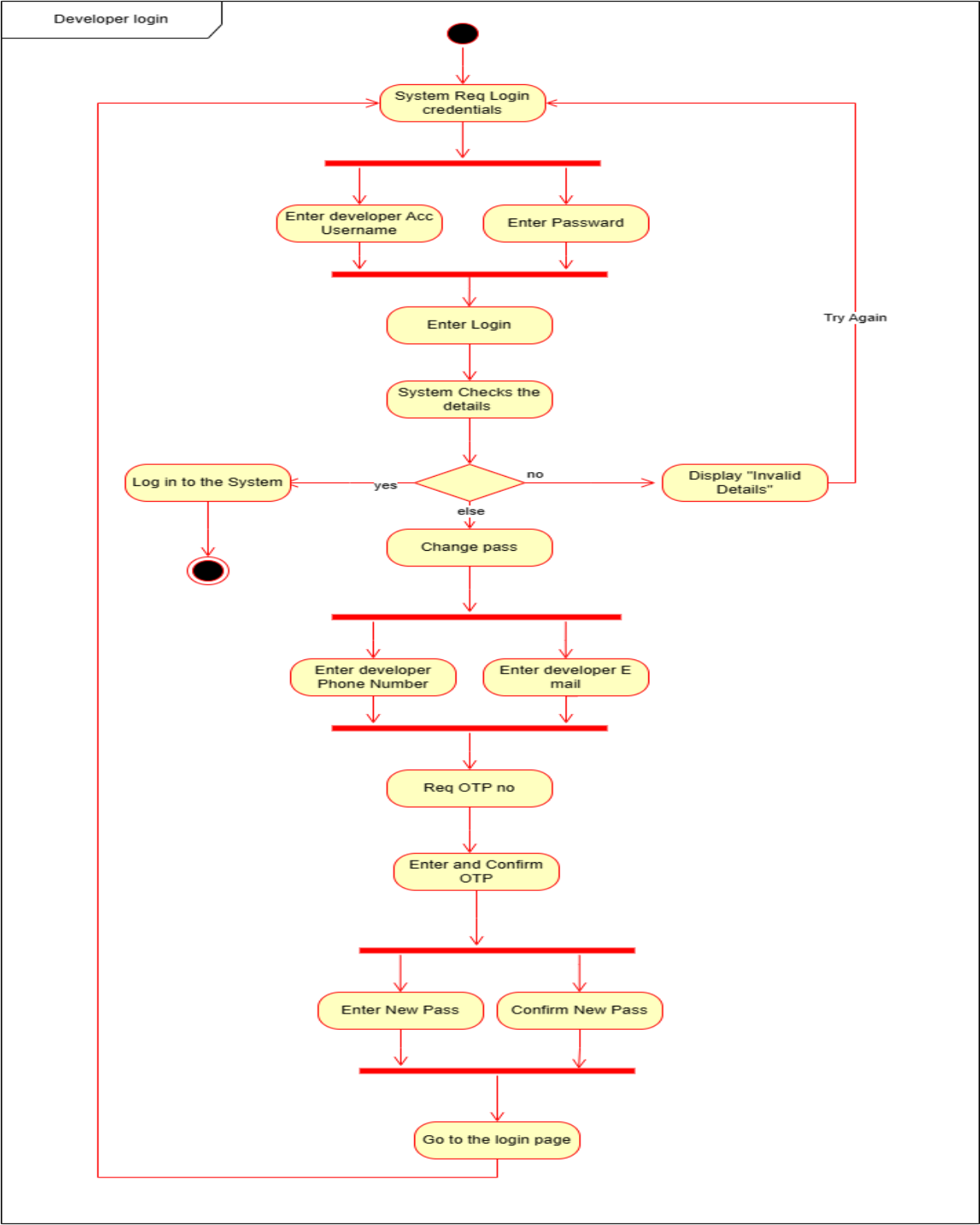


	9	Deploy the system after doing the testing
	10	Send it to the customers
	11	Take feedback from the customer
	12	Check whether the customer issues has been resolved
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	1a	Notify the developer username & password are invalid
	3a	Check whether requested requirements can be done to the system
	7a	Design the new features using the software without effecting to the existing system
	8a	Software Display whether the system is working properly
	8b	If any issue occurred during the testing, developer need to solve the problem
	11a	If any customer requirements are not fulfilled developer must develop the system again

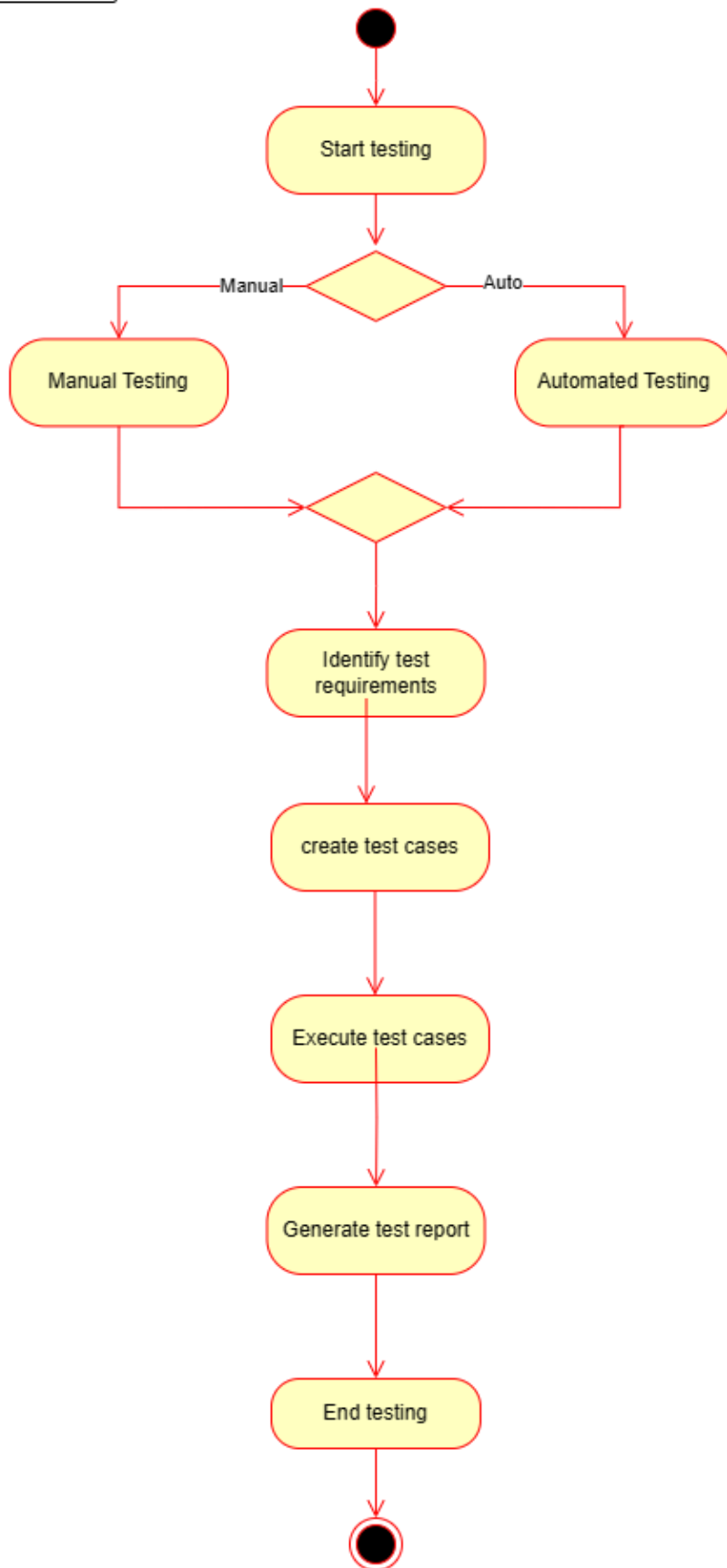
Activity diagram for the User Case Without Partitioning



Call Actions

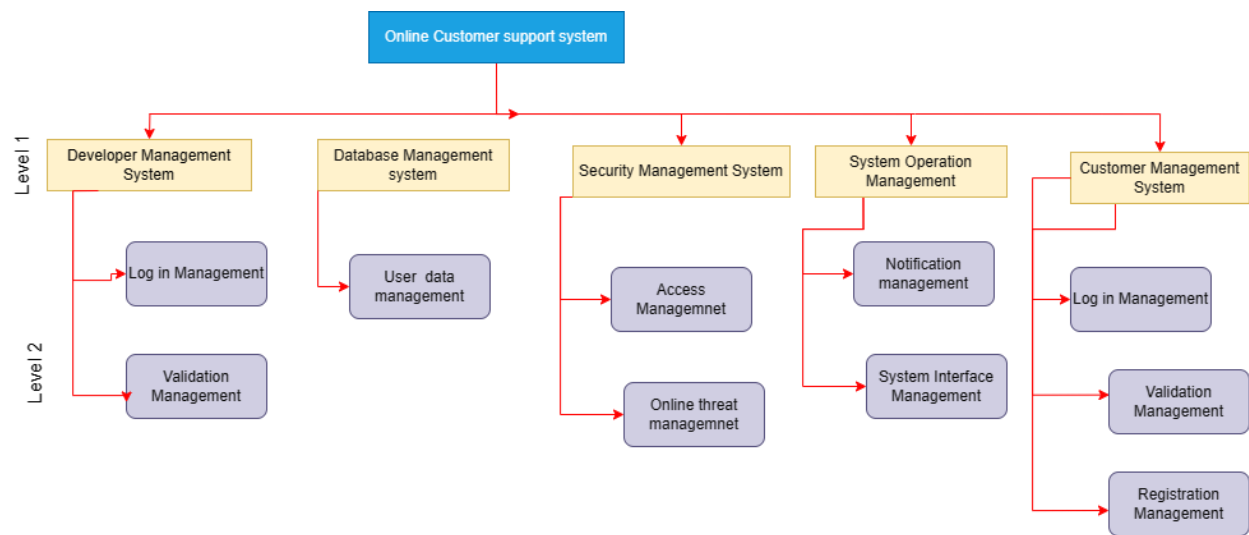


## Test the system

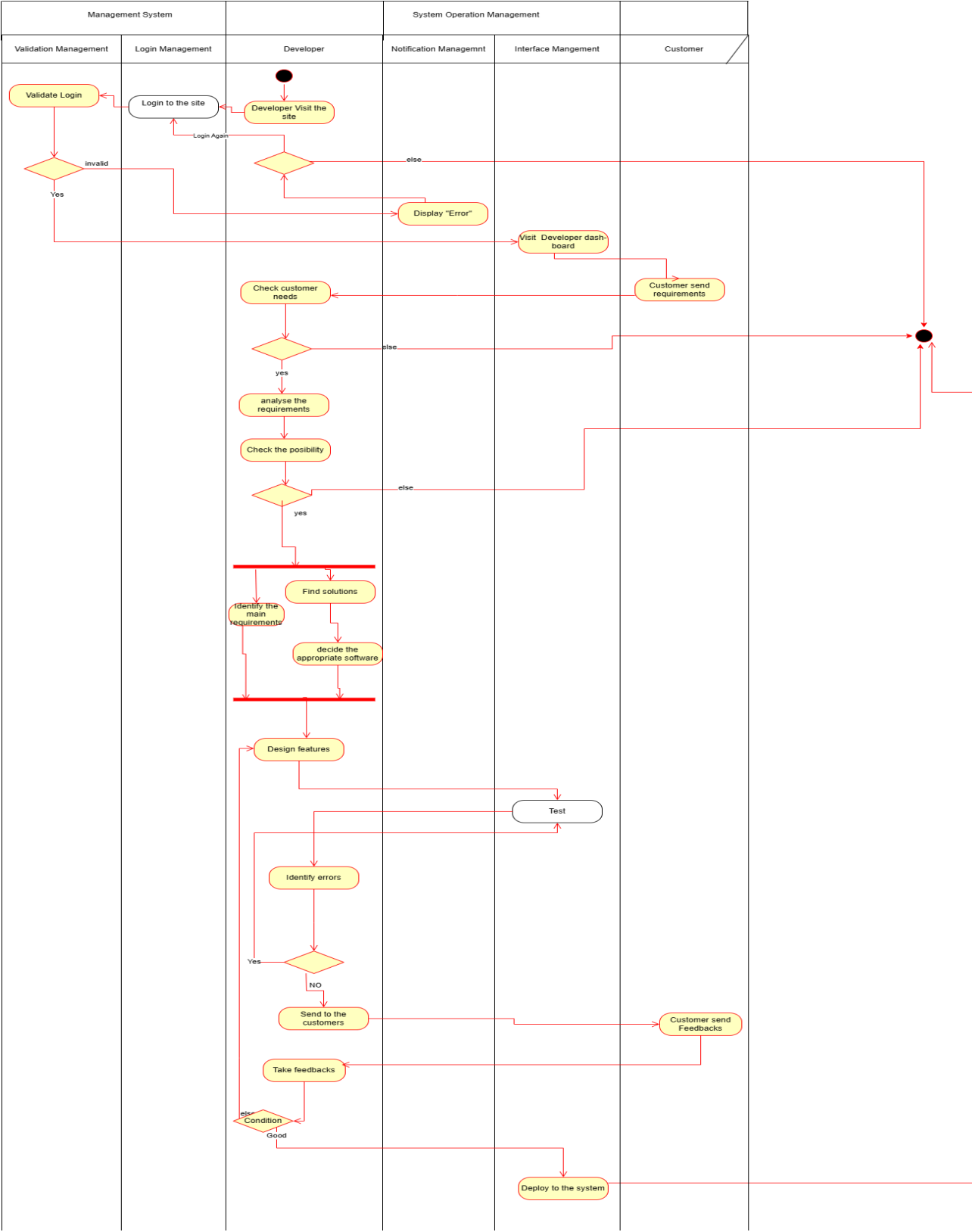


Part II

Sub-Systems



# Activity Diagram for the Use Case with Partitioning



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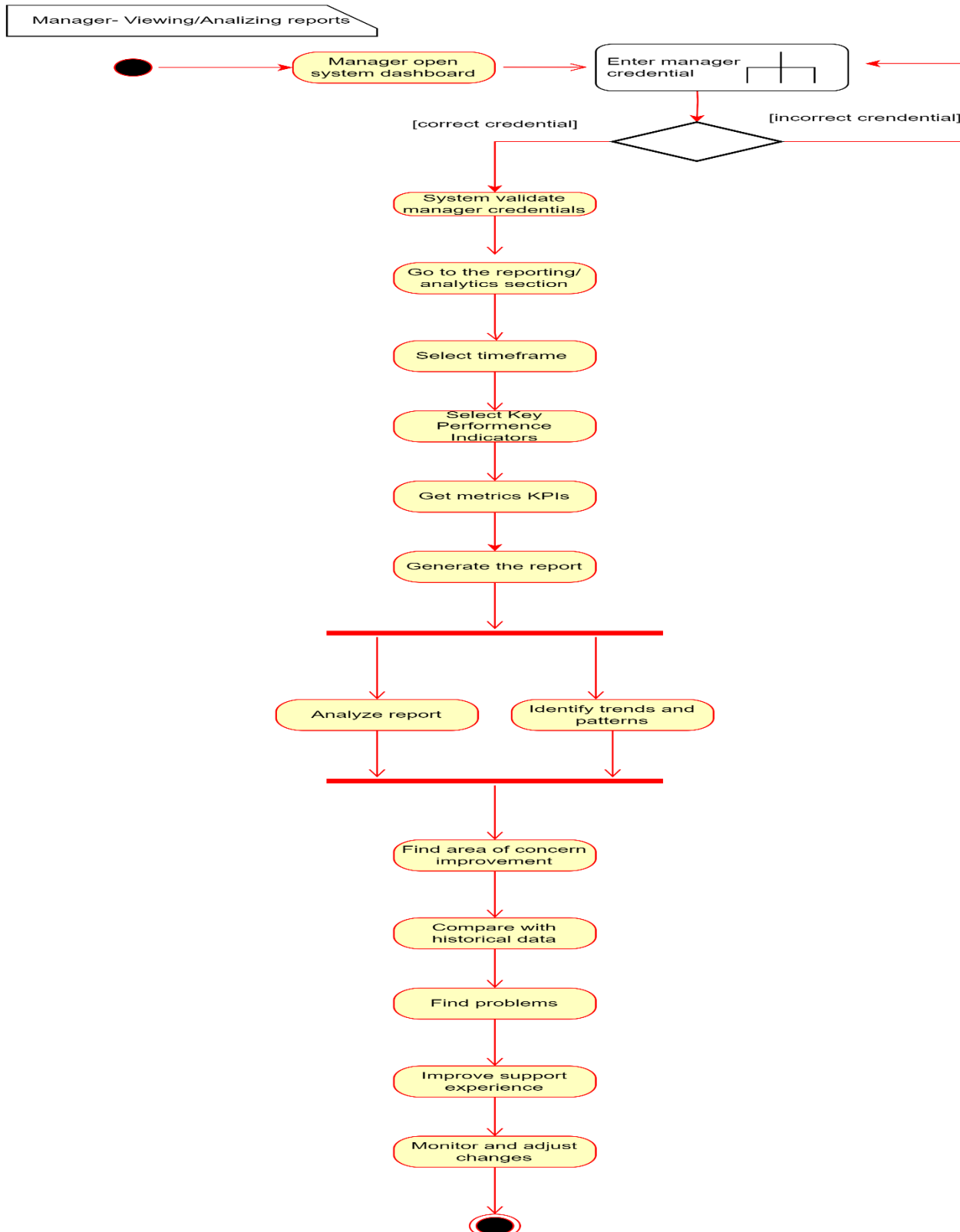
<b>Student Name</b>	<b>Student Registration Number</b>	<b>Date</b>	<b>Signature</b>
Rajapaksha D	IT22337412	5/28/2023	

## Part 1- Use case scenario

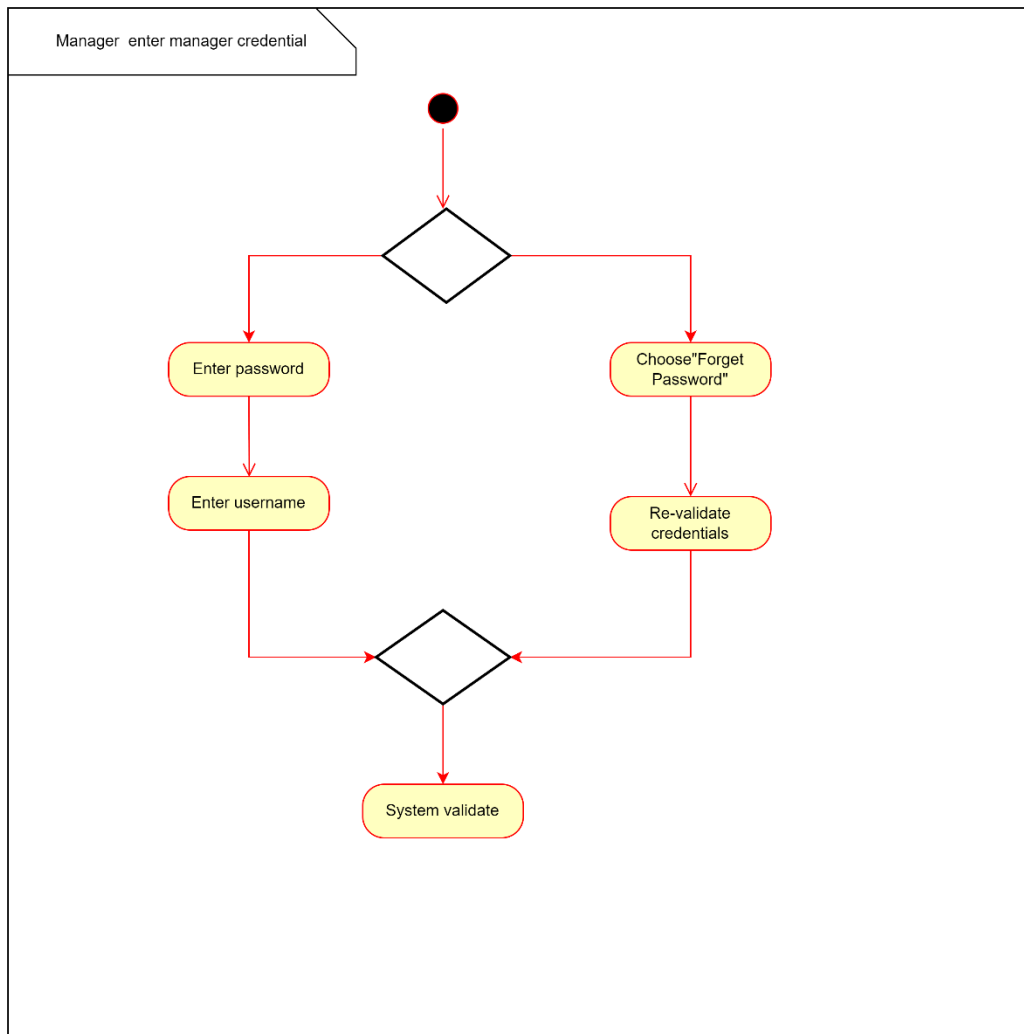
<b>Use case number</b>		
<b>Use case name</b>	Viewing/Analizing reports	
<b>Summary</b>	View all reports.	
<b>Pre-conditions</b>	Manager log in system.	
<b>Post-conditions</b>	Manager analyzes reports.	
<b>Primary-Actor</b>	Manager	
<b>Main scenario</b>	<b>Steps</b>	<b>Action</b>
	01	The Manager access the system inputting username and password.
	02	The system validates Manager credentials.
	03	Go to the reporting or analytics section of the system.
	04	Select the appropriate time period for the report.
	05	Select the key performance indicator and get metrics response time, resolution time, customer satisfaction scores.
	06	Generate the report based on the selected key performance indicators and timeframe.
	07	Analyze the report data to identify trends and patterns.
	08	Look for any areas of concern or improvement that might need more research.
	09	Compare the report data against historical data to spot any changes over time.
	10	Go deeper through report data to find problems.
	11	Take action to improve customer support experience.
	12	Monitor and adjust changes to improve customer support experience.
<b>Extensions</b>	<b>Steps</b>	<b>Branching Action</b>
	02.a	If the input username and password are incorrect.
	02.b	Manager will receive the error message.
	02.c	Manager can choose forgot password option.



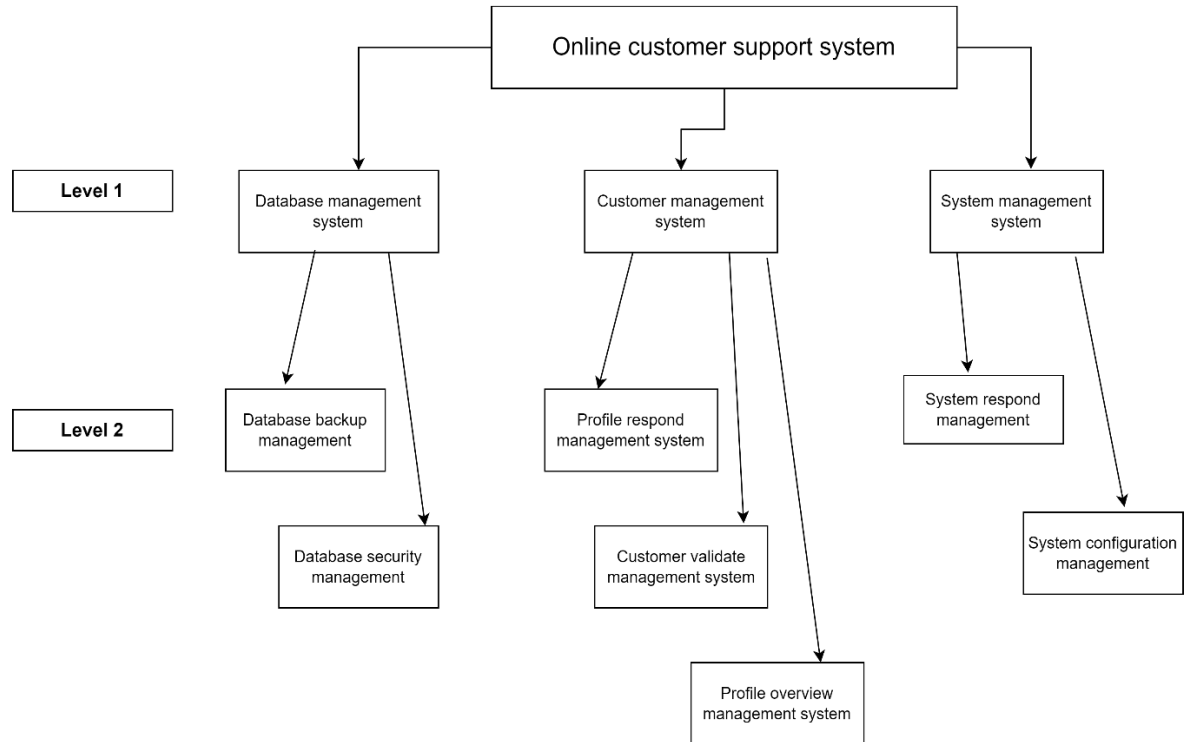
## Part 1- Activity Diagram



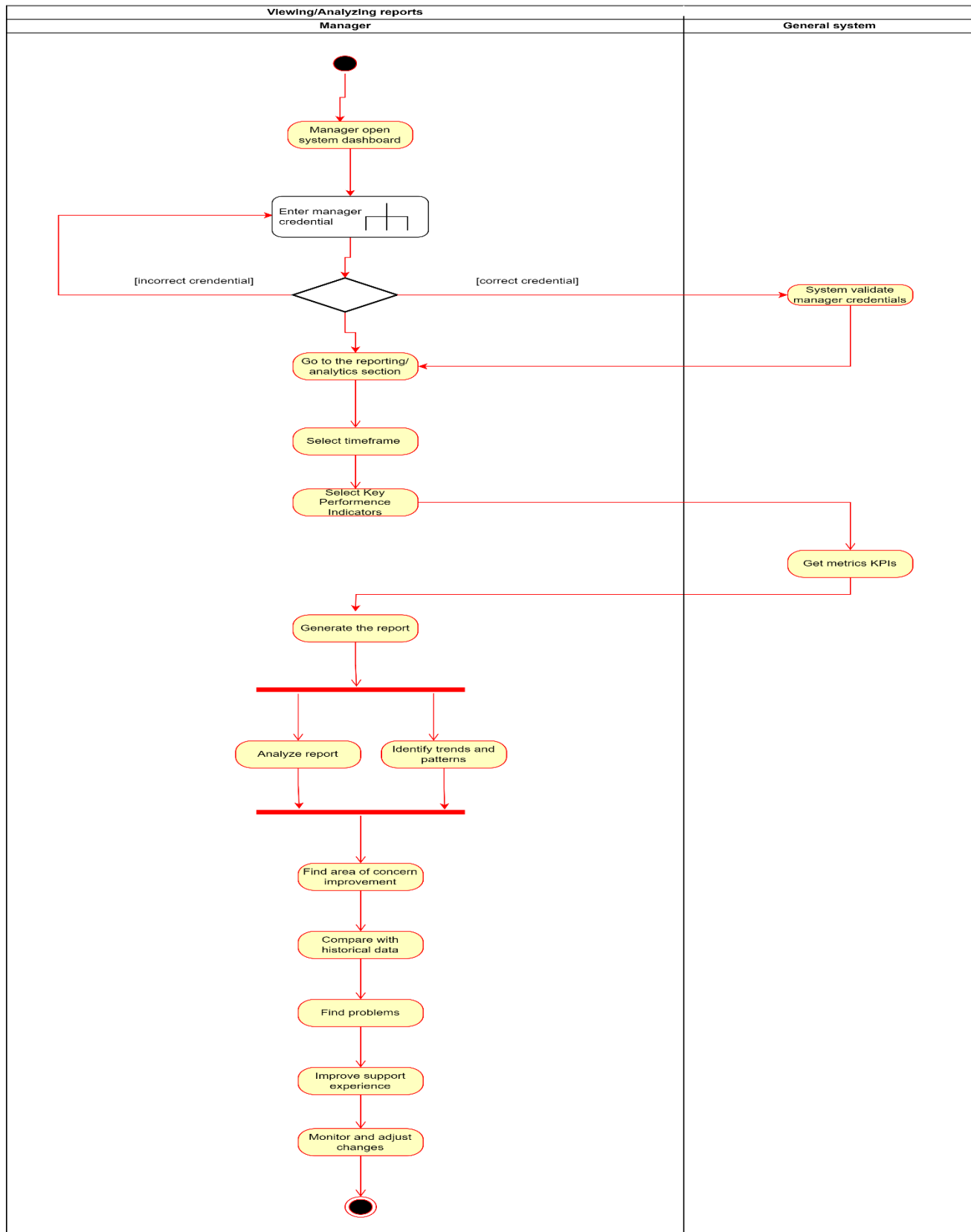
Part 1-Call Action



## Part 2-Sub systems



## Part 2- Activity Diagram (with partitioning)



## BSc (Hons) in Information Technology

### Assignment 2 - Marking Scheme

**IT1060 - Software Process Modeling**

**2022 -July**

**PROJECT ID:** .....

**CASE STUDY NAME:** .....

<b>Part I</b>	<b>Max. Mark</b>	<b>IT Number•</b>	<b>IT Number-</b>	<b>IT Number-</b>	<b>IT Number-</b>	<b>IT Number-</b>
1. Use Case Scenario	5 Marks					
2. Identifying Actions (at least 10)	10 Marks					
3. Use of correct notations	5 Marks					
4. Use of additional features a) Decision and Merge b) Fork and Join c) Iterations d) Call Actions	40 Marks					
Total Marks (Part I)	60 Marks					
Comments						

## BSc (Hons) in Information Technology

### Assignment 2 - Marking Scheme

**IT1060 - Software Process Modeling**

**2022 -July**

**PROJECT ID:** .....

**CASE STUDY NAME:**.....

<b>Part II</b>	<b>Max. Mark</b>	<b>IT Number•</b>	<b>IT Number-</b>	<b>IT Number-</b>	<b>IT Number-</b>	<b>IT Number-</b>
1. Identifying sub-systems a. Level 1 b. Level 2 and further	10 Marks 10 Marks					
2. Correct use of Swim Lanes	5 Marks					
3. Partitioning actions into correct Swim Lanes	10 Marks					
4. Creativity	5 Marks					
Total Marks (Part II)	40 Marks					
Total Marks	100 Marks					
Comments						

