Capstone Project 1- Part 2

Question 1: Audits

Audit is inspection of work for quality and progress. As BA is responsible to update the progress of project to responsible stakeholder and concerning documents, if an audit is happening then audits will check for BA is mail communication, documents. For BA the audit team during the audit will check and record for incidents in project. For BA the audit team will examine to determine the status of work performed on project and incident that took place while doing project and what action have BA taken to sort the incident

For BA the audit team will pick 5 random incidents in project and as BA should be organised well to answer audit team like open mail, show the mail regarding incident, conducted the meeting about incident, how many minutes the meeting had happened, what action is taken for incident and who is concerned person to give approval.

Question 2: BA approach strategy

Business Analyst has obtained information from stakeholders for understanding about the project and gather requirements from client by using requirement gathering elicitation technique. There are several ways to gather requirements using elicitation technique from client

Requirement Elicitation Technique: -

- Stakeholder Analysis
- Brainstorming
- Interview
- Document Analysis/Review
- Focus Group
- Interface Analysis
- Observation
- Prototyping
- Joint Application Development (JAD)/ Requirement Workshops
- Survey/Questionnaire

<u>Elicitation Techniques to apply:</u>

As a Business Analyst I apply to follow Joint Application Development Technique (JAD). JAD technique is more process oriented; these are structured meetings involving end users, PMs, SME, These is used to define, clarify and complete requirements. JAD follow agenda to gather and document the project needs and requirements, In JAD process session is conducted, in this session the information captured is further refined through analysis efforts, open questions or issues

discovered through the sessions are resolved and final document is returned to stakeholders for review and validation.

Stakeholder Analysis – RACI/ILS:

For gathering requirements in project at initial stage BA should identify Stakeholder For identifying stakeholder there are two ways:

- RACI Matrix – RACI stands for Responsible, Accountable, Consulted, Informed
- ILS – ILS stands for Identity, List, Summary

RACI is a matrix that is used to help identify all the roles and responsibility of each stakeholder on a project. It clearly defines who is working on a specific subtask of a project.

RACI	Name	Designation
Responsible	Mr. Teyson	JAVA Developer
	Mr. Tucker	JAVA Developer
	Ms. Lucie	JAVA Developer
	Mr. Jason	Tester
	Ms. Alekhya	Tester
Accountable	Mr. Vandhanam	Project Manager
	Mr. Prem kumar	Business Analyst
	Mr. Karthik	Delivery Head
Consulted	Mr. Mike	Network Admin
	Mr. John	Database Admin
	Ms. Juhi	Senior Java Developer
Informed	Mr. Henry	Sponsor
	Mr. Pandu	Financial Head
	Mr. Dooku	Project Coordinator

Documents to write:

Documentation is one of the fundamental parts for business analyst, throughout the course of a project BA will prepare many documents. These documents are created to fulfil the varied project needs

1) In first stage of Requirement gathering BA and PM will be participating. A Business Requirement document (BRD) is created to describe business requirement of a project, BRD mainly focuses on answering what is business solution and how to achieve business solution

2) In Requirement analysis BA will be there to prepare Functional specification (FS) and Functional Requirement Specification (FRS), BA will analyse the requirement and communicate to technical team. Technical team like solution architecture, network architecture, database architecture will prepare Non-functional requirement in Supplementary Support Document (SSD).BA will add Functional specification (FS) and Supplementary Support Document (SSD) to form Software Requirement Specification (SRS).

3) Both BA and technical team will combine document called Software Requirement Specification (SRS) then BA will prepare RTM (Requirement Traceability Matrix).

4) In Design stage, technical team like solution architect, network architect, DB architect, GUI designer will prepare High level design document (HDD), Application

design document (ADD) under Solution document

5) In Development stage, programmers and developers will be there these teams will prepare LDD (low level design document) and CDD (complex design document)

6) In Testing stage, tester will come up with testing documents and application with less errors.

7) In Deployment and implementation stage moving the code from development environment to production.

What process to follow to Sign off on the Documents:
SRS (Software Requirement Specification) is a document, The purpose of this document is to provide description of software product to be developed. An SRS document is usually prepared at the end of the requirement engineering phase. In this phase client will give sign on SRS (Software Requirement Specification) Once client give sign on SRS then BA will prepare Requirement Traceability Matrix (RTM).

How to take Approvals from the Client:
Business Analyst must establish a clear communication with client and solve conflicts to obtain the approval of the business requirement. The Business Analyst should obtain a clear communication with client to obtain agreement on and approval of requirements and designs.

What Communication Channels to establish and implement:
Business Analyst will establish communication channel by using following technique

- Stakeholder Analysis
- Brainstorming

- Interview
- Document Analysis/Review
- Focus Group
- Interface Analysis
- Observation
- Prototyping
- Joint Application Development (JAD)
- Survey/Questionnaire

How to Handle Change Requests:
Once the application is developed, Client will come up with change request as BA should be able to handle the change request.

How to update the progress of the project to the Stakeholders:
The progress of the project to stakeholder is done from project initiation to project delivery to achieve optimal business solution for the client. Progress to stakeholder can be updated from by using -Project vision document, Business Analysis Plan, Business Requirements document, Functional requirement specification, Software requirement specification, Requirement traceability matrix, use case diagrams, wireframes, Change request document.

BA also conducts regular status meetings with client

How to take signoff on the UAT- Client Project Acceptance Form:
The BA role is all about ensuring that project delivers the value the business needs and expects. Actively participating in planning for and running User Acceptance Testing is an important way for the BA to ensure that value is indeed delivered.

Steps to a Successful User Acceptance Testing

1. Identify Resources: Before begin testing, make sure BA has identified resources.
2. Create a Schedule: Once test group is identified, organize deployment team schedule to works with both the development team and track updates
3. Establish a Process: Make sure UAT group has documented

Using Project client acceptance and sign-off form can be used to record client signoff and officially bring the project to a close, using this form will officially bring project to a close and give opportunity to discuss key aspects of project with client. In the end it will give you a manually agreed upon outcome.

Question 3: 3 – Tier Architecture

Any IT company will follow Architecture while developing application. There are three types of Architecture

1) Application Layer

2) Business Logic Layer

3) Data Layer

1) Application Layer: In application layer we find screens and pages, validation on pages, company specific logic, Functionality.

2) **Business Logic Layer:** Business logic layer consist of all reusable components, frequently changing components, governing body rules and regulations, Compliances.
Example - printer, payment gateway, mail servers, IRDA rules for Insurance companies
3) **Data Layer:** Data layer is database components connecting to databases.

Question 4: BA Approach Strategy for Framing Questions

5W 1H-The term 5W 1H refers to five basic questions commonly asked when gathering information. 5W 1H:

- WHO
- WHAT
- WHEN
- WHERE
- WHY
- HOW

SMART- **SMART Requirements** refer to a goal is to help you come up with good requirement statements

SMART:

- **S**PECIFIC
- **M**EASUREMENT
- **A**TTAINABLE
- **R**EALSTIC
- **T**ESTABLE
- **T**RACEABLE

RACI- RACI is a matrix that is used to help identify all the roles and responsibility of each stakeholder on a project. It clearly defines who is working on a specific subtask of a project.

- R-Responsible
- A-Accountable
- C-Consult
- I-Informed

USE CASES- Use Case diagram is how an external end user will interact with the system, and it is modelled from end-user perspective. Use case diagrams will not focus on functionality of system; the focus is on external end user will interact with the system.

Question 5: Elicitation Techniques (BDRFOWJIPQU)

Business Analyst will establish communication channel by using following technique:

- Brainstorming - B
- Document Analysis/Review- D
- Reverse Engineering – R
- Focus Group – F
- Observation- O
- Workshops- W
- Joint Application Development – J
- Interview – I
- Prototyping-P
- Questionnaire-Q
- Use case specs- U

Brainstorming: Brainstorming is an effective way to generate lots of ideas on a specific issue and then determine which idea is the best solution. In Brainstorming the ideas collected are reviewed or analysed

Document Analysis: Document analysis is done through reading a document and understanding the product, process and project.

Reverse Engineering: Reverse engineering is the processes of extracting knowledge or design information from anything man-made and reproducing it or re-producing anything based on the extracted information.

Focus Group: Focus group is a means to elicit ideas and attitudes about a specific product, service or opportunity in an interactive group environment.

Observation: Observation can provide information of existing processes, inputs and outputs.

Workshop: A workshop may be used to scope, discover, define, prioritize and reach closure on requirements for the target system. Requirement workshop is a structured approach to capture requirements.

Joint Application Data: Application developed through JAD has higher customer satisfaction and less number of errors as user is directly involved in the development process.

Interview: Interview is a systematic approach where interviewee is going to ask relevant questions related to software and documenting the responses.

Prototyping: Prototyping is an attractive idea for complicated and large systems for which there is no manual process or existing system to help determining the requirements.

Questionnaire: Questionnaire can be useful for obtaining limited system requirements details form the users/ stakeholders, who have minor input or are geographically remote.

Use case specs: In use case diagram we model only positive flow, each use case is supported by 1 document or use case description document. Use case specs specifies how a user interacts with a system and how the system responds to the user actions.

sample use case specs:

Description

Actors

Precondition

Postcondition

Basic flow

Alternative Flow

Exceptional flow

Question 6: Project Elicitation Techniques

As a BA in this project, I use to go with Use case Spec.

It specifies how a user interacts with a system and how the system responds to user given actions. Use case specs is supported by use case description document

Sample Use case spec for this project:

Use Case Spec-Login

Description-Username, Password

Actors- Farmer, Manufacturer

Precondition-Active internet connection, Browser compatible

Postcondition-Home page of actor should be displayed

Basic flow-Username and Password are correct

Alternative flow-Username is wrong

Password is wrong

Username and password is wrong

Exception flow- Forgot username

Forgot password

Question 7: Business Requirements

BR001 - Users should be able to search fertilizers, Seeds and pesticides.

BR002 - Users need to create login id and password.

BR003- If the user is Existing User, then he can login with user ID & password without creating it again.

BR004 - User should be able to browse the product catalogue.

BR005 - User can Add Items to Cart and remove Items from cart.

BR006 - User can do payment through UPI, Debit/Credit Card (or) COD.

BR007- After placing the order, user will get the Email confirmation.

BR008 - User can Track the delivery in the Application.

BR009 - Manufacturer need to Login with mail Id and password.

BR010 - Manufacturer need to upload the product in the application.

Question 8: Assumptions

- If Farmers want to buy any product, farmer can be able to select product, add product to cart and add product to buy later.
- Farmers need to have email id and password to login application.
- Once the product is selected by farmers, Farmers can avail the facility of payment using net banking or cash on delivery or all UPI options or Credit/Debit card
- Farmers can be able to track delivery of the ordered product easily by entering order id or tracking number.

Question 9: Project Requirements Priority

Req ID	Req Name	Req Description	Priority
BR001	Farmer Search for Products	Farmers should be able to search for any available products in fertilizers, seeds, pesticides	3
BR002	Manufacturers upload their Products	Manufacturers should be able to upload and display their products in the application	7
BR003	Farmer should create account	Farmer should have login credentials like email id and password, once email id and password is created farmers can able to login application	2
BR004	Farmer select product and add to cart	Farmer should be able browse the product, select product and able to add product to cart or can add product to buy later	4
BR005	Framer is a new user	If Farmer is new user to login, then farmer has to create new account by submitting email id and password	1
BR006	Farmer make payment	Farmers needs to have an easy-to-use payment gateway which should include cash-ondelivery (COD), Credit/Debit card and UPI options	5
BR007	Farmer get order status	Once farmer make the payment the product order is confirmed and get email confirmation	6

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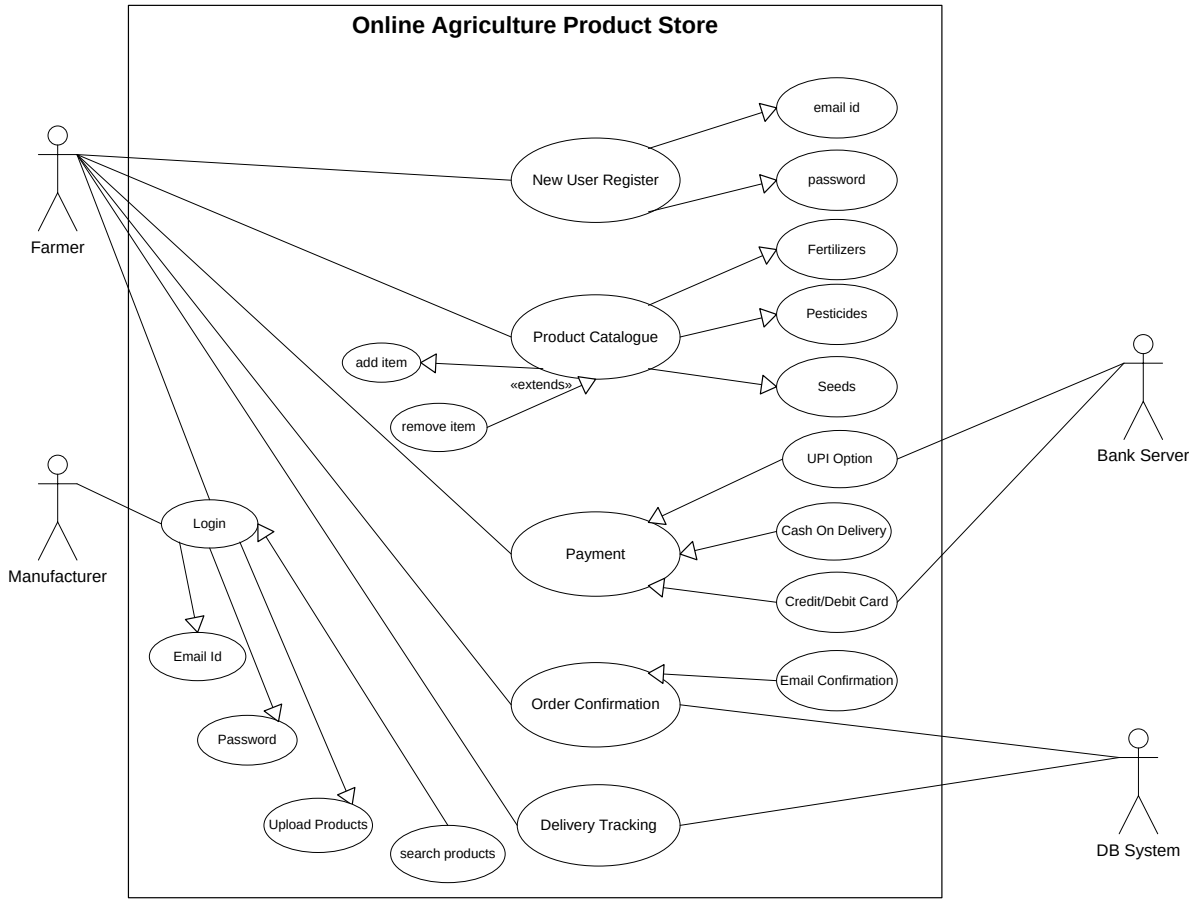
Question 10: Use Case Diagram



Question 11: Use Case Specs

Use case specification will have its own use case description document; the following are sample use case specs in this project.

1) Use case name:
Online Agriculture Product Store

Use Case Description:

To facilitate farmers to buy Agriculture products using online application/webpage through Internet connectivity. Using this application/webpage farmers can buy online agriculture products for farming and delivery service will be provided to farmers even in remote villages, this application will accept the product details from manufacturers
Actors:

Primary Actor **-** Farmer and manufacturer are primary actors

Secondary Actor - Active internet connection will be considered as secondary actor
Pre-condition:

Active internet connection, Home page of application should be displayed with Login

page that includes username, password and product catalogue
Post Condition:

Farmer should be able to browse through the products catalogue once they visit the website/application and need to have a search option so that they can search for any product they need.

Basic flow:
The farmer or manufacturer enter the login credential home page of application will be displayed

Alternate flow:
If Actor provide Invalid login credential details in login page, then application will display invalid account.

2)Use case name:
Online Agriculture Product Store

Actors:

Primary Actor **-** Farmer and manufacturer are primary actors

Secondary Actor - Active internet connection will be considered as secondary actor

Basic Flow:

Farmers will be able to login the page using valid email id and password, farmers can be able to search for product, browse for product in product catalogue, select the product and can add product to cart or buy later, make payment for product added to cart.

Alternate Flow:
Products not available in search option, once product is selected to make payment if amount entered is not matching with selected product, then payment process will not be accepted.

Pre-condition:
Active Internet connection, valid username (email id) and password should be given by farmer to login page, valid username (email id) and password should be given by manufacturer to login page.

Post condition:
The new application should display be able to accept product (fertilizers, seeds, pesticides) details from the manufacturers and should be able to display them to the Farmers.

Exceptional flow:
Internet connection not working, Slow internet speed.

3)Use case name:
Online Agriculture Product Store

Actors:

Primary Actor **-** Farmer and manufacturer are primary actors

Secondary Actor - Active internet connection will be considered as secondary actor

Basic Flow:

To facilitate remote area farmers to buy agriculture products through Online Web / mobile Application, Farmers and Companies (Fertilizers, seeds and pesticides manufacturing Companies) can communicate directly with each other.

Alternate Flow:
The required agriculture products for farmers may not be available for farmers to buy through Online web/mobile application, Insufficient product availability (Quantity wise) in product catalogue.

Pre-Condition:
Farmers need to login first using email id and password, if farmer is new user need to create a new account by submitting their new valid email id and secure password.

Post Condition:

Farmer should be able to browse through the products catalogue once they visit the website and need to have a search option so that they can search for any product they need.

Assumptions: Farmers need to have email id and password to login application.

4)Use case name:
Online Agriculture Product Store

Actors:

Primary Actor **-** Farmer and manufacturer are primary actors

Secondary Actor - Active internet connection will be considered as secondary actor
Basic Flow:

Manufacturers will be able to update product details in the application using email id and password, Manufacturers should provide complete product information along with quantity, farmers will be able to select product, buy product or can add them to buy later list.

Alternate Flow:
Manufacturers will not be able to update product details and product information in the application time to time this leads to product shortage in application store.
Pre-condition:

Farmers can avail the facility of different payment gateway which should include cash-on-delivery (COD), Credit/Debit card and UPI options.

Post Condition:

Once payment is successfully done farmer will get email confirmation regarding order status.

Inputs and Outputs:
Once the farmers give valid email id and password which is considered as input in application then application will display the product details (Fertilizers, seeds and pesticides) to farmers is considered as output in application.

Farmers will select the product and makes payment successfully for the selected product is considered as input, the product delivered to the farmer location is considered as output for this project.

5)Use case name:
Online Agriculture Product Store

Actors:

Primary Actor **-** Farmer and manufacturer are primary actors

Secondary Actor-Active internet connection will be considered as secondary actor
Basic Flow:

Manufacturers need to check the availability of products with quantity in the application store time to time, update product details in product catalogue regular intervals, update bank information correctly by manufacturers in order to receive payments correctly, Farmers will browse, select and make payment for selected product

Pre-condition:

The payment done through online should be secured and safe for farmers while doing online payment, Farmers need to use the authorized web site\application.

Post condition:
Farmers need to get successful transaction details for payment done to product with following details – transaction id, order id, email confirmation to register email id, tracking id of ordered product.

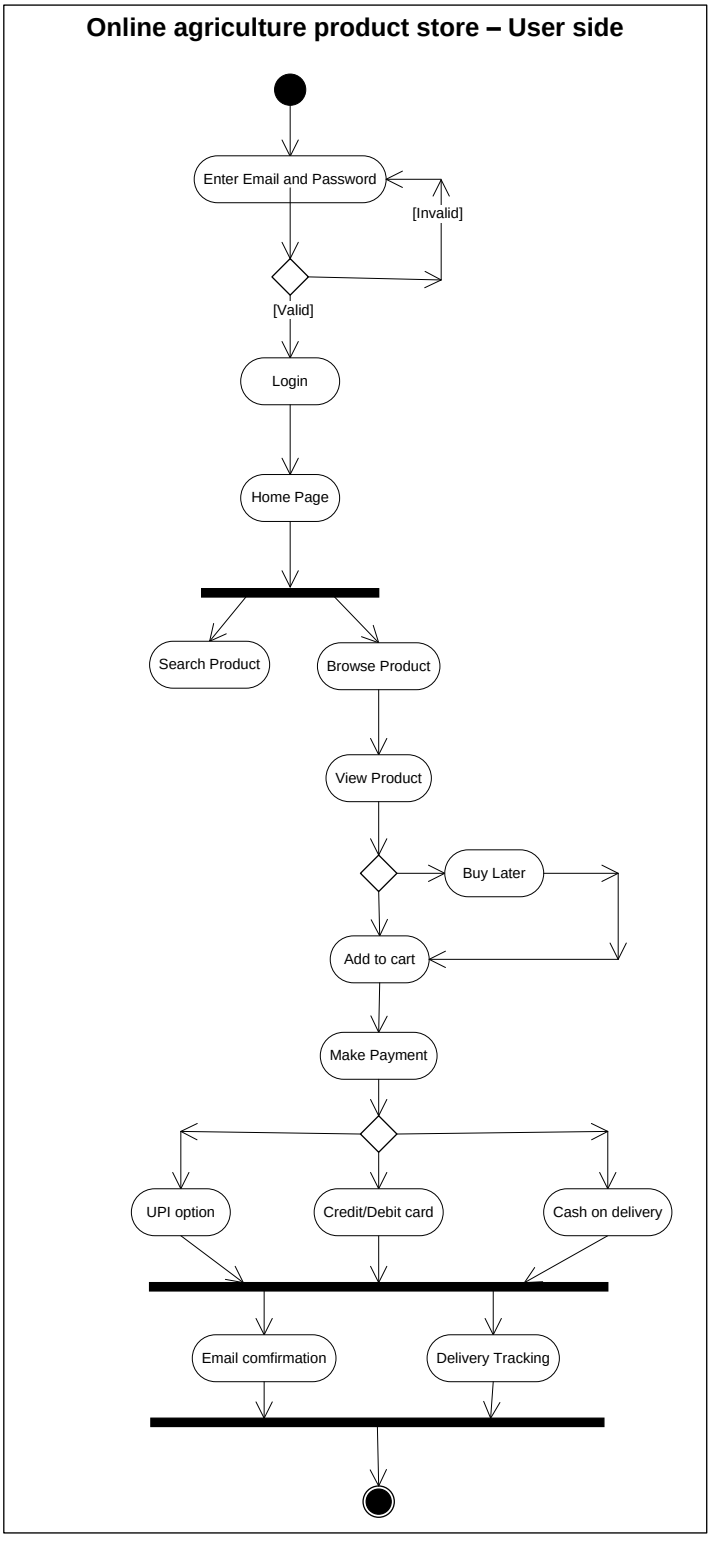
Assumptions:
Farmer should have basic knowledge on application which may include typing, learning keyboard commands, powering a computer on and off, knowing how to connect and disconnect the Internet to a computer that helps in usage of application.

Business Rule:
*****Unique and valid email id should be given

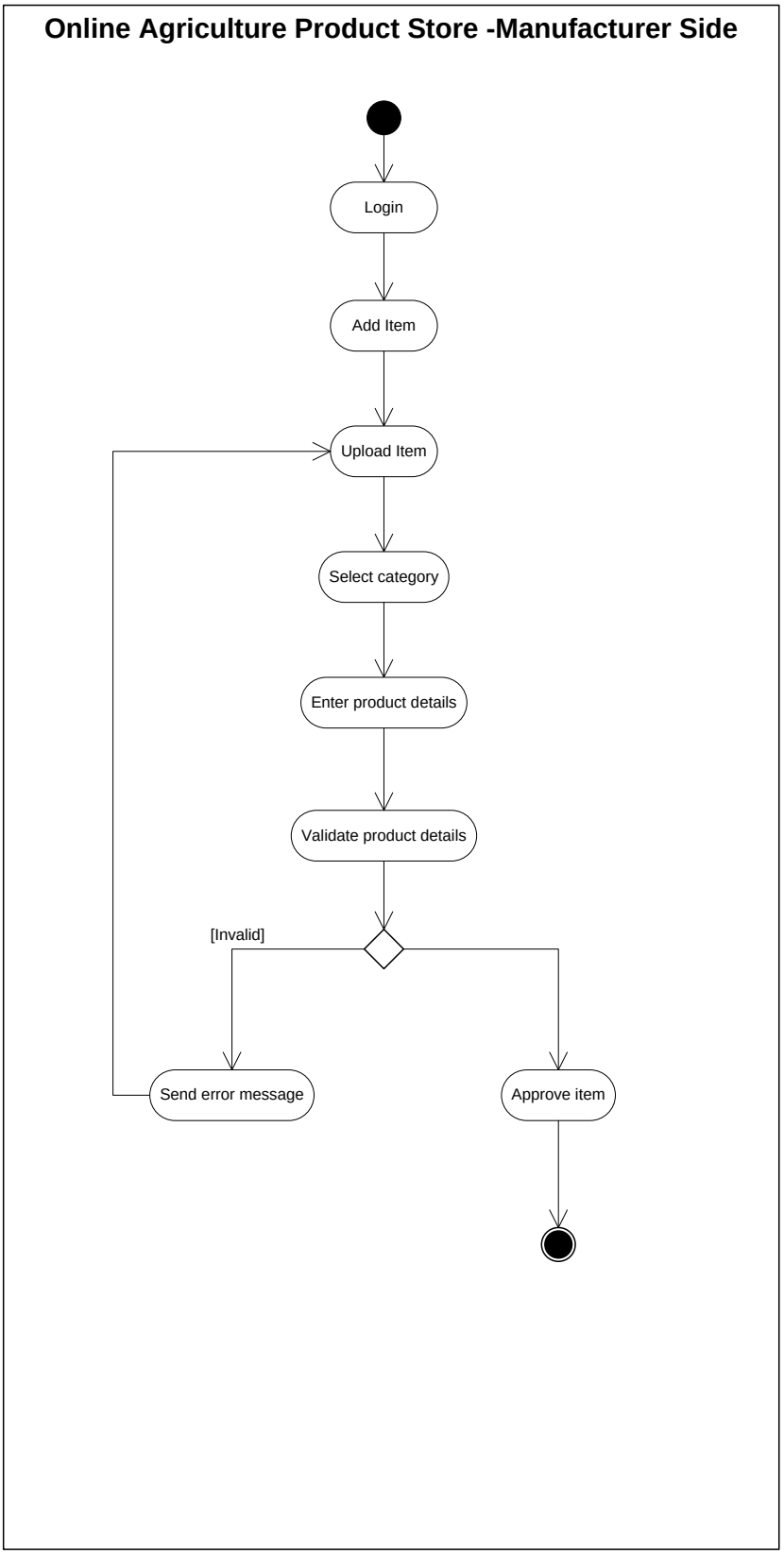
*****Password should be – 1 cap,1 small,1 numeric,1 special character *****Last 5 passwords cannot be repeated.

QUESTION 12: Activity Diagram

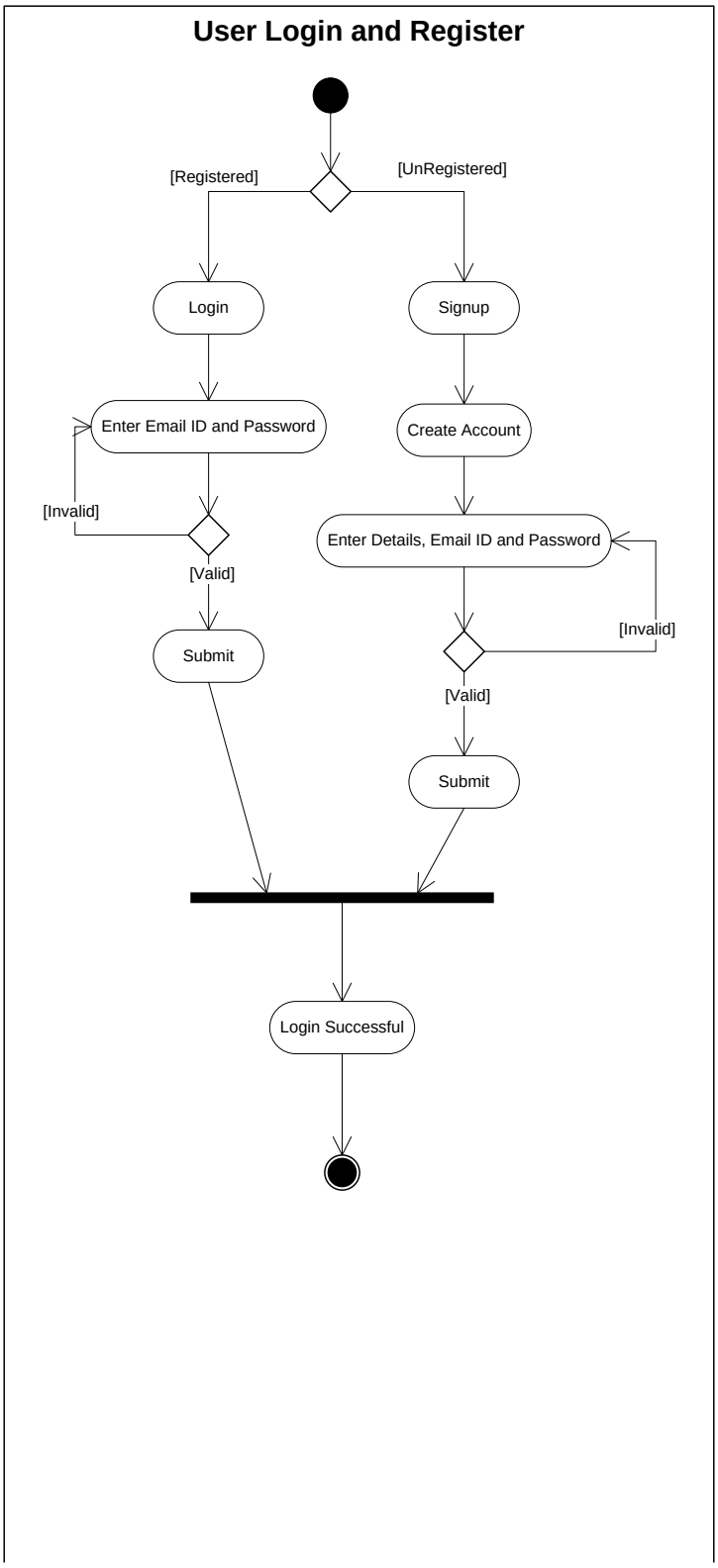
Activity Diagram on User side



Activity Diagram 2 on Manufacturer Side



Activity Diagram 3 : User Login and Password



Activity Diagram 4 on Payment Management System

Payment Management System