

Activity Diagrams : 7 Problems

1. Draw an activity diagram from the narrative text on **“ONLINE PAPER SUBMISSION SYSTEM”**. The author completes an online form that requests the user to input author name, Correspondence address, email and, title of paper. The system validates this data and, if correct, asks the author to submit the paper. The author then browses to find the correct paper on their system and submits it. Once received and stored, the system returns to the author a reference number for the paper. Authors may submit as many papers as they like to be considered for acceptance to the conference up until the deadline date for submissions. Papers are allocated to referees for assessment. They review each paper and submit to the system their decision. Once the program organizer has agreed the decisions authors are informed by email. Accepted papers are then schedule to be delivered at a conference. This involves allocating a date, time and place for the presentation of the paper.

2. **Derive an activity diagram using staruml from the case given below on “order processing subsystem”**. Web Customer uses some web site to make purchases online. Where customer can search item, View item, **add item to the cart, place order and make payment**. For placing an order customer first searches the required items from the system. As and when the customer finds the item available in the system he starts adding item to the chart. The System provides facility to the Customer to add any number of items to the chart. Customer can also view his shopping chart containing items. Ones the customer finishes his shopping he can place the order by requesting system to confirm the order. The system will then check whether the order is normal order or any special order and according to that the system will generate the bill and request for payment. After getting the bill the customer can make payment. The bank will validate the credit card number. If the credit card number is valid the system will confirm the order. Otherwise the process will get terminated.

3. Draw an **activity diagram** using StarUML from the narrative text on **“Bank ATM Machine For Withdrawing Cash”**.

Summary:

An automated teller machine (ATM) or the automatic banking machine (ABM) is a banking subsystem that provides bank customers with access to financial transactions in a public space without the need for a cashier, clerk or bank teller.

Customer uses bank ATM to check balances of his/her bank deposit funds, withdraw cash and/or transfer funds which generalization alternative of ATM transaction use case.

FOR WITHDRAWING CASH

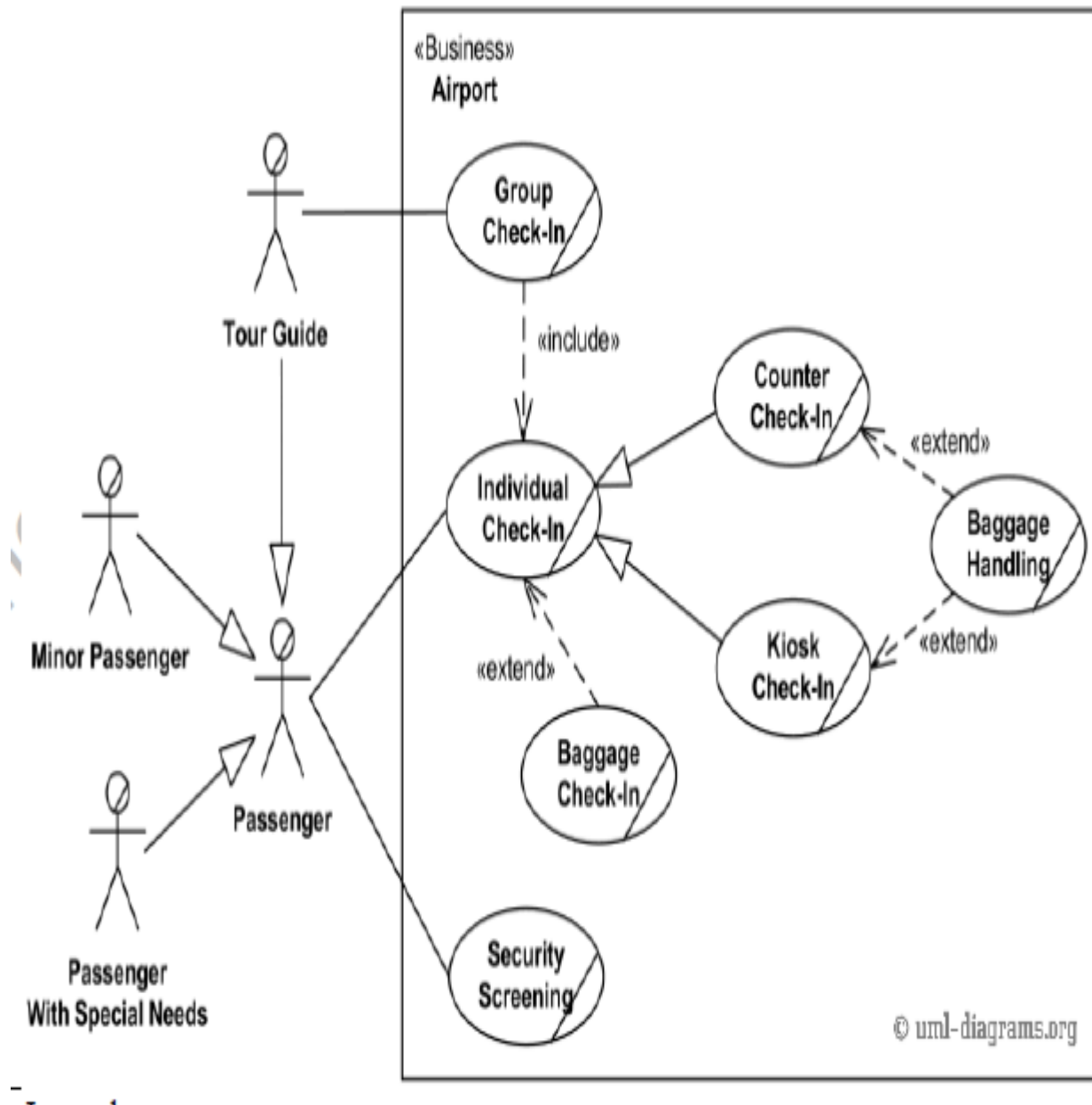
On most bank ATMs, the customer is authenticated by inserting a plastic ATM card and entering a personal identification number (PIN). Bank will then authenticate the customer's pin number. Only authenticated customer can request the system for withdrawing money while the unauthenticated customer will get back his ATM card as the system will reject the card.

Then the system will request the authenticated customer to enter the amount to be withdrawn. The bank will check the balance amount of the customer if it is sufficient bank will provide the requested amount to the customer and debit the respective amount from the balance. The customer will collect or take the amount from the slot. In case of insufficient amount the system will show the balance and reject the card. At the end of all the process the customer will take back his ATM card.

4. Draw an activity diagram using from the narrative text on “**ticket vending machine**” The scenario provided below describes the behavior of the purchase ticket use case. Activity is **started** by Commuter actor who needs to buy a ticket. Ticket vending machine will **request trip information** from Commuter. The commuter will **provide trip information** to the machine. Based on the provided trip information, the ticket vending machine will **process the trip information** and calculate payment due by **requesting payment**. Commuter will **provide payment** information to the machine. The machine will **process the payment** on the basis of payment by cash or credit or debit card. If payment by card was selected by Commuter, another actor, Bank will participate in the activity by authorizing the payment. After payment is complete, ticket is dispensed to the Commuter. And the commuter will get the ticket. Cash payment might result in some **change due**, so the change is dispensed to the Commuter in this case by the machine. Ticket vending machine will show some "Thank You" screen at the end of all the activity.

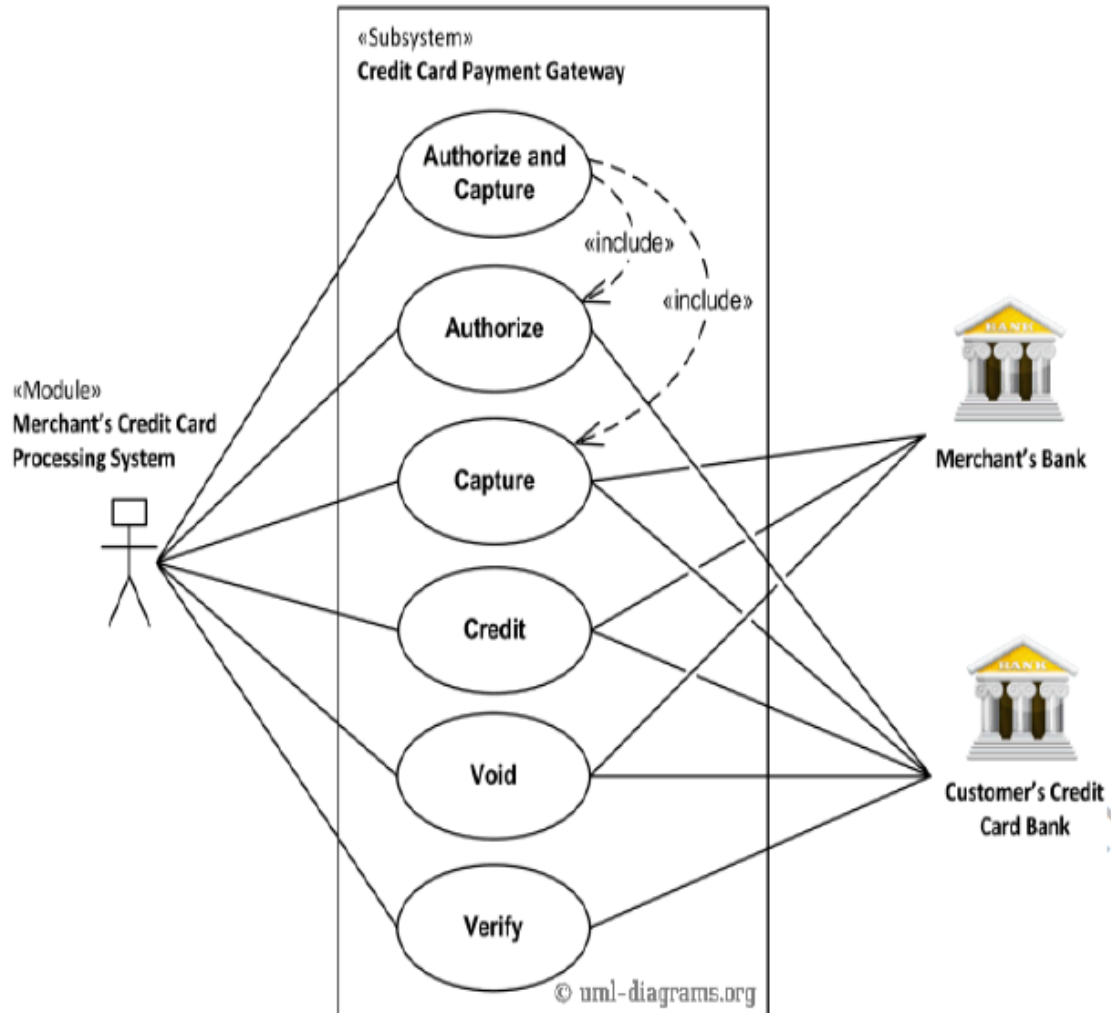
5.

Draw an activity diagram using StarUML for the Airport check-in and security screening system depicted below.



6.

1. Draw an activity diagram using StarUML for the Credit card processing system depicted below.



7. DRAW THE ACTIVITY DIAGRAM FOR THE GIVEN PROBLEM OF USE CASE.

DESCRIPTION OF THE EXAMINATION PAPER PREPARATION SUPPORT SYSTEM.

Use case name: submit question

Participant: lecturer

Entry conditions:

1. The question is ready and stored in a file
2. The lecturer is assigned to the module

Exit conditions:

1. The file is uploaded to the system
2. The module leader is notified of the availability of the question

3. The event is logged by the system

Flow of Events:

1. The lecturer logs into the system by entering his/her username and password;
2. The system checks the username and password;
3. The system displays the list of modules of which he/she is the lecturer, module leader and/or internal examiner;
4. The lecturer selects a module and his/her role in the module as a lecturer;
5. The system prompts the user to enter the file name and location on his/her computer, and Additional information if any;

Exceptional conditions and alternative flow of events:

When the username and password is not correct:

3.1: display error message, go back to step 1;

When the lecturer is not listed on the module:

4.1: quit the system;

Special requirements:

1. The file should be encrypted when transmitted from lecturer's computer to the server
2. The notification of success in uploading the file should be within 20 seconds
3. The event should be recorded in a log file to contain the following information:
 - a) Name of the lecturer,
 - b) Date and time of the event,
 - c) The name of the event (upload exam question).
 - d) The file on the server that stores the questions.