

Distributed Component-based Software Development
Year 3, Semester 2, 2012
Final Project
[Marks 20]

Date of registration: Weekday/Weekend: 13th October 2012 on or before 5 pm
(For registration use the form attached at the end of the project description)

Date of submission: Weekday: 25th October 2012
Weekend: 28th October 2012

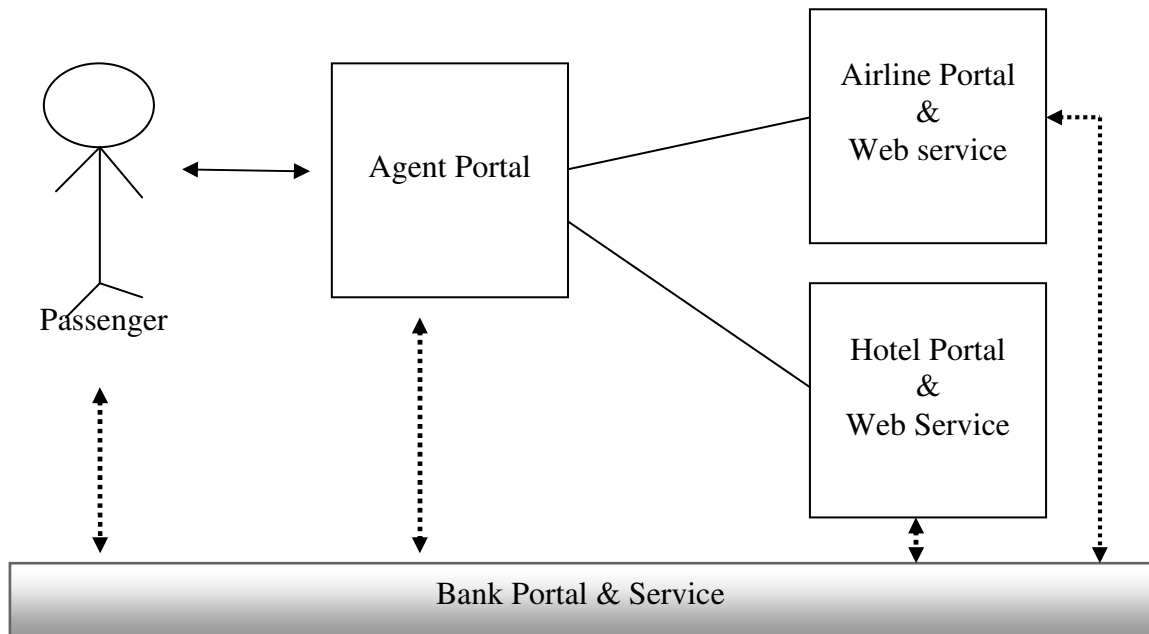
Important: This is a group project. In case one cannot find a group he/she should implement all the roles to score marks. The assignment is accessed individually. Any act of plagiarism will result in zero (0).

Goal: Implement a Virtual Marketplace.

The following entities play a role in the Virtual Marketplace:

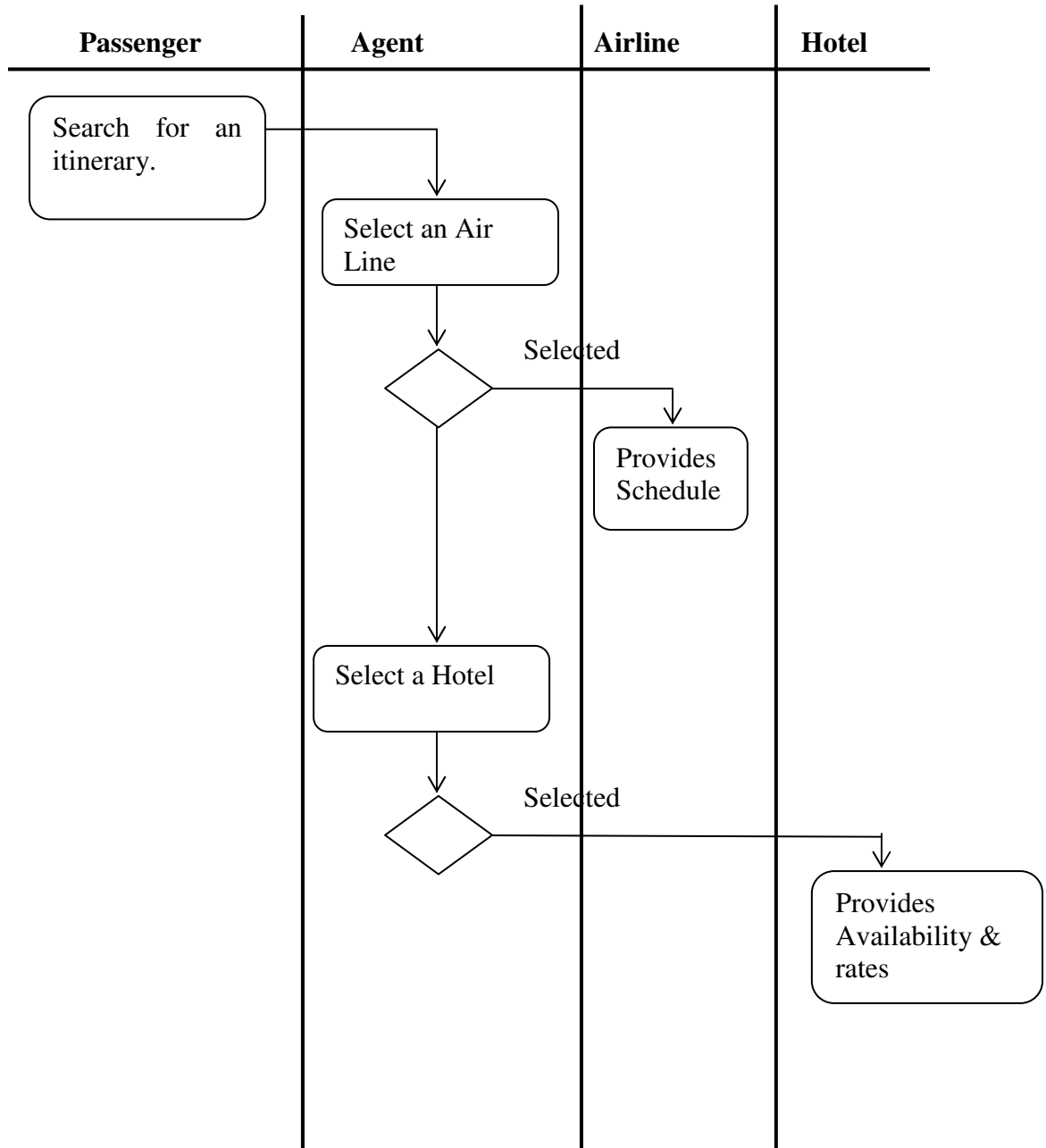
- **Agent:** A portal, which allows passengers to search a route, reserve and cancel Air tickets on various Air Lines. Agent port also facilitates passengers to search hotels availability, reserve and cancel hotel reservations.
- **Bank:** Provides financial services to the its customers (Passenger, Agent, Airline, Hotel)
- **Airline:** Provides daily flying schedules for the Agents and accepts reservations from passengers.
- **Hotel:** Provides logging facilities (BB, HB, and FB) and accepts reservations from passengers.

Following diagram shows the high level architecture of the Virtual Market.



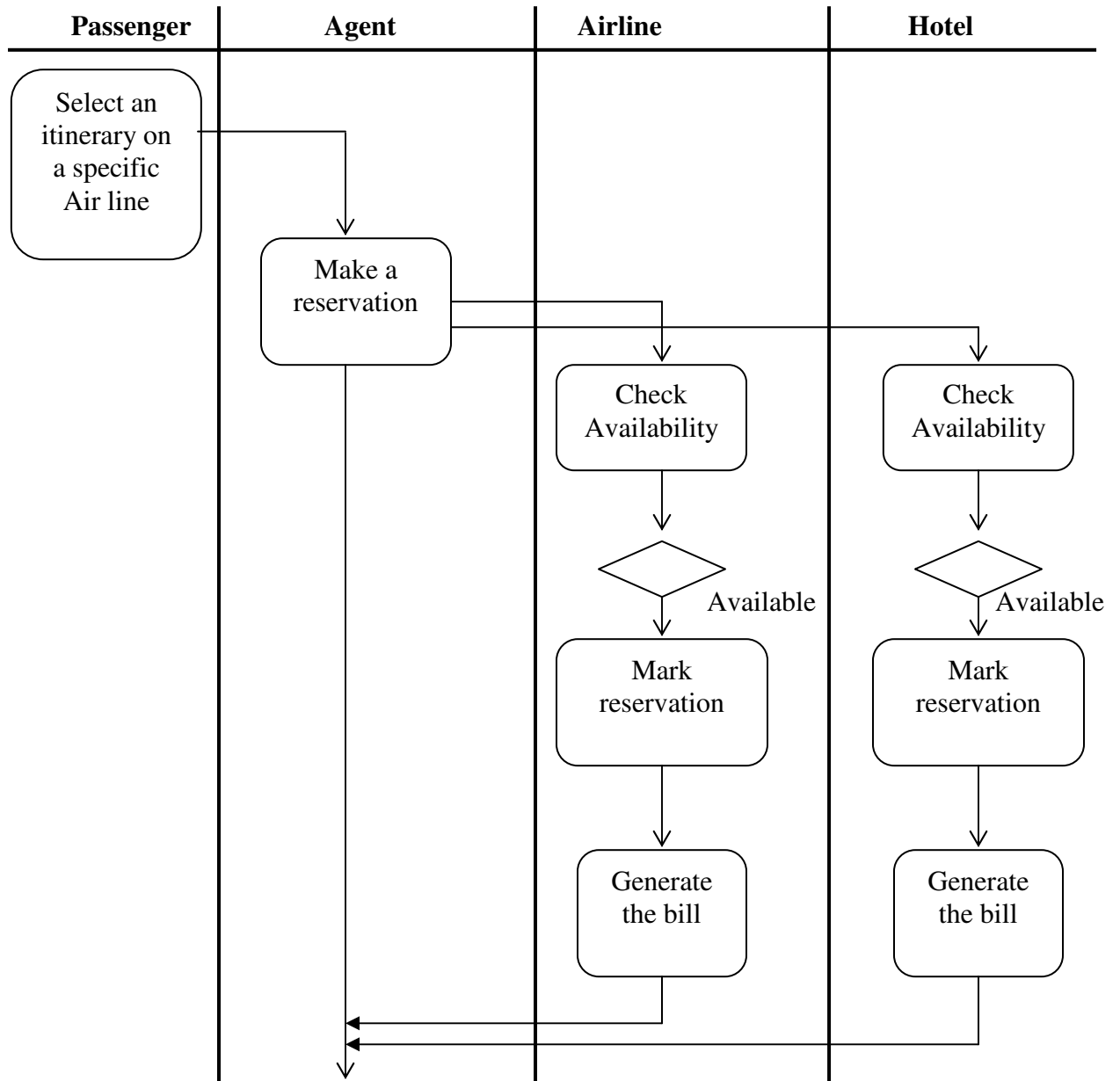
The following workflow process needs to be implemented in the virtual marketplace.

Part 1: Passenger Search for an Itinerary.

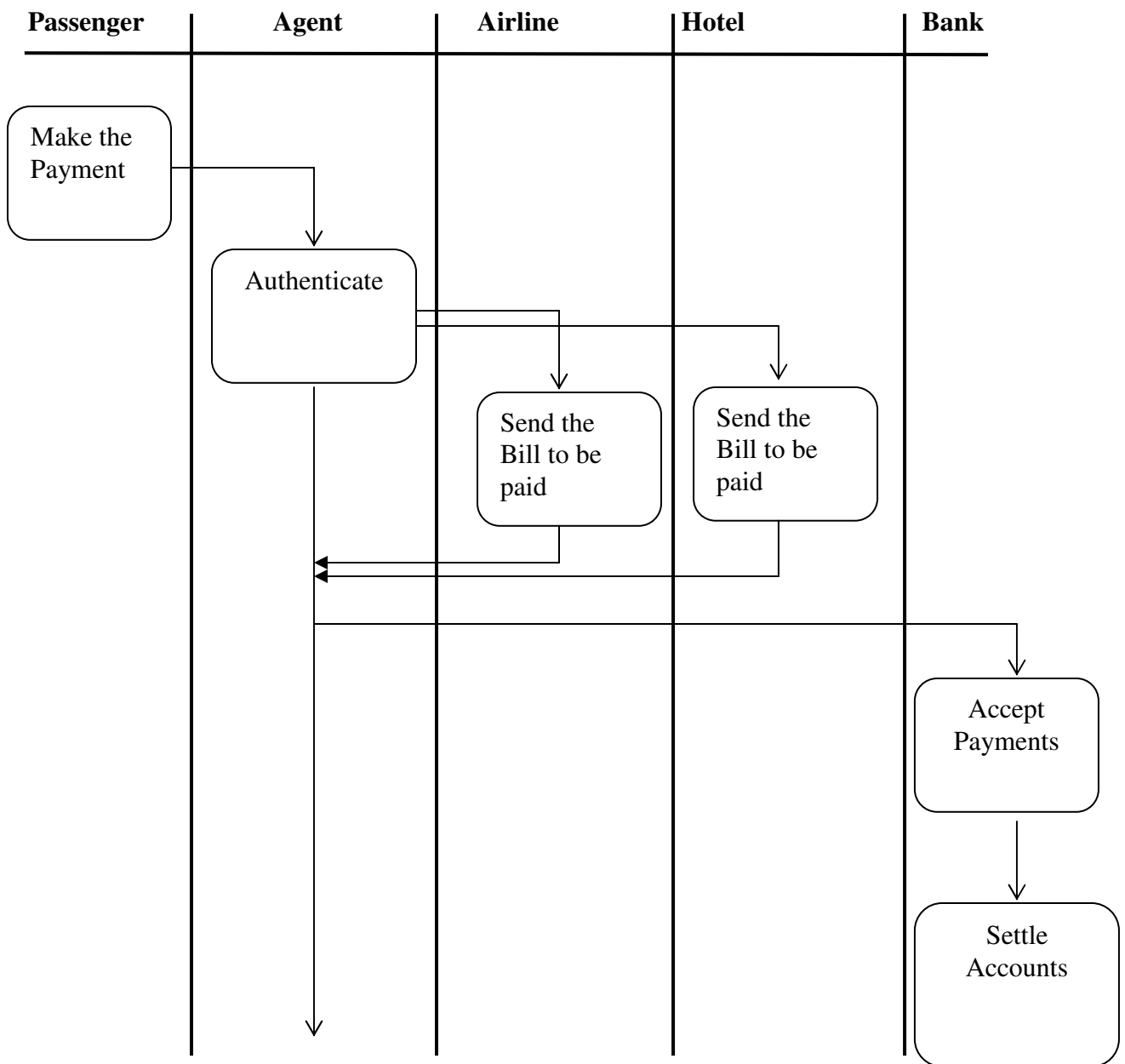


* You may use different mechanisms/protocols to find Air Lines

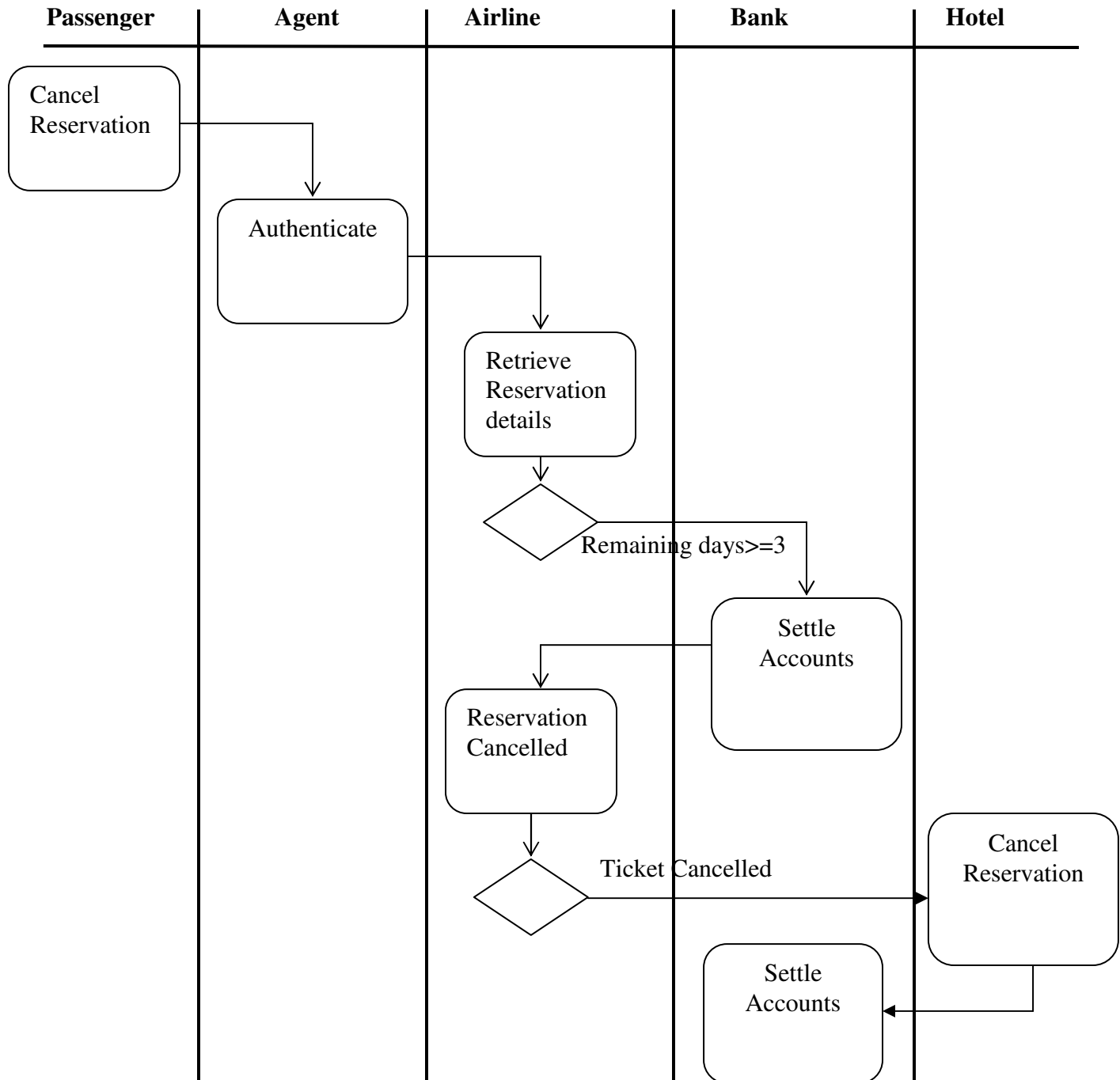
Part 2: Making a Reservation



Part 3: Making Payments



Part 4: Cancellation Process



* For all cancellations 10% of the total price is levied by the Agent. (5% for agent, 3% for airline and 2% for the hotel)

The different groups will be implementing different entities in the virtual marketplace.

Each entity must open a bank account in a bank (including the bank itself). You may choose any bank or banks to open your account(s). Initially, all entities will be given a total capital amount

of Rs 100,000/-. You can deposit this amount in your bank account(s). All financial transactions between entities must occur electronically via the bank account. A statement of the account should demonstrate all income and expenditures (it is advisable to keep a description field for each transaction to document the transaction information). A sample format for a bank statement of income/expenditure is shown below:

Account Number: 1001012030				
Name: British Airways				
Starting Balance: Rs 100,000.00				
TID	Date And Time	Type	Amount	Description
001	12/04/2006 10:00	Credit	Rs 40,000	Cash Deposit – Air Ticket
002	12/04/2006 10.01	Debit	Rs 2,000	Agent discount – Reservation No. #23002
...
Ending Balance: Rs 138,000.00				

A Passenger purchases an Air Tickets from an Agent. When the passenger purchases an air ticket he/she also books a hotel. This cash will be deposited into the Airline's bank account, hotel's bank account and credited from the Passenger's account. Agent will get a discount for each an every transaction made. The discount will be deposited into the Agent's bank account. Hence, all banks must provide an interface to deposit and credit cash to the account.

Each entity may publish their services as a web page in their web site with all policies and procedures on using them.

All services provided by each entity **MUST** be published as a Web Service.

Airline

The following are the ticket prices levied based on the Airline Type:

Type	Seats	Maximum Price per seat (Rs.)	Cost Price per seat (Rs.)
A	15	100,000	80,000
B	20	70,000	55,000
C	85	40,000	30,000

An air line **cannot** sell tickets more than the stated *Maximum Price*. **Incase there is more than one airline in the group you should select the airline by price.**

Hotel

The following are the prices levied based on the Room Type:

Type	Rooms	Maximum Price (Rs.)	Cost Price (Rs.)
BB	50	60,000	30,000
HB	30	30,000	25,000
FB	20	20,000	18,000

Hotel **cannot** sell rooms more than the stated *Maximum Price*. Incase there is more than one hotel in the group you should select the hotel by price.

Agent

The Agent can quote a discount for facilitating services. The cost for each successful transaction is 5% of the ticket price. This amount should be withdrawn from the bank account for each successful reservation.

Bank will levy a tax of 2% if the transaction exceeds 10,000.

Grading

The project will be marked based on:

- (i.) How well your group's entity provides the entity's functionality in the workflow? Interface design, functional workings etc. will be graded.
- (ii.) Each member's knowledge & contribution to the project.

DCBSD Project Registration

***Project ID :**

Names of the group members:

Student ID	Student Name	*Assigned Role	Signature

Batch:

WD	
WE	

***Date of Submission:**

Lecture in charge:

Yasas Jayaweera		
Name	Signature	Date

Fields (*Project ID & *Date of Submission) are to be allocated by the lecture in charge.

*** Assigned Role: The ideal size of a group is 4 members. If there are more than 4 members the other members are required to take up only the roles airline & hotel.**

Please return the completed registration form to lecturer in charge on or before 13th October 2012.