

Users select their  
destinations essay



**ASSIGN  
BUSTER**

GROUP ASSIGNMENT PARTStudy the following case study and answer all the tasks listed.

An automated ticket-issuing system sells rail tickets as you find in London underground and over ground railway stations. Users select their destinations and can be pay cash the exact amount or input a credit card and a personal identification number (PIN). The rail ticket is issued and their credit card account charged if the ticket was bought using a credit card.

When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination. Once a destination has been selected, users are requested to pay cash or input their credit card. In the last case, its validity is checked and the user is then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued.

ambiguities or omissions in the above scenario

An automatic ticket issuing system sells rail tickets. Users select their destination, and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged with its cost. When the user presses the start button, a menu display of potential destinations is activated along with a message to the user to select a destination. Once a destination has been selected, users are requested to input their credit card. Its validity is checked and the user is then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued.

Ambiguities and omissions include: Can a customer buy several tickets for the same destination together or must they be bought one at a time? Can customers cancel a request if a mistake has been made? How should the system respond if an invalid card is input? What happens if customers try to put their card in before selecting a destination (as they would in ATM machines)? Must the user press the start button again if they wish to buy another ticket to a different destination? Should the system only sell tickets between the station where the machine is situated and direct connections or should it include all possible destinations? What type of input device (touch screen vs. keyboard)? Ticket prices Room on train (assumes tickets have times on them) Train departure and arrival times. Do customers buy tickets for a specific train? Or for any trip along the route? (If the latter, then no way to tell if all the seats on a train are sold out, nor can you do seat assignments.) Seat assignments (see above) Print receipt? identified ambiguities in some appropriate way. Function - Give customer a rail ticket, and charge credit account or take cash from customer and give the customer, a rail ticket. Description - Determine customer's destination, calculate the charge for the trip, and charge the customer the appropriate amount. If charge is complete, print the ticket, otherwise, print no ticket, and report error to customer. Inputs - Destination, credit card number and PIN. Outputs - Tickets, error messages Action - Ask the customer for their destination, when input, calculate the total, and prompt to insert a credit card, prompt customer for PIN, prompt customer that the transaction is taking place, if successful print the ticket and return to start state, if unsuccessful, ask customer to swipe their card again and re-input the PIN. If unsuccessful again, prompt that the transaction has failed, and return to

start state. Requires – Destination, credit card number and PIN  
Pre-condition – None  
Post-condition – None  
Side effects – Charge to the customers' credit account  
user requirements definitions

The user requirements for a system should describe the functional and nonfunctional requirements so that they are understandable by system users without any technical knowledge.

When we write the user requirement we should not write with technical forms, table or diagrams. We should write in simple language with simple table, forms and diagrams.

The actors in the system are the passenger, the counter clerk and the reservation system consisting of form processing, reservation, fare computation, ticket processing, ticket printing, collection of fare amount and posting as sub-systems.

The passenger is a passive user-actor who initiates the process and obtains the ticket(s), a goal of measurable value. The counter clerk is an active user-actor, who triggers the system and has the role of issuing the tickets with the responsibility of collecting the correct fare amount from the passenger, which is a measurable value. Predesigned and deployed ticket reservation system at the back end is a system actor-user to ensure that ticket processing is done correctly and different system statuses are updated on issuing of tickets. This actor has an active role and responsibility at the back end.

system requirements specifications  
System requirements Specifications are specified using the standard way of these forms. Function: Issuing

TicketDescription: Issuing the ticket when the user select their desired tickets and make the correct payment. Inputs: Destination, child or Adult , Pay by card or cashOutput: Their desired ticket to be issued with their payment receiptRequires : MoneyPre- Condition: Ticket will be validate between the user current place and the selected destination, Otherwise user will have to pay the penalty fare. a sequence diagramScenario 1

This diagram shows about the user wants their ticket from the machine. It shows the interaction between user and ticket machine where user puts the requirement to the machine and the machine gives options back to the user.

#### Scenario 2

This diagram shows the user chose the station and the machine give option back to user needs to choose from following option for e. g return ticket which class user wants to travel.

After selecting options the user needs to pay for payment machine give option for eg cash or card. If the user choose card the ticket machine need to validate from card user.

#### Scenario 3

This diagram represents a sequence activity when user buy a ticket using credit or debit card. When the user insert the card. The card is validated with the card issuer the validation of the card is returned to machine which then displays the result to the user. If the card is valid then the user need to enter the pin. The validity of the pin is checked. If the pin is wrong user need to try

again. Once completed the user account is credited and the ticket along with the receipt to the user.

#### Non-functional requirements

The ticket system shall respond to user inputs to provide tickets and charge accounts in a timely manner. The system shall continue to function so long as roll of ticket paper is in the machine, and a network connection is provided for the destination database and credit transactions. Upon receipt of the destination from the user, the database shall be accessed to determine the distance from the unit's location, to the desired destination, and calculate the appropriate fee. The unit shall then prompt the user to input their card information, and the unit shall verify that the card is a credit card, is valid, and has sufficient credit to be charged. Upon successful verification, the unit shall print a ticket, and return to its ready state, for the next transaction to take place. The reliability this system relies on the durability of the physical user interface, the network connection in the area the system is placed, the size of the ticket rolls that the unit can accept, and the mechanism for dispensing the tickets. The estimated time for a complete transaction would be about thirty seconds, giving twenty for the user interactions, five for validation and verification of the users account, and five for printing and dispensing the ticket.

Use-cases Requirements validation process. Customer inserts her credit card into the ticket machine. card provider checks the card number. Then the machine asks for the pin-code. User enters the pin-code. Then the ticket machine requests database to validate the credit card. Ticket on processes.

customer can use the ticket finally. A semantic data model impacts if when the customer pays cash

As the sequence diagram shows, the customer goes to ticket machine, and he is allowed to not have exact amount, the machine will confirm the amount, go through the check process and issues the ticket with receipt.

References and Bibliography: Sommerville (2007), Computer Information Technology in Processors, 8th Edition, www.pearsoned.co.uk, Use Diagram (2010) Unified Approach and Unified Modeling Language. [Online]. Available from: <http://highered.mcgraw-hill.com/sites/dl/free/0070583714/214723/144USECASEDIAGRAM.pdf> [Accessed 13 Feb 2010]