| **Topic: Dhaka Metro Rail** | | |
| --- | --- | --- |
| **2030668** | **Mst. Shikha Khatun** | **User1: Passenger** |
| **User2: Station Master** |
| **2030155** | **Abu Sayed** | **User3: Accountant** |
| **User4: Project Director** |
| **1921532** | **Ishtiaq Hossen** | **User5: Administrator** |
| **User6: Head of security** |
| **2030543** | **Al Rawnak Shafin** | **User7: Driver** |
| **User8: Control Room Operator** |

**Possible event type:**

* UIE - - user input to trigger event
* UID - - user input to be considered as data
* OP – display content (output)
* PC – prerequisite check
* VL – validation check
* VR – verification check
* DP – fetching data from file system and process it to get some calculated outcome (data processing)

| **Signup & Login Process:** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | event-1 | User will see A scene divided by 2 part  Sign up and Log in . There 4 textfield,1 comboBox,2 buttons will appear. | | | OP |
|  | event-2 | For the sign up process users can see 1 textfield and 1 password field there,a comboBox to show userType. Users can sign up by clicking sign up . | | | UIE,UID |
|  | event-3 | For the login process users can give userID and password and select “ Login button”. Then it will verify the userID and password. If it is successful then it'll login to the application.  If the verification failed will give a notification that “Unauthorized User”. | | | UID, VL, VR, OP,DP |

| **Passenger:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-1, Goal-1** | **Description Goals-1: Passenger will be able to see route details or train information of their preferred train.** | | | | event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, the passenger dashboard scene will be loaded, else it will show unsucessful and give the message “Unauthorized User”. | | | OP, VL, VR |
|  | event-3 | Select the option for ” View Route details or train information” then it will take the user to a new scene. | | | UIE |
|  | event-4 | In this scene, users have to give a destination such as From Station ,TO Station select train from a comboBox after selecting, click the “search your preferred train” if the train is available then this button will take the user to a new scene. | | | UIE,UID |
|  | even-5 | In this scene, give a list or table which shows route details of all trains or information which train will go which station within how much time. | | | OP |
|  | event-6 | If a passenger can’t see the route details, then it will show”check your internet connection”else it will show the train information. | | | OP |
|  | event-7 | Click the back button to return to the dashboard or log out of the application. | | | UIE,OP |
|  | | | | | |
| **User-1, Goal-2** | **Description Goals-2: Ticket Purchase** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ” Process of Ticket Purchase” then it will take the user to a new scene. | | | UIE |
|  | even-4 | In the scene, users have to give a destination such as From ,TO then date of journey , choose class(what type of seat the user wants to purchase) then click “search train” this button so that the user can be sure the train is available or not on that day then if it is available then it will take the user to a new scene. | | | UID,UIE,VR |
|  | event-5 | Now users can able to see the train list if this train is available then select the train then it will take the user to a new scene. | | | OP |
|  | even-6 | In this scene,it will show how much the ticket was purchased by the user. It means show the seat list then select the seat, if the seats are available then the user can select the seat successfully. After that click “Continue purchase”.  Else it will show that the seat is not available. | | | UIE,OP |
|  | event-7 | Select the option”Payment method” then show how the user wants to pay by using mobile banking or card. Give phone number,password,cardNumber. When the users select any payment method after that they have to click proceed to payment. | | | UIE,OP,UID |
|  | event-8 | If password,phone Number, cardNumber of mobile banking or card is right then it will show “Successful” | | | UID, DP,VL, VR,OP |
|  | event-9 | Else it will show “Invaild”. | | | OP |
|  | Event-  10 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-3** | **Description Goals-3: The passenger will be able to recharge monthly rapid cards.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”Recharge” then it will take the user to a new scene. | | | UIE |
|  | event-4 | In this Scene, users give the rapid card number and password, phone number for recharge. If the card number and password is correct then it will go to the next step else it will show your password is “wrong and try again” | | | UID,UIE, VL, VR,OP |
|  | event-5 | When all information exists in the database then the user can show available money. After that click the button “Go to next page” and it will take a new scene. | | | DP, UIE,OP |
|  | event-6 | In this scene, Select the option”Recharge method” how the user wants to add money through mobile banking or card and also have to enter an amount. When we select any method after that we have to click add money. | | | UIE,OP,UID |
|  | event-7 | If password or any information of mobile banking or card is right then it will show “Successful” else it will show “Invalid”. | | | DP,VL,VR,  OP |
|  | event-8 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-4** | **Description Goals-4: Live Train Tracking** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option ”Live tracking” then it will take the user to a new scene. | | | UIE |
|  | event-4 | User give train ID and Name then click view live train | | | UID, UIE |
|  | event-5 | Firstly, check the train is available or not. If the train is available, then users can see the live train as a table which includes distance from the station and how much time to reach the station or they can see delay time in the next scene else it will give an error message”Train is not available”. | | | OP, VL,VR |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-5** | **Description Goals-5: Passengers can able to verify their ticket if they face any problem.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”Verify Ticket” then it will take the user to a new scene. | | | UIE |
|  | event-4 | In this scene the user gives the ticket Number and select the radio button from where they bought the ticket(through online or counter) then clicks for verify. | | | UID,UIE |
|  | event-5 | If the ticket number is matched then it will show “Verified Successful” else “Your ticket number is wrong”. | | | VL,VR,OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-6** | **Description Goals-6: Any Foreigner can take MR Services** | | | |  |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ” MRT services for Foreigner” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Enterpassport number, name and password” then click the button to verify, if it is a valid passport number then it will take the user into the next scene. | | | UID,VL,VR,  UIE |
|  | event-5 | In this scene, users will be able to recharge monthly rapid cards. For this service they have to enter their credit card number, password and amount then click “Recharge”. | | | UIE,UID |
|  | event-6 | If all information(password and credit card number) is right then it will show “Successful” now he/she can buy a ticket online. else it will show “Not a valid passport number” or “enter a valid passport number”. | | | OP,VL,VR |
|  | event-7 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-7** | **Description Goals-7: MR Card check so that the passenger can understand ,the MRT card is active or inactive.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”Check MRT Card” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Enter MRT card number phone number then click the “Check active or inactive” option. | | | UID,UIE |
|  | event-5 | If it is matched to the given card number and phone number then will be shown verified successfully and show that “Card is active” else it will show “Invaild”. | | | VL,VR,OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-1, Goal-8** | **Description Goals-8: If Customers face any illegal issues or lost , they can tell their Complaint or queries.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for “Complaint and queries” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Then write name, mail, select option catagories(ComboBox) what types of queries the passenger wants to tell authority. | | | UIE,UID |
|  | event-5 | Then write the comment about their issues then click the submit button. | | | UID,UIE |
|  | event-6 | If it is sumbmitted, It will show “Submitted your “queries” else “Check your Internet Connection”. | | | OP |
|  | event-**7** | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |

| **Station Master:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-2, Goal-1** | **Description Goals-1: Station master will make a decision which train will pass first from the station.** | | | | event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option ”Check time sheduals for passing trains of the paltform ” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Firstly, the station master will check the line(time table). The train line is clear and there is no time clashing with another train at the same time, the station master gives a message to the driver “We can pass the platform, line is clear.  Else give a message “You have to wait sometimes because the line is not clear another train is coming soon”. | | | VL,VR,OP, UIE |
|  | event-5 | Click submit button  If it is sent, then it will show “Submitted” else ”Try again”. | | | UIE,OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-2** | **Description Goals-2:**  **Alert all peoples through signals before the train arrives at station all lamps,light will be on.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select “signal option” this will take the user to a new scene. | | | UIE |
|  | event-4 | When the train comes to the station, the driver will give a message before 0.5km then the station master gives signals at the station through light lamps etc.  If our train is 0.5km away then the station master select a radio button “ all light and lamps will be open in this area”so that everybody can knows our trains is coming” | | | UIE,VL,VR,  PC,OP |
|  | event-5 | Now click “Submit” button if it is submitted, it will show “Successful” else “Invaild” | | | UIE, OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-3** | **Description Goals-3: If any passenger incidentally becomes sick and in serious conditions. Then the Station master can help to provides health related services through calling health care center** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ” contact to near health care center” then it will take the user to a new scene. | | | UIE |
|  | event-4 | He will be able to see a list of health care centers then select the name of the nearby health care center.In this scene, select the option “direct call or Email(send mail or text if the situation is not very serious but need some information)” then click “next” and will take a new scene. | | | OP,UIE |
|  | event-5 | In this scene,If he/she wants to message or email to the health care center (depend on the situation) then write a text then click the text field then press submit button  else click the“Call” button for an ambulance or anything. | | | UID,UIE |
|  | event-6 | If message is submitted, then show “Successful”  else “”. Check your internet connection” | | | OP |
|  | event-7 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-4** | **Description Goals-4: Handle unexpected situations like any problem in that MR line near to the station.** | | | |  |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message” Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ” unexpected situations contact with control room” then it will take the user to a new scene. | | | UIE |
|  | event-4 | If the engine is damaged before crossing the train on the platform or any problem near to the station, then the driver provides a notification to the station master with this message saved in the label. | | | OP |
|  | event-5 | If the station master handles it then there is no need to contact the control room, else contact the control room to give a message through clicking the “text”button. | | | UIE |
|  | event-6 | After write the all issues in that scene then click” Submit” button | | | UID, UIE |
|  | event-7 | Confirmation message” Sent Successfully “. | | | OP |
|  | event-**n** | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2**  **Goals-5** |  | **Station master can manage station employees** | | |  |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”select employee” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Users will see a table of employees list and click save button then click “Go to next scene”. | | | OP,UIE |
|  | event-5 | In this scene, users can show in the label the selected employee,then assign the employee and after that click on the submit button. | | | UIE,OP |
|  | event-6 | If it is submitted , it shows “Successful” else “something is wrong”. | | | OP |
|  | even-7 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-6** | **Description Goals-6: If any necessary things or parcels come from one station to another station then the station master will receive it.** | | | | event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”Parcel receiving” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Firstly check the parcelId and date then click the next button. If id and date is matched then go to the next scene. | | | UIE,VR |
|  | event-5 | In this scene shows, If station master receive the parcel then he click the radio option “Your parcel is recevied” else “ can’t receive for unavoidable reasons” then press the submit | | | UIE,OP |
|  | event-6 | If it is submitted , it shows “Successful” else “something is wrong”. | | | OP |
|  | event-7 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-7** | **Description Goals-7: The station master can receive the report to other users.** | | | | Event type |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ”Check all reports” then it will take the user to a new scene. | | | UIE |
|  | event-4 | Check If any users send any report to the station master, then the station master receives it by clicking the radio button and writes in the text field as a feedback (like what will be the direction or alternative way or how to overcome the problems). | | | UIE, UID |
|  | event-5 | Click confirm button  If it is confirmed then show”successful else “something is wrong”. | | | UIE, OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |
|  | | | | | |
| **User-2, Goal-8** | **Description Goals-8: Station master announces all nesessary things in the station about the train like which train stops which platform. So this type of message will be given to the monitor in that particular station.** | | | |  |
| Workflow: | event-1 | Login process will be first executed | | | UID, VL, VR |
|  | event-2 | If login is successful, passenger dashboard scene will be loaded else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Select the option for ” announcements to passengers” then it will take the user to a new scene. | | | UIE |
|  | event-4 | 5 mintues ago, Give notification or message in the station through the monitor. The station master click text field section to write train details such as write which train will come first and give platform number, train number, train id, arrive time click “Submit “ button | | | PC,UIE,UID |
|  | event-5 | If it is submitted , it shows “Successful”. After that is successfully done then it will show in the monitor screen and passengers can see about their desirable train details. else “Please try again” | | | OP |
|  | event-6 | Click the back button to return to the dashboard or log out of the application. | | | UIE, OP |

| **Accountant:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-3, Goal-1** | **Keep Financial Records:** We need good records to prepare accurate financial statements | | | | event type |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful,, dashboard will show a new scene for keeping financial records else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | After clicking “Financial Record”, the Identify transactions option will be displayed | | | UIE, OP |
|  | event-4 | Click on “Identify” for identifying the transactions. | | | UIE |
|  | event-5 | When transactions are officially recorded then two options will be displayed such as accrual accounting and cash accounting | | | OP |
|  | event-6 | If we select the first options then it will do the matching of revenues with expenses | | | VL,VR |
|  | event-7 | If we select the second option then it will do the transaction record when cash is either received or paid | | | VL,VR |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-2** | **Minimize cost:** It meansa plan to cut expenses in order to improve profits or cash flows. | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for cost minimization else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Take input the whole budget. | | | UIE,UID |
|  | event-4 | Take all the cost of the product as input. | | | UIE,UID |
|  | event-5 | Sum all the costs. | | | DP |
|  | event-6 | Subtract all the cost from whole budget | | | DP |
|  | event-7 | If subtract is positive then show “Successful”  else minimize the cost of all products | | | OP |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-3** | **Managing documents:** It is the process of recording the key project details and producing the documents that are required to implement it successfully | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for managing documents else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Take overall target dates and schedules for completing project tasks | | | UIE,UID |
|  | event-4 | Save overall spending levels and the funds available for elements. | | | DP |
|  | event-5 | Calculate the total number of staff members. | | | DP |
|  | event-6 | Identify results and key points. | | | PC,VR,VL |
|  | event-7 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-4** | **Account issue:** The work to balance an account involves finding out what the problem is and then resolving it | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for accounting issue else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Identifying the problems | | | VL,VR,DP |
|  | event-4 | Check if the user paid an extra amount or not. | | | DP,VL,VR |
|  | event-5 | If yes then the “Money back” button option will be shown. After clicking this option, a new scene will be displayed where user have to give the Bkash number as input so that the user will get the extra amount via bkash number. Else go to event-6 | | | UIE,OP |
|  | event-6 | Regular check all transactions. | | | VL,VR |
|  | event-7 | Tap the back button to return to the main dashboard or Log out from the application | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-5** | **Giving salaries:** A consistent payment to an employee based on working position | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for creating strategies else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | After login, payment option as “User” will be displayed for giving salary to employee | | | UIE,OP |
|  | event-4 | If user click “User” option then passenger’s account number will be shown | | | UIE,OP |
|  | event-5 | Then user press all the other users name one by one | | | UIE,OP |
|  | event-6 | If user press “Salary”, then user will see the whole list of other users | | | UIE,OP |
|  | event-7 | Then payment will be done by online banking | | | DP |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application | | | UIE, OP |
|  | | | | | |
| **User-3, Goal-6** | **Ensuring steady cash flow :** It ensure us always have enough money available to pay expenses and reinvest for growth | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for ensuring steady cash flow else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Click on “Net Flow” to Take the Beginning Cash and Projected Inflows and Projected Outflows | | | DP,UID |
|  | event-4 | Calculate net cash flow, simply adding the Beginning Cash and Projected Inflows then subtract the Projected Outflows | | | DP |
|  | event-5 | Determining the ending balance. This value shows the total amount of cash gained on cost during the reporting period | | | DP |
|  | event-6 | Tap the back button to return to the main dashboard or Log out from the application | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-7** | **Making financial forecasts:** It’s a forecast of future revenues and expenses | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  |  | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-2 | After clicking on “Forecast”, two option will be displayed such as Route details and researched-based forecasting | | | DP,UIE |
|  | event-3 | If we click on “Route” it will give a new scene of  Route details. | | | UIE |
|  | event-4 | If we click on “Economical” it will give a new scene of how our industry has performed over the past years, investigate new technologies and consumer trends | | | UIE |
|  | event-5 | Document and monitor results | | | VL,VR,OP |
|  | event-6 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-3, Goal-8** | **Producing accurate financial reports and information:** These are official documents that showcase all the financial activities and performance | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Show “Account Receivable”, “Account Payable”, “Payroll” option in this scene | | | OP |
|  | event-4 | Click on “Account Receivable” for receiving the cash from passengers for tickets sold. | | | UIE |
|  | event-5 | Ensuring passengers receive an invoice for service | | | VL,VR |
|  | event-6 | Click on “Account Payable” for paying vendors for supplies purchased or any other expense:Utilities, taxes etc. | | | UIE |
|  | event-7 | Click on “Payroll” for ensuring employees are paid timely on a regular schedule. | | | UIE |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |

| **Project Director:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-4, Goal-1** | **Monitoring and Controlling:** It’s a process of measuring performance and taking corrective action to assure that the business is on track to meet its goals. | | | | event type |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful,, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Click on “Set Goal” to set goals & priorities for the projects | | | UIE |
|  | event-4 | User will have the access of other goal, so that user check those on regular basis | | | VL,VR |
|  | event-5 | If user is notified from user 8 for emergency protocol system then check all event | | | OP |
|  | event-6 | After checking if any issue found then press “Call” to call the user and help them to solve the problem | | | UIE |
|  | event-7 | overseeing finance and ensuring project quality | | | VL,VR |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-2** | **Meeting with clients:** It involve communicating with user, discussing issues, creating proposals and approving or rejecting offers | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Click on “Meeting” | | | UIE |
|  | event-4 | All the user name and email will be showed | | | OP |
|  | event-5 | Search meet link on google to get a meet link | | | DP |
|  | event-6 | Click “Send” to mail them the link and time | | | UIE |
|  | event-7 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-3** | **Creating budget:** It is the process of creating a plan to spend our money on project | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Take all the cost list as a input | | | UIE,UID |
|  | event-4 | Do sum | | | DP |
|  | event-5 | Check again on all the cost | | | VL,VR |
|  | event-6 | If any amount is missed then go to event-3 and add them on list | | | UIE,UID |
|  | event-7 | Change the amount cost of any product if needed | | | UID |
|  | event-8 | Then sum again | | | DP |
|  | event-9 | Else nothing will be changed | | | OP |
|  | event-10 | After calculating the sum, output will be the budget | | | DP,OP |
|  | event-11 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-4** | **Progress Tracking:** It refers to a real-time visual representation of the status of a project | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | Do list each of our goals in the box | | | UIE,UID |
|  | event-4 | Besides “Deadline” box will be given | | | OP |
|  | event-5 | Assign reasonable deadlines to our goals in the “Deadline box” | | | UIE |
|  | event-6 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-5** | **Reporting and issue management :** It’s to identify and document these issues and to resolve them by reviewing and carefully considering all relevant information | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message Unauthorized User | | | OP, VL, VR |
|  | event-3 | Identifying issue and collecting them in a document | | | PC,VL,VR |
|  | event-4 | Reporting promptly to get better resolve | | | VL |
|  | event-5 | Monitor the progress | | | PC, VL,VR |
|  | event-6 | Issue are double checked after they are marked as resolved | | | VL,VR |
|  | event-7 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-6** | **Communication and stakeholder engagement:** It is the process by which companies communicate and get to know their stakeholders | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | In this scene, click “Info” to get email and e-newsletters | | | UIE,OP, DP |
|  | event-4 | Click “phone” to get phone number and call them | | | UIE,DP |
|  | event-5 | Else press “Video Call” group video call | | | UIE |
|  | event-6 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-7** | **Analyzing and managing risk :** It is the ability to analyze, review, and optimize complexity | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | If any technical problem happens then click on “Technical” | | | UIE |
|  | event-4 | After clicking “Technical”, a new page will be open where all the technical solutions are given | | | OP,DP |
|  | event-5 | If any external problem happens then click on “External” | | | UIE |
|  | event-6 | After clicking “External”, a new page will be open where all the external solution given | | | OP |
|  | event-7 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |
|  | | | | | |
| **User-4, Goal-8** | **Manage resources:** It is the process of planning, scheduling and allocating resources to complete a project | | | |  |
| Workflow: | event-1 | Login Process | | | UID,VL, VR |
|  | event-2 | If login is successful, dashboard will show a new scene for else it will show unsucessful and give message “Unauthorized User” | | | OP, VL, VR |
|  | event-3 | If we click “Manage Resources” then new page will be created | | | UIE,OP |
|  | event-4 | In that page 3 options will be displayed: “Resource Allocation”, “Resource Aggregation”, “Resource Scheduling” | | | OP |
|  | event-5 | If we click “Resource Allocation” then helps us identify the types and amounts of resources needed to fulfill any work | | | UIE,DP |
|  | event-6 | If we click “Resource Aggregation” then shows the consumed amount of resources on a daily, weekly or monthly basis | | | UIE,OP |
|  | event-7 | If we click “Resource Scheduling” then it helps to ensure the efficient use and utilization of the resources, see possible problems and conflicts, better future planning | | | UIE,UID |
|  | event-8 | Tap the back button to return to the main dashboard or Log out from the application. | | | UIE,OP |

| **Administrator :** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-5, Goal-1** | **Seat Management :** **Checking how many seats are remaining and according to that offers a discount for remaining seats .** | | | | event type |
| Workflow: | event-1 | Log in process executed | | | UID,VL,UIE |
|  | event-2 | If the log in process is successful, the dashboard will appear. | | | OP,VL,VR |
|  | event-3 | Else goto event 1. | | | PC |
|  | event-4 | Select “Seat” from the navigation. | | | UIE |
|  | event-5 | After clicking on passenger ,a label will show up, it will show how many seats are booked,unbooked. | | | OP |
|  | event-6 | If there is any remaining seats ,a text field will be on bottom that will take the input percentage of discount for remaining seats . | | | UID,UIE,PC |
|  | event-7 | Else the label will show a message. | | | PC,OP |
|  | event-8 | After giving input we need to click the save button to save all the information according to seats . If the user doesn't find any text field,then there is no need to click the save button. | | | UIE |
|  | event-9 | If user want to to go dashboard click on dashboard | | | UIE |
|  | event-10 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-2** | **Train Selection:** See how many trains are in the list with their ID,and assign them at a particular station. | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Select “Train” from the navigation. | | | UIE |
|  | event-2 | It will show all the train IDs that are free, 1 textfield for taking train ID,and a comboBox for Station name will be there to take input.A button to assign them at a particular station . | | | OP |
|  | event-3 | A label will show which station needs a train immediately this information will be taken from the station master. | | | OP |
|  | event-4 | If label shows no need for a train,then user don’t need to assign any train. | | | OP |
|  | event-5 | Else user will give ID & Station name at text field. Id must be in the list .Otherwise it will show an alert. | | | PC,UID |
|  | event-6 | After Giving input users need to click assign ,so that train will assign at a particular station. | | | UIE |
|  | event-7 | If user wants to go dashboard click on dashboard | | | UIE |
|  | event-8 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-3** | **Seeing Staff details & Verify :** **It will help authority to see staff details in need & verify a stuff to reduce any negative occurrence.** | | | |  |
| Workflow: (event-1,2,3)from goal 1. | event-1 | Select “Staff Details” from the navigation panel. | | | UIE |
|  | event-2 | 2 button will appear 1 button named as Verify a staff and another one named as See staff details. | | | OP |
|  | event-3 | If user select “Verify a staff” user will see a textfield,a comboBox,and a button. | | | UIE,OP |
|  | event-4 | User need to give staff id at text field and select the staff type from the comboBox .After that user need to click on verify button. | | | UIE,UID |
|  | event-5 | If user id is in the database show a label with text Verified. Else User will see a label with text “Unauthorized access”. | | | VR,DP,OP |
|  | event-6 | If User click on “See staff details” button user will see a text field,a comboBox,a button for search. | | | UIE,OP |
|  | event-7 | User need to give staff id,select staff type and click on staff details. | | | UIE,UID |
|  | event-8 | If user id isn’t in the database show a label with text invalid user ID. | | | VR,DP,OP |
|  | event-9 | Else show the staff name,id,dob,designation etc | | | VR,DP,OP |
|  | event- 10 | If user click on dashboard goto there | | | UIE |
|  | event- 11 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-4** | **Route Selection: Selecting route for a train,active any route or cancel any route due to emergency .** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Select “Route” from navigation panel. | | | UIE |
|  | event-2 | It will show how many route are there,how many are active and non-active. A button will show beside every route to enable & disable a route.A label to show notice & recommendation to active and deactivate a route,by giving input in the textfield. | | | OP |
|  | event-3 | If user see any notice to disable a route for emergency ,he need to disable that route. | | | UID,OP |
|  | event-4 | Else user see any route is disable without any reason ,he need to enable that route. | | | UID,OP |
|  | event-5 | After enabling/disabling user need to click save button the save the whole process. | | |  |
|  | event-6 | If user wants to go dashboard click on dashboard | | | UIE |
|  | event-7 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-5** | **Direction:** **Set tasks to MRT different departments to work within a good management.** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Select “Direction” from the navigation panel. | | | UIE,OP |
|  | event-2 | User will show some department name .There will be a text label that will show those department previous tasks and is it complete or not. Beside that label there will be a text field too, that takes a new task name and a date box to finish the task.A text field to give suggestions to that department. Giving rating to each of the previous task.A save button.A send email button. | | | UIE,OP |
|  | event-3 | After seeing that scene, the user will analyze which department need more time and suggestion. | | | UID |
|  | event-4 | If any department finishes their work on time,set a new task,date and give rating. | | | PC,UID |
|  | event-5 | After giving all the input user need to click on save button so save the operation | | | UIE |
|  | event-6 | After saving, user needs to click the send email button to send notification to the respective department. | | | UIE |
|  | event-7 | If user click on dashboard goto there | | | UIE |
|  | event-8 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-6** | **Training:** **Arranging workshop,training, & see progress rate of improvement.** | | | |  |
| Workflow: (event-1,2,3) from goal 1. | event-1 | Select “Training” from the navigation panel. | | | UIE,OP |
|  | event-2 | It will show progress rate of service work [Ticket selling ratio from accountant,journey rate from passenger, train delay rate from station master etc]. A label that will show if any department needs any support. A text field for setting name for workshop and training or giving info as support.A comboBox for selecting workshop,training,support. A datebox for starting & end date. A button for sending email to all staff. A save button to save the operation. | | | UIE,OP,UID |
|  | event-3 | After analyzing, the user will set a name for workshop or training or support. User also need to save the date of start & end . | | | UIE,UID |
|  | event-4 | After giving all input user need to select save the operation . | | | UIE |
|  | event-5 | After saving, users need to click the send mail button to send email about training or workshop to all the staff. | | | UIE |
|  | event-6 | If user click on dashboard goto there | | | UIE |
|  | event-7 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-7** | **Managing metro card: It will issue MRT card so that passenger can visit through metro card without any hassle.** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Select “Metro Card” from the navigation panel. | | | UIE,OP |
|  | event-3 | User will see a label that how many mrt card need to issue, a text field, a comboBox ,a table,a button. | | | UIE,OP |
|  | event-4 | User need to give integer input for the new user. After that user need to click on update button. | | | UIE,UID,DP |
|  | event-5 | When user click on update button,table will show the total data how many mrt card issued at present time. | | | OP |
|  | event-9 | If user click on dashboard goto there | | | UIE |
|  | event- 10 | Else logout | | | UIE,OP |
|  | | | | | |
| **User-5, Goal-8** | **Maintaining Database & Operations: Data verification, Handling, maintaining data,data searching etc.** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Selecting “Database” from the navigation panel. | | | UIE,OP |
|  | event-2 | User will see “Data verification” ,”Search data” ,”Data entry” buttons there. | | | OP |
|  | event-3 | If user press Data verification button ,the user will see the maintenance report(Control room operator),annual budget report (accountant) and beside each label there will be a couple of buttons to verify & recheck. | | | OP |
|  | event-4 | User need to click on the verify or recheck button,after that user needs to click on save button. | | | UID,UIE |
|  | event-5 | If user click on “Search data” at event-2 ,user will see a comboBox,a text field, a button & a label. | | | OP |
|  | event-6 | User need to select what kind of data the user needs, at the text field the user needs to give data and click on the search button.If data is in the database, label will show data found, else label will show data not found. | | | UIE,UID,VR,DP |
|  | event-7 | If the user presses “Data entry” user will see a comboBox, a textfield,2 buttons. | | | OP |
|  | event-8 | User need to select which kind of data user want to input,then user needs to give input at the textfield,after that user needs to click on enter button. After giving all input user need to click on save button to save the operation. | | | UIE,UID |
|  | event-9 | If user wants to go dashboard click on dashboard | | | UIE |
|  | event-7 | Else logout | | | UIE,OP |

| **Head of security:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-6, Goal-1** | **Rules & Regulation controlling:** **Station rules and regulation change,create so that passenger satisfy with the security service.** | | | | event type |
| Workflow: | event-1 | Log in process executed | | | UID, VL, VR |
|  | event-2 | If it was successful show dashboard | | | OP, VL, VR,DP |
|  | event-3 | Else go to event 1 | | | PC |
|  | event-4 | Select “Rules & Regulation” from the navigation panel. | | | UIE, OP |
|  | event-5 | User will see 3 button named as “Show rules & regulations” , “Change Rules” and “Create rules”. | | | OP |
|  | event-6 | If user click on ‘Show rules’ user will a comboBox and a button to show. | | | UIE, OP |
|  | event-7 | User need to select department and click on show button so that user will see the rules and regulation. | | | UIE,OP |
|  | event-8 | If user click on “Change rules” at event 5 he will see a textfield,a comboBox and a change button. | | | UIE,OP |
|  | event-9 | User need to give rules no,department and need to click on change button so that the rules will be changed. | | | UIE,UID,OP |
|  | event-10 | If user click on “Create rules” at event 5 he will see a text box a comboBox and a create button. | | | UIE,OP |
|  | event-11 | User need to put rules text at text field, and need to select department and click on create so the rules will add. | | | UIE,UID,OP |
|  | event-7 | If user wants to go dashboard click on it | | | UIE |
|  | event-8 | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-2** | **Recruit security personnel : User can recruit good security officer & train them by using this goal.** | | | |  |
| Workflow: (event-1,2,3) from goal 1. | event-1 | Select “Recruit security” from the navigation panel. | | | UIE |
|  | event-2 | User will see a label, a textfield,a button, a comboBox. | | | OP |
|  | event-3 | In label user will see how many applicant are suitable for this position, user need to select station and need to give data in text field also user need to click on save button. | | | UIE,UID,OP |
|  | event-4 | If user wants to go dashboard click on it | | | UIE |
|  | event-**5** | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-3** | **MRT Police Management: Metro rail will have own security force ,user can manage all the police under his supervision.** | | | |  |
| Workflow: (event-1,2,3)from goal 1 | event-1 | Select “Police Management” from the navigation panel. | | | UIE, OP |
|  | event-2 | User will see department wise police number allocated in a label, a change button, a comboBox and a textfield. | | | OP |
|  | event-3 | User need to select ComboBox and need to type police number to assign. | | | UIE,UID |
|  | event-4 | If user click invalid number show error message. | | | DP,PC |
|  | event-5 | If user wants to go dashboard click on it | | | UIE |
|  | event-6 | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-4** | **Verifying visitors:** **MRT security force can verify visitors through a unique id,so that any criminal can’t enter the MRT station.** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Click on “Verify visitors” from the navigation panel. | | | UIE |
|  | event-2 | User will see a text field and a verify button. | | | OP |
|  | event-3 | User need to put MRT card number and click on the verify button. | | | UIE,UID |
|  | event-4 | If MRT card no is in the database user will see a label “verified” else user will see “Unauthorized”. | | | VR,OP |
|  | event-5 | If user wants to go dashboard click on it . | | | UIE |
|  | event-6 | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-5** | **Lost & found:** **Passenger can give application to the Security dept and head of security can resolve passenger lost and found issue.** | | | |  |
| Workflow: (event-1,2,3) from goal 1 | event-1 | Select “Lost & found” the navigation panel. | | | UIE |
|  | event-2 | User will see a label,with what things lost from the passenger with station name,a label what things found at the station .1 comboBox ,a textfield and 2 button. | | | OP |
|  | event-3 | After seeing what lost ,if lost matches with found ,user need to select station and click on transfer. | | | OP, UIE, VR,DP |
|  | event-4 | If lost thing isn’t similar with found ,user need put a text message that security is working on it and click on send button. | | | UID,UIE,VR,DP |
|  | event-8 | If user wants to go dashboard click on it | | | UIE |
|  | event-9 | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-6** | **Emergency situation handling: If any emergency occurrence happened user can handle it by using this goal.** | | | |  |
| Workflow: (event-1,2,3) | event-1 | Select “Emergency” from the navigation panel. | | | UIE, OP |
|  | event-2 | User will see 2 comboBox,a textfield ,and 2 button. | | | OP |
|  | event-3 | User can select notice source to see any message are there or not.User can select nearest police station and inform them by clicking the Inform button,” | | | UIE |
|  | event-5 | User can Inform all the security guard by clicking on inform all security. | | | UIE |
|  | event-4 | If user wants to go dashboard click on it | | | UIE |
|  | event-5 | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-7** | **Planning and implementing security strategy: User can set security planning for future implementation, so that security work can be done efficiently .** | | | |  |
| Workflow: (event-1,2,3) from goal 1. | event-1 | Select “Plan & Implement” from the navigation panel. | | | UIE |
|  | event-2 | User will see a label,2 comboBox,a textfield an add button. | | | OP |
|  | event-3 | By selecting a comBobox item user will see all the strategic plan. | | | OP, UIE |
|  | event-4 | By selecting another comboBox for selecting dept and giving input for new strategy user can create a new strategic plan for the department | | | UIE,UID |
|  | event-4 | If user wants to go dashboard click on it | | | UIE |
|  | event-**5** | Else log out | | | UIE, OP |
|  | | | | | |
| **User-6, Goal-8** | **Monitoring & surveillance: Taking inquiries from passenger & taking action on it.** | | | |  |
| Workflow: (event-1,2,3) | event-1 | Select “Monitoring & surveillance” from the navigation panel. | | | UIE |
|  | event-2 | User will see a label where complain will show. A comboBox ,a textfield,2 button. | | | OP |
|  | event-3 | User need to select item from the comboBox (station name), put text to take initiative and a next button. | | | UIE, UID |
|  | event-4 | User will see a label that if user need to send any extra police to any particular station.a text field, and a button. | | | OP |
|  | event-4 | User need to put police no,need to select station and and need to click send button. | | | UID,UIE |
|  | event-5 | If user wants to go dashboard click on it | | | UIE |
|  | event-6 | Else log out | | | UIE, OP |

| **Driver:** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-7, Goal-1** | **Check controls and equipment before starting:** Before the train starts the whole process and electrical components will be checked properly in this goal. | | | | event type |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will show a button for check up metro train controls before starting.** | | | **OP** |
|  | event-3 | **Tapping the button will have an auto quick checkup of controls and electrical components inside the metro train.** | | | **VL,UIE** |
|  | event-4 | **If no problems are found then the train will progress to startup with a confirmation button.** | | | **VR,OP** |
|  | event-**5** | **Else problems will be shown in detail and have options to send critical information text to CRO/control room for overall checkup and problem solving.** | | | **VL,VR,OP** |
|  | event-6 | **Feedback will be recieved from CRO/Control Room if the problem is solved.** | | | **UIE** |
|  | event-7 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-2** | **Metro Rail Monitoring and Controlling(Speed maintaining/Heat maintaining ):** Overall heat and speed restrictions will be followed and solved if any exceedings in this goal. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will show full monitoring and controlling buttons with optional buttons speed maintaining and heat measuring.** | | | **OP** |
|  | event-3 | **If the speed and heat maintaining button is tapped then present speed will be shown and check if its within the restricted speed limit also engine heat will be measured with detailed view .** | | | **UIE,VL,**  **VR** |
|  | event-4 | **Else the speed limit and engine heating exceeds,it will be monitored and a report feedback will be sent from CRO/Control Room and Speed Limit/ Heat Exceeding Warning will be shown.** | | | **VL,VR,OP** |
|  | event-5 | **Then manually speed limiting and overheat consuming option will be provided as slider button and a progress bar on top for speed/heat level.** | | | **OP,UIE,DP** |
|  | event-6 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-3** | **Destination Updates:** Drivers and passengers will continuously be updated with incoming and surpassed stations , also Control Room Operator and station masters will be notified in this goal. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard shows all upcoming stations and passed stations.** | | | **OP** |
|  | event-3 | **Stations will be shown as check boxes or buttons, which will be checked or unchecked every time a station will be passed accordingly.** | | | **UIE,DP,OP,**  **VL,VR** |
|  | event-4 | **Pressing the buttons or checking the checkboxes will also continuously send reports to the Control Room Operator (CRO) and station masters.** | | | **VL,VR,PC** |
|  | event-5 | **Pressing the buttons or checking the boxes will also keep passengers updated in the notification panel or dashboard panel inside coaches.** | | | **OP** |
|  | event-8 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-4** | **Engine Power Status:** Critical metro train engine processes of power management will be handled here. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will show the overall engine status of metro rail, metro rails power distribution will be shown here and checked if everything runs perfectly “Engine Is Running Perfectly”.** | | | **OP,VL,VR** |
|  | event-3 | **If any unusual engine issues are found then it will pop up as “Error found”.** | | | **VL,OP** |
|  | event-4 | **There will be a button for resolving the unusual error automatically.** | | | **OP** |
|  | event-5 | **Pressing the button will show “Engine check complete and resolved”.** | | | **UIE** |
|  | event-6 | **Power breakdown will cause engine stoppage automatically which will also pop as warning**  **“Warning: Engine power breakdown”.** | | | **OP, VL** |
|  | event-7 | **There will be button for turning on backup power supply.** | | | **OP** |
|  | event-8 | **If tapped the backup power supply will be turned on and the Control Room Operator will be informed “Backup Power Turned on for train number-x and by driver-y”. Then it returns to event-2.** | | | **UIE** |
|  | event-9 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-5** | **Follow track and track signaling:** This goal will show overall track management and check if it's followed by the train or not. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will keep showing if the train is on right track and if the track signals are being followed.** | | | **OP,DP,VL,**  **VR** |
|  | event-3 | **If track signals or tracks are followed then the dashboard will show “On right track and signals are being followed”.** | | | **VL,OP** |
|  | event-4 | **Else shows “Wrong track / Signals denied”.** | | | **OP** |
|  | event-**5** | **Button will be provided as “Return to track/Maintain signals” for resolving the issue.** | | | **OP** |
|  | event-6 | **If pressed then it will resolve everything automatically and show “Resolved” which also returns dashboard and to event-3.** | | | **UIE,PC** |
|  | event-7 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-6** | **Emergency Status followed by emergency protocol system:** This goal works as main emergency management inside all metro trains. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard shows all emergency status of whole metro rail project.** | | | **OP,DP** |
|  | event-3 | **If emergency situations occur, popup will be viewed**  **“Emergency situation occurred**  **Reason of emergency: x**  **Emergency situation occurred on train/station: y”** | | | **OP,PC,VL,**  **VR** |
|  | event-4 | **Dashboard will also show sent warning status from Control Room Operator if any kind of emergency issues occurred inside a specific train and coach.(Works like notification panel)** | | | **OP** |
|  | event-**5** | **If emergency warning status is received then the train will stop at a nearby station and the driver will give an announcement inside the metro train.** | | | **VL,VR** |
|  | event-6 | **Else critical warning showed from Control Room Operator then train will be stopped immediately by pressing the button that will be made for executing this task.** | | | **UIE,VL,VR** |
|  | event-7 | **Pressing the button will also announce inside metro rail “Immediate evacuation” and the announcement will be sent to the Head of security and Emergency Protocol System will trigger all the nearby emergency stations (Fire,Police,Hospital).** | | | **UIE,PC** |
|  | event-8 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-7** | **Control Room Communication regarding train operations and other alerts:** The whole communication between CRO/control room and driver will be done. | | | |  |
| Workflow: | event-1 | **Log in process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will show Control Room and CRO orders including important notice/notifications bar.(Which station to stop or when to start at e.t.c)** | | | **OP,DP** |
|  | event-3 | **Dashboard shows button for accepting given orders/ proceeding.** | | | **OP** |
|  | event-4 | **Tapping the button will send confirmation to the CRO / Control Room.** | | | **UIE** |
|  | event-5 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-7, Goal-8** | **Make passenger announcements:** Passengers will be reminded of their location, station arrival and stoppage times through this goal operated by drivers. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **Dashboard will show current and upcoming locations and buttons to notify passengers on screens inside the metro coaches.** | | | **OP** |
|  | event-3 | **Pressing the button will show an optional button to let passengers view current time, time traveled , destination to destination status, time for closing the coach doors on the coach screens.** | | | **OP,DP** |
|  | event-4 | **the dashboard button will show a optional button for making an announcement upon each station arrival .** | | | **OP** |
|  | event-**5** | **Pressing the button will make announcement inside the coaches.( emergency announcement will also be also available with separate button)** | | | **UIE,DP** |
|  | event-6 | **Dashboard button shows optional button for gate opening or closing .(Includes both platform and coach doors)** | | | **OP** |
|  | event-7 | **Pressing the button will close or open doors, if the platform door and coach door match, else the train will get into position with the platform doors automatically.** | | | **UIE,OP,**  **VL,VR** |
|  | event-8 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |

| **Control Room Operator(CRO):** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **User-8, Goal-1** | **Dhaka Metro Rail Power Supply Management :** Controlling the whole power supply distribution of Metro Rail project and its infrastructures. | | | | event type |
| Workflow: | event-1 | **Login process.** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After log in, the dashboard will be displayed.** | | | **OP** |
|  | event-3 | **Option with button will be shown on dashboard ,Select stations to check power distribution.** | | | **UIE,OP, DP** |
|  | event-4 | **Selected stations will be showed with power management and checks if all the power distributions are running perfectly.** | | | **VR,DP,OP** |
|  | event-6 | **Returning to dashboard will show button for Selected trains will be shown with their running**  **or stationary power management.** | | | **OP,PC** |
|  | event-7 | **Pressing the button will show selectable trains and selecting the specific train will show its overall running power levels.** | | | **UIE,OP,DP** |
|  | event-8 | **If any problems are faced with power in case of both Stations and Metro Trains then there will be option for backup powers which are stable.Suppose When there's a power cut, popup buttons will be shown to turn on or off the backup power sources.** | | | **OP,UIE,PC** |
|  | event-9 | **There Backup Power Source will show ON or OFF and AUTO buttons. As the AUTO button will be selected there is no need for manual turning on or off. But keep monitoring the power distribution .** | | | **OP,PC** |
|  | event-10 | **Returning to dashboard will also have optional button for Checking the alerts of unusual power cut downs of trains/stations.** | | | **OP** |
|  | event-11 | **If power cut downs of trains/ stations are notified turn on backup power sources automatically, or manually by tapping the event-10 optional button. Here it will be checked if needed to do manually or it's set to automatic.** | | | **UIE,DP,VR,**  **OP** |
|  | event-12 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-2** | **Dhaka Metro Rail Line/Track/Route Checking:** Monitoring the whole metro rail lines and making changes as per need. | | | |  |
| Workflow:  (event-1) | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login, Dashboard shows line/track numbers accordingly.** | | | **OP** |
|  | event-3 | **Dashboard shows button for Check for U-Turns.** | | | **UIE,OP,DP** |
|  | event-4 | **If there is any need for U-turns , send confirmation to drivers by tapping the button .** | | | **UIE,OP** |
|  | event-5 | **Return to dashboard shows button of Checking if the tracks have no maintenance duty.** | | | **UIE,DP** |
|  | event-6 | **Notify driver the track numbers which are under maintenance, by tapping button with detailed view to the drivers.** | | | **UIE,DP,OP** |
|  | event-**7** | **Return to dashboard shows new button for Checking if any track is blocked because of emergency issues.** | | | **UIE,OP** |
|  | event-8 | **Notify driver the track number if any track is blocked by tapping button inside event-7.** | | | **UIE,DP,OP** |
|  | event-9 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-3** | **Dhaka** **Metro Rail Time Scheduling :** Time scheduling the whole metro rail work process (Includes duties of drivers ,train time schedule from one to another station) throughout everyday. | | | |  |
| Workflow: | event-1 | **Login Process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login,Dashboard will show all active metro rails and their time slots.** | | | **OP** |
|  | event-3 | **Button shows Check if the time slots are accordingly scheduled.** | | | **DP,UIE,OP** |
|  |  | **If the button is pressed all the available time slots and assigned metro trains will be shown.** | | | **UIE,OP** |
|  | event-4 | **dashboard shows button for Checking changes in schedules. Notify drivers if any changes.** | | | **UIE,DP,OP** |
|  | event-5 | **Clicking the button will Check for delayed schedules, which train is delayed including its reasons. If any changes in schedule or delay occurred then drivers will be notified.** | | | **UIE,OP,VL** |
|  | event-**6** | **dashboard will show another button, Check for time schedule conflicts.** | | | **OP** |
|  | event-8 | **Pressing the button will show details with possible time schedule clashings, for resolving the drivers and station masters need to be notified.** | | | **UIE,OP,VL** |
|  | event-9 | **Notify button will be shown for notifying in details, if the button is pressed desired notification will be sent to specific train driver and conflicting stations station master.** | | | **OP,UIE** |
|  | event-8 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-4** | **Dhaka Metro Rail Maintenance Engineers & Technician Management:** Metro Rail Control room consists of engineers and technicians , this team of engineers and technicians will be monitored and managed. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login, Dashboard shows the maintenance engineers and technicians including their ongoing duties.(Approved or Non-approved)** | | | **OP,DP** |
|  | event-3 | **Dashboard also shows available maintenance engineers and technicians.** | | | **OP,DP** |
|  | event-4 | **Approval button will be pressed and maintenance engineer and mechanics will be assigned for the specific infrastructure maintenance.(Train /Stations/ Any other infrastructures)** | | | **UIE** |
|  | event-4 | **Dashboard will also show feedback from the engineers/mechanics.** | | | **PC,OP** |
|  | event-**5** | **Engineers/Technicians will notify on completion.Their updates will be viewed.** | | | **OP,PC** |
|  | event-6 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-5** | **Dhaka Metro Rail Driver Communications for train operations:** Driver of each metro rail engine room will be in close communication with CRO and under surveillance through this process. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login,Dashboard shows drivers on duty with their/other information.(Train/Station number/information)** | | | **OP** |
|  | event-3 | **Button will be shown for Notifying drivers while running the power check test phase.** | | | **OP** |
|  | event-4 | **If tapped then sends notification to drivers.(completed or not completed)** | | | **UIE** |
|  | event-5 | **Return to dashboard shows button for Giving drivers commands and notifying them to start or stop on stations.** | | | **OP** |
|  | event-6 | **If tapped options for ‘start’ and ‘stop’ pop up. Both buttons send command notifications to the driver.** | | | **UIE,OP** |
|  | event-8 | **Return to dashboard shows Button for Sending alerts on emergency situations.** | | | **UIE,OP** |
|  | event-9 | **If tapped then Send command for emergency stoppage with specified emergency situation/details.** | | | **OP,UIE** |
|  | event-10 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|
|  | | | | | |
| **User-8, Goal-6** | **Dhaka Metro Rail and Station Emergency Protocol system regarding accidents:** Emergency triggering with specified location of trains/stations will be achieved with this goal. | | | |  |
| Workflow: | event-1 | **Login process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login, Dashboard options show, Check for emergency unwanted incidents with buttons.(Notification/Alert dashboard)** | | | **OP,DP** |
|  | event-3 | **If found, Pressing the buttons will directly Notify the unwanted incidents and make announcements and alarm stations.** | | | **UIE,DP** |
|  | event-4 | **Pressing the button will also Send notification to station master, PD , Head of security.** | | | **UIE,PC** |
|  | event-5 | **Return to dashboard will show the button for Contacting information of nearby Fire Station, Police station,Hospital, Ambulance services.** | | | **OP** |
|  | event-6 | **dashboard will show Turn off power supply from MRT Power management of the specific place/metro rail/station to avoid more damage.** | | | **OP** |
|  | event-7 | **Pressing the button will show turn off button for specific station/metro train power supply and pressing turn off will manually end the whole power management system.** | | | **OP,UIE** |
|  | event-8 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-7** | **Dhaka Metro Rail-line,Station and Train Maintenance:** The whole metro rail line/trains/stations will go through a maintenance process to be achieved by this goal. | | | |  |
| Workflow: | event-1 | **Login Process** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login, Dashboard shows need for maintenance on train / train lines / stations options to tap.(reports from driver for maintenance or need of maintenance will also show up)** | | | **OP** |
|  | event-3 | **Assigned Maintenance Engineer and Mechanic button will be pressed to check their duties set from Goal-4.** | | | **UIE,DP** |
|  | event-4 | **Button will also notify drivers and station masters about maintenance hours/time (Create the time schedule for maintenance and notify driver and station masters)** | | | **OP** |
|  | event-5 | **Another Button sends notifications to passengers about maintenance/off hours with specific stations/ trains.** | | | **OP** |
|  | event-6 | **Button sends maintenance reports to PD to approve them.** | | | **OP** |
|  | event-7 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |
|  | | | | | |
| **User-8, Goal-8** | **Dhaka Metro Train Operations:** The whole metro train monitoring and controlling process will be done. | | | |  |
| Workflow: | event-1 | **Login process.** | | | **UID,VL, VR,OP,DP** |
|  | event-2 | **After login, Dashboard shows overall metro rails status.** | | | **DP,OP** |
|  | event-3 | **Option to Check the engine condition of metro rails will be shown.(speed, engine heating,power distribution)** | | | **UIE,OP** |
|  | event-4 | **If the button is tapped, the new dashboard shows the valid condition of metro rail.** | | | **UIE,OP** |
|  | event-5 | **dashboard monitors the speed and engine heating issue.** | | | **PC,OP** |
|  | event-6 | **If the metro train speeds cross the speed limit restrictions or engine overheats,a button to notify the driver immediately will pop up.** | | | **OP,UIE** |
|  | event-7 | **Tapping the button will send a plain notification with a detailed view to the driver and order for changing it. dashboard also show if the powers are distributed as per needs of the trains.** | | | **UIE, OP,DP** |
|  | event-8 | **Dashboard shows the option of Monitoring if the routes are followed by the metro trains.** | | | **OP,UIE** |
|  | event-**9** | **If the button is tapped then the whole process will be checked , else the driver will be notified to follow its route if the route is not being followed.** | | | **PC,UIE,OP** |
|  | event-10 | **Tap the back button to return to the main dashboard or Log out from the application.** | | | **UIE** |