

- 1 The application shall be compatible with the iOS and Android mobile platforms.
- 2 The application shall support a web interface for mobile devices on other platforms.

- ① If it is a users first-time opening the application, the application shall prompt the user to enter an email address, password, and credit card information.
  - ① If the account is created successfully, the application shall send a confirmation to the users stored email address.
  - ② If the account creation is not successful, the application shall display an error message that prompts the user to reenter their information and will not be logged in.
- ② If a returning user opens the application, it shall prompt the user to enter their log-in information.
  - ① If the log-in attempt fails, the application will display an error message that prompts the user to reenter their log-in information.
  - ② If the log-in attempt succeeds, the user will be shown a transit management screen.

- ① If the application loses connectivity, the application shall display an error message.
- ② The application shall retrieve the users location at intervals of  $120 \pm 10$  seconds.
- ③ If the user is within 150 feet of a train-stops geo-location coordinates, the train-stops name, ticket price, and incoming train information shall be displayed on the user interface.
- ④ If train stop information is being displayed on the applications user interface, the application shall update the train stops incoming train information at intervals of  $30 \pm 5$  seconds.

- ① If the user selects to purchase a ticket, their stored credit card will be charged for the price of the train stops ticket.
  - ① If the card does not process, an error message shall be displayed and the order shall not be accepted.
  - ② If the transaction succeeds, the application shall create a virtual ticket.
- ② If the user selects to use their ticket, the application shall signal the gate up to a maximum of 3 attempts at  $20 \pm 5$  second intervals to open.
  - ① If the application is unsuccessful on the 3rd attempt, an error message shall be displayed.
  - ② Otherwise, the turnstile is unlocked, permitting the user to pass through.
- ③ The application shall store unused virtual tickets for at least 1 year.
- ④ The application shall store used virtual tickets for at least 30 days.
- ⑤ The application shall allow the user to change their email.

LOS Requirements	Desired Level	Accepted Level
LOS-1: Concurrent Users	150000	75000
LOS-2: Start-up and user location time	7 s	15 s
LOS-3: Ticket Purchase Transaction Time	5 s	20 s
LOS-4: Update Account Information Time	10 s	30 s

LOS Requirements	Desired Level	Accepted Level
LOS-5: Tickets stored per User	1500	500
LOS-6: % first-time users able to purchase ticket without outside help	80	75
LOS-7: % first-time users able to use ticket without outside help	85	80
LOS-8: % users that ride metro at least once per week that would rate ease of use at 3 out of 5 or higher	90	80

LOS Requirements	Desired Level	Accepted Level
LOS-9: Average Time for User to Create an Account	45 s	60 s
LOS-10: Failed Ticket Purchases per 1000	0.25	1
LOS-11: Failed Ticket Uses per 1000	0.25	1
LOS-12: Hours per day that app shall purchase tickets	20	19.5

LOS Requirements	Desired Level	Accepted Level
LOS-13: Hours per day that app shall allow use of tickets	20	19.5
LOS-14: # iOS generations app shall support	3	2
LOS-15: # Android generations app shall support	3	2
LOS-16: # versions of app that Metro system shall support	3	2