Title: Public transit aid

Problem:

It is noticed that people in general have hard time tracking the public transport system, like the rail system and the bus system.

There is often a situation where one has to get real-time data regarding schedules and routes, so that they can organize their time more

Efficiently and avoid missing any of the services. The main challenge here is to organize the data, released from MBTA (Massachusetts

Bay Transportation Authority) and make them accessible to people, focusing especially towards older adults.

Users and Stakeholders:

* + Commuters
  + MBTA administrative staff.
  + Operators of Transit Vehicles
  + Maintenance staff of MBTA
  + People associated with commuters transportation schedule
  + Application Programmer
  + Application Developer
  + Application Designer
  + MBTA IT team

Tasks

1. Getting Users location

Goal: To get the users current location

Precondition: Updated real-time information about that location

Exceptions: Connection lag, failure of getting real-time data, the location might

not be know to the user, the users location might not be in the

database.

Description: The user has to provide his current location. This location has to

be in the database. The application might suggest or correct the

location according to the database. Using this the application

will retrieve next available transit information.

1. Getting desired destination

Goal: To get the users desired location

Precondition: Updated real-time information about that location

Exceptions: The user might not know the exact name of destination

bus stop/station.

Decryption: Based on the users destination information, the application

will calculate routes from current location to destination, including

transit vehicle departure/arrival times and availability.

1. Selecting from Alternate routes

Goal: To select one route out of multiple alternate routes(if any)

Preconditions: The current location and the desired location has to

be entered.

Exceptions: N/A

Description: With created alternate routes, the user has to select one of

those routes. After the selection the application will provide

information about time of departure from current/source location

and departure location (including ETA...)

1. Selecting a view style

Goal: To select the desired view of representation of the data.

Preconditions: Transportation map image of MBTA transit routes

Real-time data.

Exceptions: Bandwidth of ISP could be low. Connection lag might

not give updated results.

Description: On a mapped image of all transit vehicle routes and

pinned bus stop/stations using the real time data from MBTA, the

application will visualize and update selected bus stop/station

according to the user input.

1. Clicking on the source and destination from map

Goal: To select the starting location and destination location by clicking

on spotted icons.

Preconditions: The mapped image must be loaded. Real-time information must

be present.

Exceptions : The user might not know the destination's exact name. users might

not be familiar with maps or interacting with image.

Description: By using the map image of all the routes, the user should click on

the starting and destination locations. Which are represented as pinned

locations on the image. In order to provide required data to the application.

1. selecting a line

Goal: to select a desired line of route

Preconditions: The mapped image must be loaded. Real-time information must

be present. Calculated alternate routes, showing alternate route on maps.

Exceptions: User might have mouse pointing difficulties. User might not be familiar

with the semantics.

Description: The user can choose one of alternate routes, which have been calculated shown on maps, by clicking on any part on the line, that the user desires to choose. The application will then retrieve starting/destination location transit vehicle information

Metaphors

* 1. How does on look up his location in a transportation related literature?
     + looking up closest bus stop/stations.
     + calculating the arrival time to the possible nearest bus stop/stations
     + Deciding the most convenient bus stop/station
  2. How does one decide to get off a particular bus stop/station ?
     + Calculating nearest starting location to the destination
     + transferring to another line from through bus/train if necessary.
     + differentiating alternate routes and nearest bus stop/station to my actual destination.
     + looking up for transport vehicle times if they match up.
     + choosing the most convenient route(s)
  3. How do I select a route from multiple routes?
     + I calculate each routes total travel duration.
     + I check if there is any distance difference from transfer locations
     + select the most convenient one .
  4. Do I like pictured menus or listed menus in a restaurant?
     + I check the visual representation of each item.
     + I decide if listed view is complicated or confusing.
     + I decide if pictured items, provide same info as listed once.
     + Then I decide most convenient one.
  5. How do I spot a location on a map?
     + First I take a general look at the map.
     + I decide if I am familiar with the map, else I ask some one else or try to start from location which I am familiar with.
     + I try to pin point with my finger and I mark it while I looking at destination.
  6. How do I select a route while I have positions on a map.
     + I follow alternate routes with my finger, based on my previous experiences or based on shortest distance.
     + I select the shortest way.