

Movin Maps System Requirements Document

Project Title: MBTA Transit App for Movin Maps

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Preface

Version	Date	Description
1	2/28/2023	Starting template.
2	3/15/2023	Initial version.

Introduction

The MBTA offers various transportation methods to the Massachusetts area through services such as the subway system, commuter rail, bus, and ferry routes. These transportation methods can be difficult to navigate. Movin' Maps offers users real-time locations of transport through a GUI to make it easier to follow and plan their schedule accordingly. Users will be able to interact with the GUI to filter specific routes or methods of transportation. The status will display arrivals and alerts will update with delays.

Glossary

Term	Definition
Card	provides a flexible and extensible content container with multiple variants and options.
GPS	Global Positioning System. U.S.-owned utility that provides users with positioning, navigation, and timing (PNT) services.
Home Page	The Home Page shows our purpose for the project as well as what each developer did in the web app
Drop Down Menu	toggleable, contextual overlays for displaying lists of links
Route(s)	a way or course taken in getting from a starting point to a destination.
Pop-up Menu	Graphical User Interface of menu that opens on top of a background
Nav Bar	Box with input buttons to access other features and navigate to other pages
Transit	Process of moving to another location through a system.
Live Map	Map with dynamic updating

User Requirements

Give the link to your user requirements document.

https://docs.google.com/document/d/1xCegMIfzEpj_b01I4p38JF_idYgcF39AfMweS4IIfp4/edit?usp=sharing

System Requirements

Following a numbering scheme very similar (possibly the same) as your User Requirements document, expand the requirements to be much more specific.

1. Start

- Opening the application a card will be displayed with links allowing the user to be redirected to login or sign up.
- The card will have a heading saying "Welcome to Movin Maps!" and a subheading that says "Smooth out you commute with Movin Maps!"
- Within the same card include 2 links below the sub heading the first link will be titled "Sign Up" upon clicking this link the user will be brought to the signupPage.

The second link will be titled "Login" upon pressing this button the user will be brought to the loginPage

2. homePage

- a. The home page will display a description of the application and information about the developers
- b. The description will be a paragraph centered at the top the screen stating "The MBTA offers various transportation methods to the Massachusetts area through services such as the subway system, commuter rail, bus, and ferry routes. These transportation methods can be difficult to navigate. Movin' Maps offers users real-time locations of transport through a GUI to make it easier to follow and plan routes. Users will be able to store their favorite routes on their account, filter the GUI to show specific routes or methods of transportation, and be recommended routes relative to their location. The status will display arrivals and alerts will update with delays."
- c. Below the description center a heading stating "Meet The Developers"
- d. Below the heading include a photo of each developer in a column in the left margin of the screen with the developer first and last name displayed below the photo. The the right of the photo fetch the developer desc data and display the information using the backend API

3. loginPage

- a. Account must first have a verified Email address.
- b. A card will be displayed in the center of the screen asking for the following:
 - i. The user will be asked to enter an email address.
 - ii. The user will be asked to enter a password.
 1. Password must match to password associated with the verified email address
 2. Passwords must be between 8-12 characters.
 3. Must be one uppercase character
 4. Must be one special character
 5. Password cannot contain user name
 - iii. Include Create account feature
 1. User will be redirected to the register user page
 - iv. Include Login button
 1. Verified valid email address
 2. Verifies password

4. registerPage

- a. A card will be displayed and the user will be asked for the following fields
 - i. Enter email address
 1. The email address is required for account verification.
 2. No email address can have more than one account associated to it
 - ii. Enter first and last name
 1. Cannot contain special characters !@#\$ ect.

2. Cannot contain numbers
- iii. Create password
 1. Passwords must be between 8-12 characters.
 2. Must be one uppercase character
 3. Must be one special character
 4. Password cannot contain user name

5. liveMap

- a. Create a map of Massachusetts using Open Layers Library
- b. Adjust the size of the map to fit the screen of any browser.
- c. Create layers to display icons on top of the map
 - i. Create a layer for subways with subway icon 16px
 - ii. Create a layer for subway stops with subway stop icon 16px
 - iii. Create a layer for Commuter rails with commuter rail icon 16px
 - iv. Create a layer for Commuter rail stops with commuter rail stops icon 16px
 - v. Create a layer for busses with bus icon 16px
 - vi. Create a layer for bus stops with bus stops icon 16px
- d. Pull longitude and latitude of location from MBTA routes api to apply to layers
- e. Create two drop-down menus in top right corner
 - i. The menu on the left will select the transit
 - ii. The menu on the right will select the route
- f. Display the layers on the map that are selected by the drop-down menu
- g. Clear the previous layer when switching to another.
- h. Set an interval to update the layers every 5 seconds to show the current location of transit.
- i. Place a button in top left with the label '+'.
 - i. When pressed, zoom in on the map.
- j. Place a button in top left below the '+' with the label '-'.
 - i. When pressed, zoom out on the map.

6. alerts

1. Display a Heading with white colored text saying "Recent alerts"
 - a. The heading will be vertically centered in the screen and have style '150vh'
2. Below the heading create cards will be displayed showing alerts
 - a. The cards will be vertically centered on the screen.
 - b. Fetch alerts data from MBTA API and display the information within the center of the card
 - i. There should be only 1 alert per-card
 - ii. The card should be white with black text

7. facilities

- a. Display heading 'Facilities' in black text.
 - i. Center heading to top of the page below nav bar
- b. Pull facilities data from MBTA facilities API.
- c. Create a card component.
 - i. Display facilities data onto card component
 - ii. Center card component to middle of screen
 - iii. Card will have a white background with black text.
- d. Create a drop down menu to select facilities.
 - i. Place menu between heading and card component.
 - ii. When a facility is selected, the menu displays only that facility on the card.
 - iii. If no facility is selected, display all facilities.

8. routes

- a. Display heading 'Routes' in white text.
 - i. Center heading to top of the page below nav bar
- b. Pull facilities data from MBTA routes API.
- c. Create a card component.
 - i. Display routes data onto card component
 - ii. Center card component to middle of screen
 - iii. Card will have a white background with black text.
- d. Create a drop down menu to select routes.
 - i. Place menu between heading and card component.
 - ii. When a route is selected, the menu displays only that facility on the card.
 - iii. If no route is selected, display all facilities.

9. privateUserProfile

- a. Display heading "Profile Page" in black text
 - i. Position to the left side
- b. Beneath the head create a button
 - i. Label the button User Info.
 - ii. When the button is pressed display the user info from the user collection in the database.
 1. Display user name
 2. Display email
 - iii. Display this information in black text beneath the heading.
- c. Below the button create another button
 - i. Label the button Log Out
 - ii. When the button is clicked the user will be logged out of their account