Use Cases

for

Charge

Version 0.0

Prepared by Zachary Ganger, Bianca Annoscia
Daniel Lipovsky, Zachary Lister

Boston University CS411 Team 10

02/22/2016

Use Case List

ID	*Primary Actor*	*Use Case Title*
1.0	Navigator	Route a distance greater than EV range
2.0	Searcher	Zoom in on map to show charge stations in given area
3.0	Vehicle Owner	Zoom on current location

Case 1.0

Use Case ID:	1.0		
Use Case Name:	Route a distance greater than EV range		
Created By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister	Last Updated By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister
Date Created:	02/22/2016	Date Last Updated:	02/22/2016

Actors:	Navigator
Description:	Since EV's have limited range and charging stations are relatively sparse and poorly advertised, the user should be able to enter an origin, a destination, and the range of their vehicle and receive a Google Maps-style route including stops for recharging
Trigger:	Navigator requests a route to destination
Preconditions:	1. User has network connection 2. User must be authenticated 3. User must have set up profile (Car model, home city, etc) 4. User should have EV
Postconditions:	1. If destination is unreachable within range, prompt user 2. Else provide route on map and listed directions
Normal Flow:	1. User logs in 2. User searches using destination, current location as default 3. User selects from several route options 4. User follows selected route to destination

Alternative Flows:	1. User logs in 2. User provides both origin and destination 3. User selects from several route options 4. User follows selected route to destination
Exceptions:	1. Destination is not reachable by car range (provide alternatives, i.e. car rental) 2. Invalid destination (Prompt user to re-enter field)
Includes:	2.0. Mapping charge stations on map
Priority:	Top priority!! This is the whole point.
Frequency of Use:	Predictably once/week or on extended trips including business trips or vacations. Likely use during free time or long trips, due to likelihood that trips outside free time will likely be along known routes.
Business Rules:	Remind users that if charge station in use, they may need to account for this in trip duration
Special Requirements:	1. Zoom map to maximize size of route in window Possibilities: 2. Account for traffic if data is available
Assumptions:	1. User has EV 2. User has connected device 3. User has e-mail address/facebook for authentication 4. User can verify vehicle information
Notes and Issues:	1. Performance affected by connection 2. Keep crashes to a minimum 3. Route should provide cushion for range to lower likelihood of depleted charge

Case 2.0

Use Case ID:	2.0		
Use Case Name:	Zoom in on map to show charge stations in given area		
Created By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister	Last Updated By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister
Date Created:	02/22/2016	Date Last Updated:	03/02/2016

Actors:	Searcher
Description:	If users search one location rather than directions, they should be shown a zoomed in view of that area with stations plotted on it.
Trigger:	Searcher searches for a location
Preconditions:	1. User has network connection 2. User must be authenticated 3. User must have set up profile (Car model, home city, etc) 4. User should have EV
Postconditions:	1. Zoom in on location & provide map 2. Plot any existing stations
Normal Flow:	1. User logs in 2. User searches location 3. User views map
Alternative Flows:	1. N/A
Exceptions:	1. If no stations in range of the location, show a message

Includes:	1. N/A
Priority:	High priority!
Frequency of Use:	Predictably once/week or on extended trips including business trips or vacations. Likely use during free time or long trips, due to likelihood that trips outside free time will likely be along known routes.
Business Rules:	Remind users that if charge station in use, they may need to account for this in trip duration
Special Requirements:	1. Map zooms to range of car/3 from location, to allow reaching destination and returning to charge, with a buffer. Possibilities: 2. Account for traffic if data is available
Assumptions:	1. User has EV 2. User has connected device 3. User has e-mail address/facebook for authentication 4. User can verify vehicle information
Notes and Issues:	1. Performance affected by connection 2. Keep crashes to a minimum 3. Route should provide cushion for range to lower likelihood of depleted charge

Case 3.0

Use Case ID:	3.0		
Use Case Name:	Zoom on current location		
Created By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister	Last Updated By:	Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister
Date Created:	03/02/2016	Date Last Updated:	03/02/2016

Actors:	Vehicle Owner
Description:	Similar to the 2nd case, but rather than searching a location, the user could select to use their current location using gps (on mobile) or address location services
Trigger:	Owner searches current location
Preconditions:	1. User has network connection 2. User must be authenticated 3. User must allow current location on device 4. User must have set up profile (Car model, home city, etc) 5. User should have EV
Postconditions:	1. Zoom in on location & provide map 2. Plot any existing stations
Normal Flow:	1. User logs in 2. User selects current location 3. (User allows location services access) 4. User views map

Alternative Flows:	1. User logs in 2. User selects current location 3. (User refuses location services access) 4. User is notified of function failure
Exceptions:	1. If no stations in range of the location, show a message
Includes:	2.0. Mapping charge stations on map
Priority:	High priority!
Frequency of Use:	Predictably once/week or on extended trips including business trips or vacations. Likely use during free time or long trips, due to likelihood that trips outside free time will likely be along known routes.
Business Rules:	Remind users that if charge station in use, they may need to account for this in trip duration
Special Requirements:	1. Map zooms to range of car/3 from location, to allow reaching destination and returning to charge, with a buffer. Possibilities: 2. Account for traffic if data is available
Assumptions:	1. User has EV 2. User has connected device 3. User has e-mail address/facebook for authentication 4. User can verify vehicle information
Notes and Issues:	1. Performance affected by connection 2. Keep crashes to a minimum 3. Route should provide cushion for range to lower likelihood of depleted charge

Revision History

Name	Date	Reason For Changes	Version
Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister	02/22/2016	Initial commit	0.0
Zachary Ganger, Bianca Annoscia, Daniel Lipovsky, Zachary Lister	03/02/2016	Add Cases 2 and 3	0.1