Use Cases:

cpo:

1-view external status

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| --- | --- |
| Name | View External Status |
| Actor | CPO |
| Entry Conditions | He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. Open the CPO panel 2. Click on the CS lists 3. Select a CS and click on it for more details |
| Exit Conditions | Information be presented successfully |
| Exceptions | * CPO enter a wrong username/password to login into the panel * CS get disconnected from the network and not be able to send the CP status * The CPMS was down and not able to send the list of CS to the CPO panel |

2-view internal status

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| --- | --- |
| Name | View Internal Status |
| Actor | CPO |
| Entry Conditions | He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. Open the CPO panel 2. Click on the CS lists 3. Select a CS and click on it for more details |
| Exit Conditions | Information be presented successfully |
| Exceptions | * CPO enter a wrong username/password to login into the panel * CS get disconnected from the network and not be able to send the CP status * The CPMS was down and not able to send the list of CS to the CPO panel |

3-edit current price of energy

|  |  |
| --- | --- |
| Name | View Internal Status |
| Actor | CPO |
| Entry Conditions | He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. CPO open the panel 2. From dashboard, choose price settings 3. Edit current price and save the settings |
| Exit Conditions | Price gets updated successfully |
| Exceptions | * The price was not valid. E.g., negative value * eMSP was not able to update the database. (Database error, infrastructure problem and so on) |

4-select DSO to acquire energy

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| --- | --- |
| Name | Select DSO to acquire energy |
| Actor | CPO |
| Entry Conditions | * He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. CPO open the panel 2. From dashboard, choose energy settings 3. In the power source section, choose the DSO 4. CPO will wait till the DSO accept the request 5. Save the settings |
| Exit Conditions | DSO accept to provide energy for CPO and the CPO update the eMSP database successfully. |
| Exceptions | * DSO is not available * DSO does not accept to provide energy for CPO * eMSP was not able to update the database. (Database error, infrastructure problem and so on) |

5-select kind of getting energy

|  |  |
| --- | --- |
| Name | Select kind of getting energy |
| Actor | CPO |
| Entry Conditions | * He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. CPO open the panel 2. From dashboard, choose energy settings 3. In the power source section, choose a proper option among the available ones. |
| Exit Conditions | * DSO accept to provide energy for CPO if the DSO has been selected. * CPO update the eMSP database successfully. |
| Exceptions | * DSO is not available * DSO does not accept to provide energy for CPO * eMSP was not able to update the database. (Database error, infrastructure problem and so on) |

6-view location of charging station

|  |  |
| --- | --- |
| Name | View location of a charging station |
| Actor | CPO |
| Entry Conditions | * He/she access to the (admin panel). The CPO has already Logged in successfully. |
| Events Flow | 1. CPO open the panel 2. From the dashboard, select the list of CS 3. Click on a CS to get more details |
| Exit Conditions | CS information, including the location be shown successfully |
| Exceptions | * Sub systems including CPMS and eMSP not be available * The eMSP database was not responding (for instance, because of the heavy load) |

user:

1-Register ✅

2-login ✅

3-view special offers ✅

4-book a time ✅

5-edit personal information ✅

6-pay by QR code ✅

7-pay by credit cart ✅

8-edit credit card information ✅

9-view charging station’s status

10-view notification

3.2.1. Use Cases

User:

* Register

|  |  |
| --- | --- |
| Name | Register |
| Actor | End user |
| Entry Conditions | End user open the application |
| Events Flow | 1. End user selects to register 2. End user fill all the blank fields. 3. End user click on register button. 4. The system sends an email to his/her. 5. End user confirms his/her email. 6. The system allows him/her to login. |
| Exit Conditions | The end user is registered in the app. |
| Exceptions | 1. End user doesn’t check the policies checkbox. 2. End user doesn’t fill all the fields. In this case, application shows warning. 3. the email address already exist in the system. In this case, application warns him/her to login. |

* Login

|  |  |
| --- | --- |
| Name | Login |
| Actor | End user |
| Entry Conditions | 1. End user open the application. 2. He/She already registered. |
| Events Flow | 1. End user select login button. 2. End user enter email addresses as user name password to login. 3. End user click on login button. |
| Exit Conditions | The system allows the user to login. |
| Exceptions | 1. End user enters the wrong username. 2. End user enters the wrong password.   In both cases, system warns him/her that user with this data not found. |

* View special offers

|  |  |
| --- | --- |
| Name | View special offers |
| Actor | End user |
| Entry Conditions | 1. End user open the application. 2. He/She already signed in. |
| Events Flow | 1. End user clicks on today’s offers button. 2. End user clicks on my offers button. |
| Exit Conditions | 1. Application shows today offers. 2. Application shows user specific offers. |
| Exceptions | He/She doesn’t login to the application. In this case, user must login to the application to see offers. |

* Book a time

|  |  |
| --- | --- |
| Name | Book a time |
| Actor | End user |
| Entry Conditions | 1. End user has already Logged in successfully. 2. In the application, user go to charging stations section. |
| Events Flow | 1. End user selects time period what he/she want to book. 2. The application show all charging station that have available port for end user car. 3. End user select one charging station that he/she want. 4. The application ask for what time and how long he/she wants To book. |
| Exit Conditions | End user click on confirm/cancel button. |
| Exceptions | End user enter wrong time period. |

* Edit personal information

|  |  |
| --- | --- |
| Name | Edit personal information |
| Actor | End user |
| Entry Conditions | 1. End user has already logged in successfully. 2. In the application, user go to edit personal data section. |
| Events Flow | End user can change email address, his/her car model, his/her profile photo. |
| Exit Conditions | End user click on save/cancel button. |
| Exceptions | 1. End user enters invalid email address. 2. End user selects image that the volume is more than 5MB. |

* Pay by QR code

|  |  |
| --- | --- |
| Name | Pay by QR code. |
| Actor | End user |
| Entry Conditions | 1. End user has already Logged in successfully. 2. Application shows a notification that charging is finish. |
| Events Flow | 1. There is one LCD on that port which user put in the car for charging, after the charging finished it shows the QR code. 2. End user scan this QR code with his/her application. 3. Application ask for payment method. 4. End user can select to pay with his/her saved cart, third-party application like google pay or apple pay or pay with money that saved to his/her account. |
| Exit Conditions | Payment is successful. |
| Exceptions | 1. End user select to pay with hid/her account money but there isn’t enough money. 2. End user doesn’t have enough money in his/her bank account. |

* pay by credit cart

|  |  |
| --- | --- |
| Name | Pay by debit cart. |
| Actor | End user |
| Entry Conditions | 1. End user has already Logged in successfully. 2. Application shows a notification that charging is finish. |
| Events Flow | 1. End user click on notification 2. Application open in specific page. 3. End user click on payment button. 4. Application ask for payment method. 5. End user can select to pay with his/her saved cart, third-party application like google pay or apple pay or pay with money that saved to his/her account. |
| Exit Conditions | Payment is successful. |
| Exceptions | 1. End user select to pay with hid/her account money but there isn’t enough money. 2. End user doesn’t have enough money in his/her bank account. |

* edit credit card information

|  |  |
| --- | --- |
| Name | Edit credit cart information |
| Actor | End user |
| Entry Conditions | 1. End user has already Logged in successfully. 2. End user go to edit payment method section in the application. |
| Events Flow | 1. Application shows the list of all payment method such as all credit cart and account balance. 2. End user can enter new credit cart for his/her payment. 3. End user can edit his/her credit cart information like cart number or cart name. |
| Exit Conditions | End user click on Save/Cancel button.  If user click on save, he/she must verify his/her cart information. |
| Exceptions | 1. End user enter invalid cart number, expire date or cart name. 2. End user doesn’t verify his/her cart account. |

<!—NEW USE CASE ->

* End User Get Some Suggestion

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| --- | --- |
| Name | End User Get Some Suggestion |
| Actor | End User |
| Entry Conditions | 1. End user has already Logged in successfully. 2. End user go to suggestion section. |
| Events Flow | 1. Give location permission to application. 2. Give calendar permission to application. 3. Enable phones GPS. 4. Enable phones Bluetooth. 5. After a few seconds, Application show some suggestion to user. |
| Exit Conditions | End user confirm or decline one/all suggestion. |
| Exceptions | End user doesn’t give permission to application. |