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| Use Case ID | 1 |
| Use Case Name | New Customer Registration |
| Primary Actor | Customer |
| Further Actors | Admin |
| Stakeholder Interest | Customer: needs to create an account to get past the log-in screen and use the services  Admin: needs a database of customers, to provide services for |
| Trigger | Filling in the needed information and pressing “register”. |
| Pre-Conditions | communication with the server is possible and the checks for errors in registration are set in place. |
| Post-Conditions | Access to the main functionalities of the app are granted |
| Basic Course (Succes Scenario) | The customer creates a valid account. |
| Alternative Course | registration process is repeated:  Case1: The customer entered a weak password  Case2: the customer entered an already used e-mail address. |

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| Use Case ID | 2 |
| Use Case Name | Partner Registration |
| Primary Actor | Partner |
| Further Actors | Admin |
| Stakeholder Interest | Partners: need special access with information granted only to them to do maintenance and distribution of the scooters  Admin: Preventing fraudulent registrations |
| Trigger | Partners have used the partner registration tab in the app |
| Pre-Conditions | The entire project needs to be operational. |
| Post-Conditions | none |
| Basic Course (Succes Scenario) | Partners have an account that distinguishes them from ordinary users. |
| Alternative Course | registration process is repeated:  Case1: The partner entered a weak password  Case2: the partner entered an already used e-mail address. |

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| Use Case ID | 4 |
| Use Case Name | Payment Method/PayPal |
| Primary Actor | Customer |
| Further Actors | PayPal |
| Stakeholder Interest | PayPal: by being used as the primary payment method in many applications, PayPal gains influence and grows.  Customer: is provided with an easy and quick payment method. |
| Trigger | User selected an e-scooter |
| Pre-Conditions | The e-scooter GPS map was accessed by a logged-in user, who furthermore decided on a particular scooter by scanning its QR code. |
| Post-Conditions | The e-scooter is now unlocked and operational. It has to also track the distance and be lockable again. |
| Basic Course (Succes Scenario) | The user safes the PayPal information in his/her customer account and can pay with just one convenient click |
| Alternative Course | The user does not have PayPal.  No other payment method is offered except for the occasional vouchers. |

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| Use Case ID | 4 |
| Use Case Name | Credit Card Payment |
| Primary Actor | Customer |
| Further Actors | none |
| Stakeholder Interest | Customer can pay with credit card |
| Trigger | Selecting the payment method |
| Pre-Conditions | Server communication |
| Post-Conditions | Credit card account properly billed |
| Basic Course (Succes Scenario) | In the best case the payment will be just as quick as PayPal and the customer can unlock the e-scooter |
| Alternative Course | Case1: Credit Card balance is exceeded: scooter stays locked and warning message is sent  Case2: Credit Card information is false: Scooter stays locked and user account gets suspended |

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| Use Case ID | 5 |
| Use Case Name | User Check-In/QR Scan |
| Primary Actor | Customer  Partner |
| Further Actors | none |
| Stakeholder Interest | Customer: can access a unique e-scooter and pay for its use  Partner: can scan in the QR codes for free rides |
| Trigger | User is asked to scan in QR code (instructions on a plate on the e-scooter) and clicks on the “scan” button |
| Pre-Conditions | Customer gave permission to the app to use the camera. |
| Post-Conditions | Payment with PayPal is presented as an option and the e-scooter is correctly identified for use. |
| Basic Course (Succes Scenario) | User can intuitively select an e-scooter after being guided to it by the GPS maps routing option. |
| Alternative Course | Unsuccessfully scanning the code.  Case 1: a malicious agent vandalized the QR plate. In this case a partner reports this to the admin.  Case 2: it is too dark. User is prompted to use the flashlight after 3 unsuccessful attempts |

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| Use Case ID | 6 |
| Use Case Name | Customer Check-out |
| Primary Actor | Customer |
| Further Actors | Partners |
| Stakeholder Interest | Customer: after a ride the customer can place the e-scooter anywhere in the city for convenience  Partners & Customers: profit from keeping track of the new e-scooters locations via GPS map. |
| Trigger | The customer finishes his/her ride and pushes the “stop-ride” button on the scooter |
| Pre-Conditions | The user must have had unlocked an e-scooter |
| Post-Conditions | The e-scooter is now on a new location and the GPS map is updated. The e-scooter is also set to “locked” and can now be seen on the GPS map. |
| Basic Course (Succes Scenario) | The customer has a good ride and does not need to worry about returning the e-scooter to a specific location. The GPS map is updated accordingly and partners restore a better distribution of the e-scooters after every recharging. |
| Alternative Course | Case1: the customer forgets to lock the e-scooter. In the worst case another agent may continue to ride it and the customer gets billed unfairly. A safety measure is that every idle e-scooter is set to locked automatically after 5 minutes of no use. |

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| Use Case ID | 7 |
| Use Case Name | Location check |
| Primary Actor | Customer |
| Further Actors | none |
| Stakeholder Interest | Customers need to see the closest locked and loaded e-scooter in their proximity |
| Trigger | The user activates GPS on their device and taps on the e-scooter icon |
| Pre-Conditions | GPS from the provider “gps-server.net“ is properly configured and the customer is logged in |
| Post-Conditions | The user sees a shortest route to the next available scooter |
| Basic Course (Succes Scenario) | The user is directed to the next e-scooter. |
| Alternative Course | The e-scooter is snatched by another customer. The map gets updated and the user can select the next closest -scooter. |

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| Use Case ID | 9 |
| Use Case Name | Report error |
| Primary Actor | Partner |
| Further Actors | User, System |
| Stakeholder Interest | Partner: can report errors directly to the admin  User: no duty to report errors but has in theory the same possibility to do so  System: receives all the error reports and saves them |
| Trigger | User or partner leave a report comment |
| Pre-Conditions | Scanned in the QR code of an e-scooter and found it non-functional |
| Post-Conditions | E-scooter will be retrieved and checked by partner and either replaced or fixed |
| Basic Course (Succes Scenario) | Error is reported and saved to the system. The broken e-scooters will then exchanged for new ones |
| Alternative Course | none |

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| Use Case ID | 10 |
| Use Case Name | Partner report alert |
| Primary Actor | Partner |
| Further Actors | System |
| Stakeholder Interest | Partner: receives information where a failed e-scooter is located |
| Trigger | System distributes reported e-scooter information to all partners automatically |
| Pre-Conditions | Systems database must contain the information |
| Post-Conditions | Delete item from database after the problem is fixed |
| Basic Course (Succes Scenario) | The message of a reported e-scooter reaches all partners to ensure functionality for all customers |
| Alternative Course | none |

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| Use Case ID | 11 |
| Use Case Name | Reservation of e-scooter |
| Primary Actor | Customer |
| Further Actors | none |
| Stakeholder Interest | Customer: can reserve an e-scooter and make it impossible for another person to unlock it. The e-scooter can not be snatched away |
| Trigger | Customer taps on e-scooter icon displayed on the map |
| Pre-Conditions | Map is showing proper locations of active e-scooters |
| Post-Conditions | E-scooter the customer reserved is greyed out for all other users |
| Basic Course (Succes Scenario) | The customer can select any e-scooter in his/her proximity and reserve it for themselves |
| Alternative Course | none |

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| Use Case ID | 15 |
| Use Case Name | Payment: Promo Code |
| Primary Actor | Customer |
| Further Actors | Company |
| Stakeholder Interest | Company: for promotion purposes, coupons are granted for special events.  Customer: enjoys a free ride |
| Trigger | Customer types promo code into the promo bar |
| Pre-Conditions | Promo Codes must have been validated by the company’s marketing department and created by the Company’s IT department |
| Post-Conditions | Promo code is now disabled in customers account (a code can only be used once) |
| Basic Course (Succes Scenario) | Promo is typed in and the customer is rewarded a free ride. The system can not be abused |
| Alternative Course | Case1: Promo invalid, no free ride granted  Case2: Promo is expired or has already been used, no free ride granted  Case3: fraud, user account is suspended |

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| Use Case ID | 16 |
| Use Case Name | Alternstive google log\_in |
| Primary Actor | Customer |
| Further Actors | none |
| Stakeholder Interest | Customer: another way to log in app |
| Trigger | Customer uses app as a new user, he could have another way to register and log in directly |
| Pre-Conditions | Customer is given permssion by Party 3 platform(eg:google) |
| Post-Conditions | Customer can use app successfully |
| Basic Course (Succes Scenario) | User can log in app, and also there is not a unique way to login. |
| Alternative Course | Unsuccessfully login.  Case 1:The network is bad ,so that it couldn’t log in.  Case 2:Response time too long ,restart log in. |

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| Use Case ID | 17 |
| Use Case Name | Book VIP package |
| Primary Actor | Customer |
| Further Actors | Company |
| Stakeholder Interest | Customer:  Have discount riding the E-scooter  Company  Attract more customer. |
| Trigger | Customer orders the VIP package in app. |
| Pre-Conditions | Customer log in successfully,and hava effective payment. |
| Post-Conditions | Customer becomes VIP and could use VIP package |
| Basic Course (Succes Scenario) | Customer gets a VIP package and can ride E-scooter cheaper. |
| Alternative Course | Failed use VIP package.  There is a deadline,need a voucher. |