Use Case:

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| **Application** | **Use case** |
| Private Vehicle Monitoring System | 1. **Can login** 2. **Can update Profile** 3. **Tax** 4. Insurance 5. fitness papers 6. Vehicle registration 7. Can add credit card 8. Reports 9. Buy car 10. New registration 11. Renew License 12. Reports 13. Disable Driving license (optional) 14. Monitor Speed 15. Monitor Signals 16. Monitor route 17. Overtaking Other vehicle 18. Scan number plate 19. Take photograph of driver 20. Send notification to associated Operator 21. Add fine (optional) 22. Disable vehicle road permit(optional) 23. Automated Number Plate Recognition (ANPR) 24. Automated Parking Access 25. Parking Management 26. Security Analysis 27. Automated Ticketing |

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| **Application** | **Use case** | **Corresponding user story** |
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| Private Vehicle Monitoring System | can login | Marchant ,Vehicle owner ,BRTA and Traffic officer shall be able login |
|  | Update Profile | User shall be able to update their profile |
|  | New Registration | As a user, I want to register for driving license so that I can drive vehicles. |
|  | Renew License | As a customer, I want to renew my license for future driving processes. |
|  | Reports | As a user, I want to keep reports so that I can view my driving records and check penalty or disqualifications. |
|  | Disable Driving license (optional) | As a disable user, I want to get license so that I can drive my own . |
|  | Monitor Speed | System shall be able to detect accurate speed of a vehicle |
|  | Monitor Signals | System shall be able to detect if vehicle is maintaining signals |
|  | Monitor route | System shall be able to detect if vehicle is going through right route |
|  | Overtaking Other vehicle | System shall be able to detect if vehicle is overtaking other vehicle in aggressive way |
|  | Scan number plate | System shall be able to Scan number plate |
|  | Take photograph of driver | System shall be able to Take photograph of driver |
|  | Send notification to associated Operator | System shall be able to Send notification to associated Operator |
|  | Add fine | System shall be able to Add fine |
|  | Disable vehicle road permit | System shall be able to Disable vehicle road permit |
|  | Automated Parking Access | As a user, I want parking access so that I can park my vehicle. |
|  | Parking Management | As a Parking authority, I want parking management details to regulate and monitor the parking facility requirements and manage the car parking slots. |
|  | Security Analysis | As a vehicle owner, I need security for creating a robust and secured parking solution. |
|  | Automated Ticketing | As a client, I need ticketing system for getting smooth payment system. |

**Functional Requirements:**

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| Functional Requirements Description |
| the system will check if the car is available |
| the system will show different types of engine |
| the system will check if the buyer is eligible to purchase a car |
| if the buyer is eligible then when checking out the buyer will ask for buyer's credit card information |
| buyer's will enter his information to the system |
| the system will check for if the amount is available is buyer's account |
| if everything is correct then the system will let user buy car |
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| The system shall verify the driving license and determine to which kind of user it corresponds, i.e. valid, privileged, car owner or invalid. |
| The system shall allow to start up the car only if the driving license of a valid user has been inserted in the slot |
| If there is an attempt to start up the car, the system shall explicitly ask for a valid driving license if no driving license has been inserted in the slot. |
| The system shall inform the user whether the inserted driving license is invalid or corresponds to an invalid user |
| Once the car has been started up, the driving license can be removed at any time |
| If the car is turned off and a driving license is in the slot, the system should inform the user that a driving license remains in the slot |
| The system only allows Bangladeshi driving licenses to be registered as valid. |
| In order for a privileged user to add or remove valid users, the driving license of the privileged user should remain inserted in the slot during the whole procedure. |
| In order for the car owner to manage any kind of user, the driving license of the car owner should remain inserted in the slot during the whole procedure. |
| The system shall copy the newly added user’s license chip information to the car’s user database. |
| In order to add a valid or privileged user to the system, the driving license of the user to be added is needed |
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| System shall be able to detect accurate speed of a vehicle using speed metre and |
| System shall be able to detect if vehicle is maintaining signals using intelligent traffic monitoring algorithm |
| System shall be able to detect if vehicle is going through right route using motion detector and direction |
| System shall be able to Scan number plate using digital number plate reader |
| System shall be able to Take photograph of driver using CCTV camera |
| System shall be able to Send notification to associated Operator if any kind of rule is broken |
| System shall be able to Add fine to vehicle owner profile |
| System shall be able to Disable vehicle road permit if owner breaks rule numbers of time |
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| the customer able to enter any parking area with digital number plate associated with system |
| Gates and blockers shall be integrated with smart identification technologies. |
| The customer shall be able to use parking management system which is integrated with Access control systems like Automatic gates, barrier controls, ticketing systems. |
| The parking management shall be able to regulate & monitor the parking facility requirements, designed to manage the car parking slots & provide useful reports and information to the developer |
| The access control shall be implemented with both open-end credit readers and biometric readers and similarly the surveillance are often upgraded |
| The Ticketing System shall be programed to the clients parking policies and integrated with the ticketing dispenser machines and Payment systems. |
| Security of vehicle shall be easy with CCTV and trackable number plates. |