Some Things are in multiple categories so we have to decide where to put it.

**Title**

**Introduction**

**Software Requirement Specification** [6] <PDF Chapter no.>

**User Requirements**

1. The user should be automatically allowed entry into parking lot and payment must be handles without user input.

**System Requirements**

1. The user should have a parking card and it must be pasted inside front window of car.
2. User must link digital wallet to the system.
3. User receives mail containing details of transaction.
4. User must have specified minimum balance in wallet.

**Functional Requirements**

1. Every user receives a card with a unique ID.
2. The user’s digital wallet is linked to the system and can be identified using card ID.
3. When user is allowed entry into parking lot, the time is registered.
4. When user exits parking lot, time is registered and payment is made.
5. If payment is insufficient, user is informed to refill wallet.
6. System contains information regarding which parking spaces are currently occupied.
7. New users are given location of available parking spots. If no parking spots are available, they are informed.

**Non-Functional Requirements:**

**-Product Requirements**

**-Organizational Requirements**

**-External Requirements**

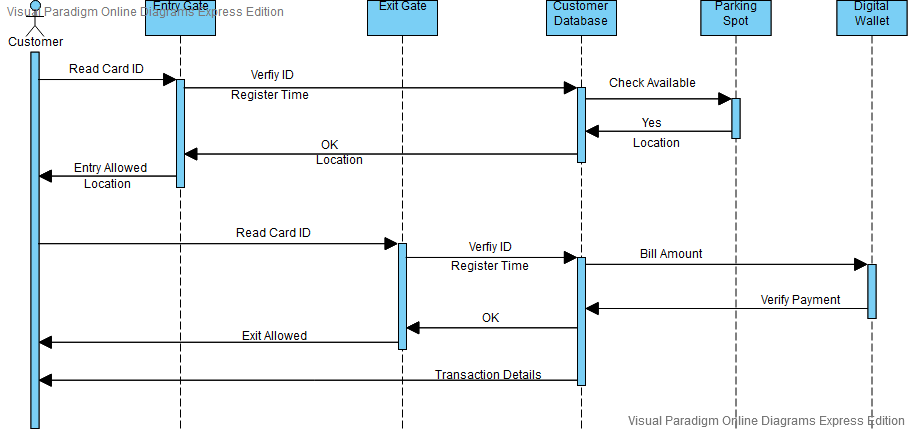
1. The system shall not disclose personal information about customer apart from name and reference ID to system operators. Account details must be secure so as to prevent misuse.

**Domain Requirements**

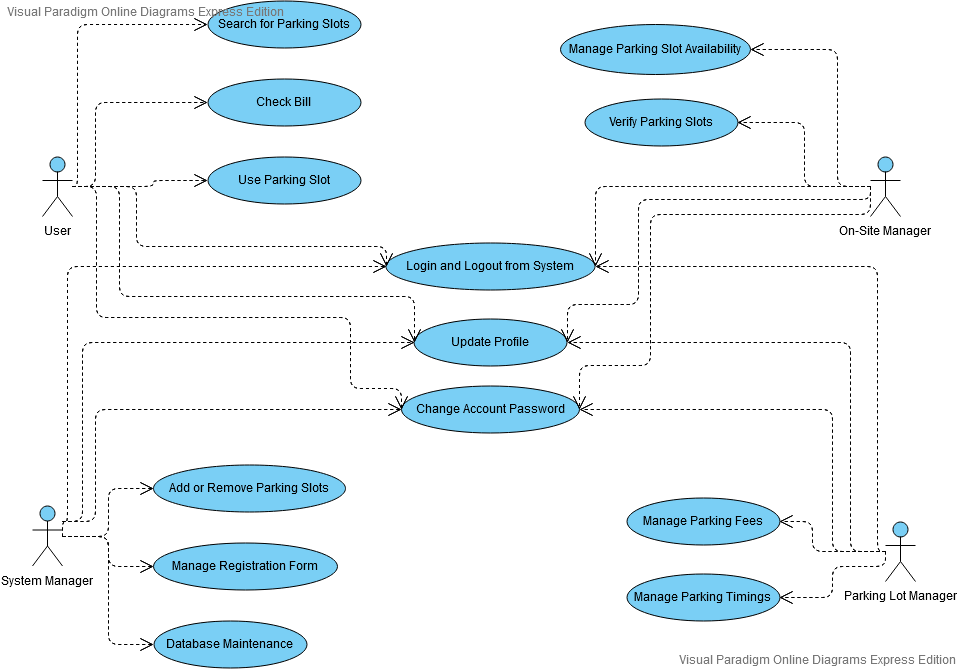
**Form Based Specification**

|  |  |
| --- | --- |
| **Automatic Parking System** | |
| **Function** | Automatic Entry and Exit to and from parking lot. Automatic parking fee payment. |
| **Description** | I allows automatic entry and exit to and from parking lot. The parking fee to be charged is calculated and automatically deducted from linked account. |
| **Inputs** | User Id, Time of Entry, Time of Exit, Parking Slot Availability |
| **Source** | FASTag Reader at Entry and Exit Gate, Parking Slot Load Cell |
| **Outputs** | Open Gate, Deduct calculated bill amount from linked account, Location of available parking slot |
| **Destination** | Customer Database, Main Control Loop |
| **Action** | FASTag Reader reads card ID of entering and exiting vehicles. The card ID is verified with the customer database. Load cells are present at all parking slots to check if it is occupied. If ID is valid and parking slot is available (entry only), the gate opens and the time of entry and exit are registered at respective gates. User is given the location of an available parking slot which is displayed on an LCD screen above gate. The bill is calculated on exit based on entry and exit times. The bill amount is then charged from the linked user account. Bill details are sent to user. |
| **Requires** | Card ID to verify with customer database. Load cell sensor data to check parking slot availability. Entry and Exit timings to calculate bill. |
| **Pre-Condition** | User must have Parking Service Card. Linked account must have minimum fare amount. |
| **Post-Condition** | If linked account has insufficient balance, user must be informed to add money to linked account. Pending fees stored in Customer Database. |
| **Side Effects** | None. |

**Sequence Diagram**

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**Use Case Diagram**



\* Feasibility Study? [7]

\* Viewpoint? [7]

\* Validation? [7]

**Design Models** [8]

\* Context Model

\* Process Model

\* Data Flow Model

\* Behavioural Model

\* State Machine Model

\* Object Model

**Detailed Description of Models**

Explain above models

**Architectural Design** [11]

\* Box and Line Diagram

\* Object Model

\* Function Oriented Models

\* Control Style (Event Driven)

**Detailed Design** [14]

\*System Context and Model of use

\* Use Case Models

\*Use Case Description

\*Subsystem Model

\* Sequence Model

\* State Charts

**Estimation and Schedule** [26,27]

https://www.tutorialspoint.com/estimation\_techniques/estimation\_techniques\_overview.htm

https://www.geeksforgeeks.org/software-engineering-project-size-estimation-techniques/

**Test Cases**

https://wiki.openoffice.org/wiki/QA/Testcase/How\_to\_write\_test\_case

https://www.tutorialspoint.com/software\_testing\_dictionary/test\_case.htm

**Conclusion**