# CSE470 Classwork

## SDLC, Requirement Analysis

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# Question

You have been hired to develop a smart parking management system for a multi-story shopping mall. The mall management wants to automate parking space allocation, payment, and security monitoring to improve customer experience and reduce manual work.

The system should allow drivers to check space availability in real-time, reserve a spot before arriving, and make cashless payments. The system should also support security features like automatic license plate recognition and emergency alert buttons. The system should be able to handle large amounts of user load and ensure near perfect uptime. The system should also implement encryption mechanisms to safeguard user data.

The mall wants to first launch a basic set of features as a pilot on a single floor, then gradually add advanced features like dynamic pricing, loyalty programs, and integration with shopping apps, depending on user feedback.

1. What model should be appropriate for this? Why?

2. Write 5 Functional and 3 Non-Functional Requirements.

# What model and why?

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So model will be **Incremental**.

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# Functional Requirements

- The system shall allow drivers to view real-time parking space availability on a mobile app and kiosk screens.
- The system shall allow drivers to reserve a parking spot in advance using a mobile application.
- The system shall enable drivers to make cashless payments (credit card, mobile wallet, etc.).
- The system shall support automatic license plate recognition to verify entry and exit.
- The system shall allow drivers to trigger an emergency alert from kiosks or mobile apps if they face security threats.

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# Non-Functional Requirements

- The system shall be able to handle at least 500 simultaneous users without performance degradation.

- The system shall have an availability of 99.9% uptime to ensure continuous service.

- The system shall encrypt all user data to ensure user data privacy