

## **Assignment 2**

**Develop a case study analyzing the implementation of SDLC phases in a real-world engineering project. Evaluate how Requirement Gathering, Design, Implementation, Testing, Deployment, and Maintenance contribute to project outcomes.**

**Case Study** : Building “For Foodie”- A Food Delivery App

**The Project** : A software company is hired to build “For Foodie”, an app where users can order food from local restaurants and track the delivery driver in real-time.

1. **Requirement Gathering** : Requirements ensure you build the right thing.
  - ✧ The team met with the client. They wrote down exactly what the app needs: a search bar for food, a shopping cart, a payment system, and a GPS map for tracking drivers.
  - ✧ This phase prevented confusion. Without it, the developers might have forgotten the "GPS tracking" feature, which was the most important part for the client. It set the scope.
2. **Design** : Design ensures you build it the right way.
  - ✧ Before writing code, the architects drew diagrams of how the database would store “Menu Items” and “User Addresses.” Designers created sketches (wireframes) of what the buttons and colors would look like on a phone screen.
  - ✧ This acted as a blueprint. It saved money because the team didn't have to rewrite code later. They knew exactly how the “Payment” screen should connect to the “Bank” system before they started building.
3. **Implementation** : Implementation makes it exist.
  - ✧ This is where the actual coding happened. Developers used programming languages to build the app based on the designs that was made earlier.
  - ✧ This turned the abstract ideas into a real, working product. Without this phase, the project is just paper and drawings.
4. **Testing** : Testing makes it reliable.
  - ✧ The QA team tried to break the app. They found a major bug: If a user ordered 0 pizzas, the app still charged them 50 Rupees delivery fee. They sent this back to developers to fix.
  - ✧ This ensured quality. If they hadn't found that bug, customers would have been angry and deleted the app, causing the project to fail.
5. **Deployment** : Deployment makes it usable.
  - ✧ Once the app was bug-free, the team uploaded it to the Google Play Store and Apple App Store so real people could download it.
  - ✧ This made the product accessible. The project finally provided value to the real world.
6. **Maintenance** : Maintenance keeps it alive.
  - ✧ Three months later, a new version of Android came out, and “For Foodie” started crashing. The team went back in to update the code to fix the crash. They also added a new feature: “Dark Mode.”
  - ✧ This ensured longevity. It kept the users happy and stopped them from switching to a competitor's app.