**Software Architecture (SE3030)**

**Assignment 01**



**Sri Lanka Institute of Information Technology**

Submitted by:

**Y3S2-WE-47**

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**Lightweight Smart Order Management App**

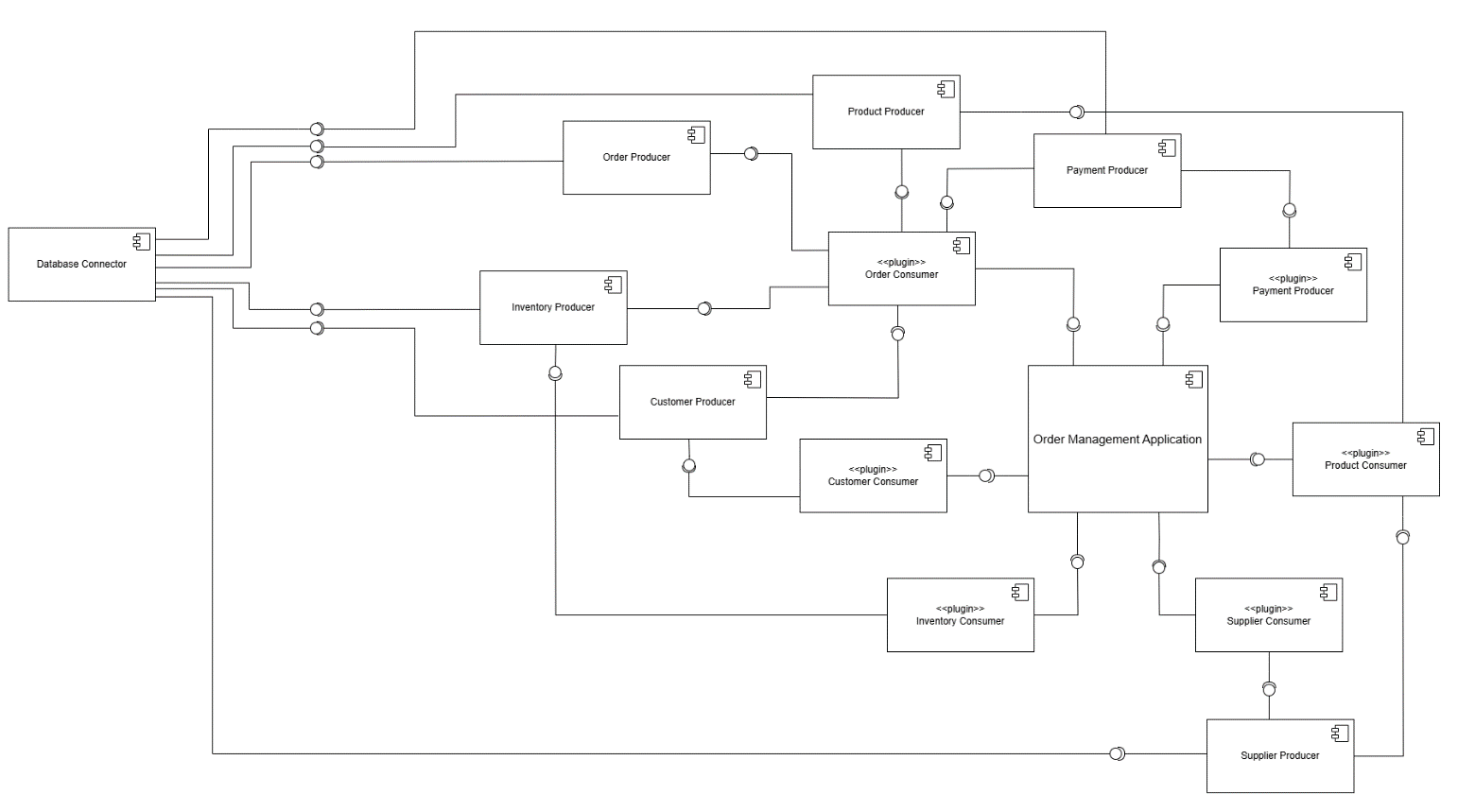
Emallome Smart Ordering was designed with the intension of streamlining the process of managing customer orders and its related functions, which includes Inventory Management, Payment Management, Product Tracking, Supplier Tracking, Order Management, Customer Management and Tax Calculations. OSGi-based framework was utilized in the applications for servicers to communicate and interact with each other effectively.

The architecture follows the **producer-consumer** model, where different services act as producers (publishers) and consumers (subscribers). The services are linked together through OSGi’s service registration and intercommunication mechanisms. The app also integrates a **Database Connector**, allowing seamless connection to databases for all necessary data storage and retrieval.

There are 6 main consumers and producers in this application.

1. **Customer Service: -** Customer Consumer | Customer Producer
2. **Inventory Service: -** Inventory Consumer | Inventory Producer
3. **Order Service: -** Order Consumer | Order Producer
4. **Payments Service: -** Payments Consumer | Payments Producer
5. **Product Service: -** Product Consumer | Product Producer
6. **Supplier Service: -** Supplier Consumer | Supplier Producer

The producers of the application are connected to a **Database Connector** which accesses and stores information in the **Maria DB** Database.

The consumers of the application are connected to a central **Order Management Application** which combines all the functions and appear to the user as a single application.

Link - <https://drive.google.com/file/d/1IrVjpeaZBan6VTzTWXE_9DNvSv0BMCkE/view?usp=sharing>

**<<Manifest implementation (Exported services/ imported services)>>**

**<<Commands required to install and run bundles in the OSGi framework>>**

**<<Sample screenshots of the system behavior and outputs>>**