**Student Name- Neetu Jalotra**

**Student Id- 20232454**

**Project idea individual submission**

**Course Code- SOFT806**

**Date- Friday, 6 june, 2025**

**Project Title:** Gem Track – Streamlined Jewellery Inventory and Sales Management

**Overview**

Gem Track helps jewellers, wholesalers and small-to-medium retail businesses handle their inventory, sales, connections with customers and communication with suppliers. Using the platform, staff and customers can find it simple to handle costly items, special orders and follow the rules, thanks to its smooth interface.

**Key Business Requirements**:

**• User Registration and Authentication:**

Separate permissions for administrators, members of the sales team, people in charge of managing inventory and customers keep the application secure. Make it possible for users to create and log in to their accounts by encrypting passwords and giving them the choice to use multi-factor authentication.

• **Inventory Management:**

There is a lot of information in the product catalog such as the type of metal, weight, karat, gemstone details, certifications and photos. Support for batch uploads and barcode/RFID integration.

**• Sales and Billing Management:**

Sales tracking for in-store and online transactions. It offers the ability to make invoices, see a customer’s purchase history, use markups and margins in prices and include taxes.

**• Custom Orders and Repair Tracking:**

Makes it possible for customers to suggest new designs or request repair of their items. Tracks order status, material usage, pricing, and delivery timelines.

**Supplier and Vendor Management**:

Maintain supplier records, purchase orders, and procurement histories. Track incoming shipments, raw material costs, and stock levels.

**• CRM and Customer Engagement**: There are features in CRM to keep track of customer information, interests, any important dates and allow sending offers or reminders to them by email or SMS.

**• Reports and Analytics**: Prepare careful reports on inventory, sales, how productive staff are and financial statistics to assist with decisions.

**• Mobile and Web Access:** People can use the company’s website or app from any device at any time.

**• Security and Compliance**: Uses encryption for data, safe login methods and makes certain rules for financial and data protection in retail and high-value goods are followed

**technology Framework:**

**• Backend**:

Django With Django, it is possible to manage a jewelry catalog and the business using its strong back-end tools, built-in support for many data types and secure user control system.

**• Frontend:**

React.js React.js supports a quick and responsive user interface which is an important part of creating appealing catalogs, up-to-date stock information and efficient orders and CRM systems

**• Database**: PostgreSQL Because PostgreSQL supports SQL and complex queries, it can handle related data like product details, orders, information about customers and records of suppliers.

**• CI/CD Tool**: GitHub Actions With GitHub Actions, tests, the integration process and deployments happen automatically, preventing mistakes and helping roll out features fast in business-critical situations.

**Justification:**

As managing valuable inventory and financial data calls for strong reliability, easy scalability and powerful security, a stack was chosen that meets all these goals. Because Django is quick to build and secure and React is highly interactive, they complement each other to give the system a strong, efficient and easy-to-use character. PostgreSQL guarantees that data is handled safely and orderly and GitHub Actions helps with smooth and errorless deployment.