

Enterprise Resource Management **System**

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Project Goals:

Simplification of Operations: Your system aims to make everyday tasks simpler for all users. By automating routine tasks and workflows, the system reduces the potential for human error and increases operational efficiency.

Product Management: It provides robust tools for product managers and shop managers to handle inventory effectively. This includes managing stock levels, tracking the availability of products, and identifying needs for restocking. This capability ensures that the inventory is always updated and adequately stocked according to the demand patterns.

Task and Employee Management: The system facilitates the assignment and tracking of tasks to employees to ensure that all tasks are carried out efficiently and on time. This includes the ability to add new employees to the system or remove them as necessary, simplifying the HR management process.

Security and Data Integrity: Maintaining the confidentiality and integrity of data is a critical component. The ERP system ensures that sensitive information is only accessible to authorized personnel, protecting against unauthorized access and potential data breaches.

Sales Tracking and Reporting: For product sales, the system provides detailed analytics and reporting tools that allow users to track sales performance, trends, and other key metrics. This helps in making informed business decisions based on real-time sales data.

Overall Transparency and Control: The ERP system provides a holistic view of the organizational operations, giving managers and executives visibility into every aspect of the business. This enhanced transparency helps in better control and coordination among different departments.

End Users:

Administrators: They are responsible for overseeing the entire ERP system, ensuring that it runs smoothly and that all other user roles have the appropriate access and resources they need to perform their duties.

HR Managers: Human Resources managers utilize the system to manage employee records, payroll, recruitment, and termination processes efficiently. They also use the ERP for assigning tasks and tracking employee performance.

Product Managers and Shop Managers: These users rely on the ERP system to manage inventory, track product availability, and analyze sales data to forecast future demand and adjust stock levels accordingly.

Sellers and Other Employees: Sellers use the system to manage customer interactions and transactions, possibly using carts to assist buyers. Other employees, such as cleaners and security guards, might use the system for clocking in and out and for being assigned specific tasks relevant to their roles.

IT and Technical Support Staff: These users ensure that the ERP system is functioning correctly, performing regular maintenance, updates, and troubleshooting any issues that arise.

Functional Requirements

User Role Definitions and Permissions:

Administrator:

Full access to all system functionalities including user management, role assignments, and system settings.

HR Manager: Manage employee records, hire new employees, and handle terminations.

Product Manager:

Add, update, and remove product listings; manage inventory levels; oversee product lifecycle.

Shop Manager:

Assign tasks to floor staff such as sellers, cleaners, and guards; manage shift schedules and daily operations.

Inventory and Stock Management:

Automatic tracking of stock levels and generation of alerts when reordering thresholds are reached.

Detailed logging of inventory adjustments and historical tracking of stock levels.

Task Management:

Ability to assign and reassign tasks to employees, with functionality to track completion and evaluate performance.

Integration of a scheduling system for managing employee shifts and work hours.

Sales and Customer Interaction:

Point of Sale (POS) system integration for handling transactions, returns, and exchanges.

Customer relationship management features such as tracking customer purchases, preferences, and feedback.

Security and Access Control:

Implementation of role-based access control (RBAC) to limit data access based on user roles.

Secure authentication mechanisms and encryption of sensitive data in transit and at rest.

Employee Management:

Tools for HR managers to conduct performance reviews, manage payroll, and track employee benefits.

Non-Functional Requirements

Performance:

The system should handle a high number of simultaneous users without significant performance degradation.

Ensure quick response times for all functionalities, especially during peak operational hours.

Reliability:

The system must be reliable with minimal downtime, capable of quick recovery from outages and errors.

Implementation of regular data backups and failover mechanisms to prevent data loss.

Usability:

User-friendly interface designed with React and Tailwind CSS for a responsive and accessible user experience.

Minimal learning curve for new users, with comprehensive help documentation and tooltips.

Scalability:

The architecture should support scaling both vertically and horizontally to accommodate business growth and increased load.

System components should be modular to facilitate easy updates and integration of new features.

Security:

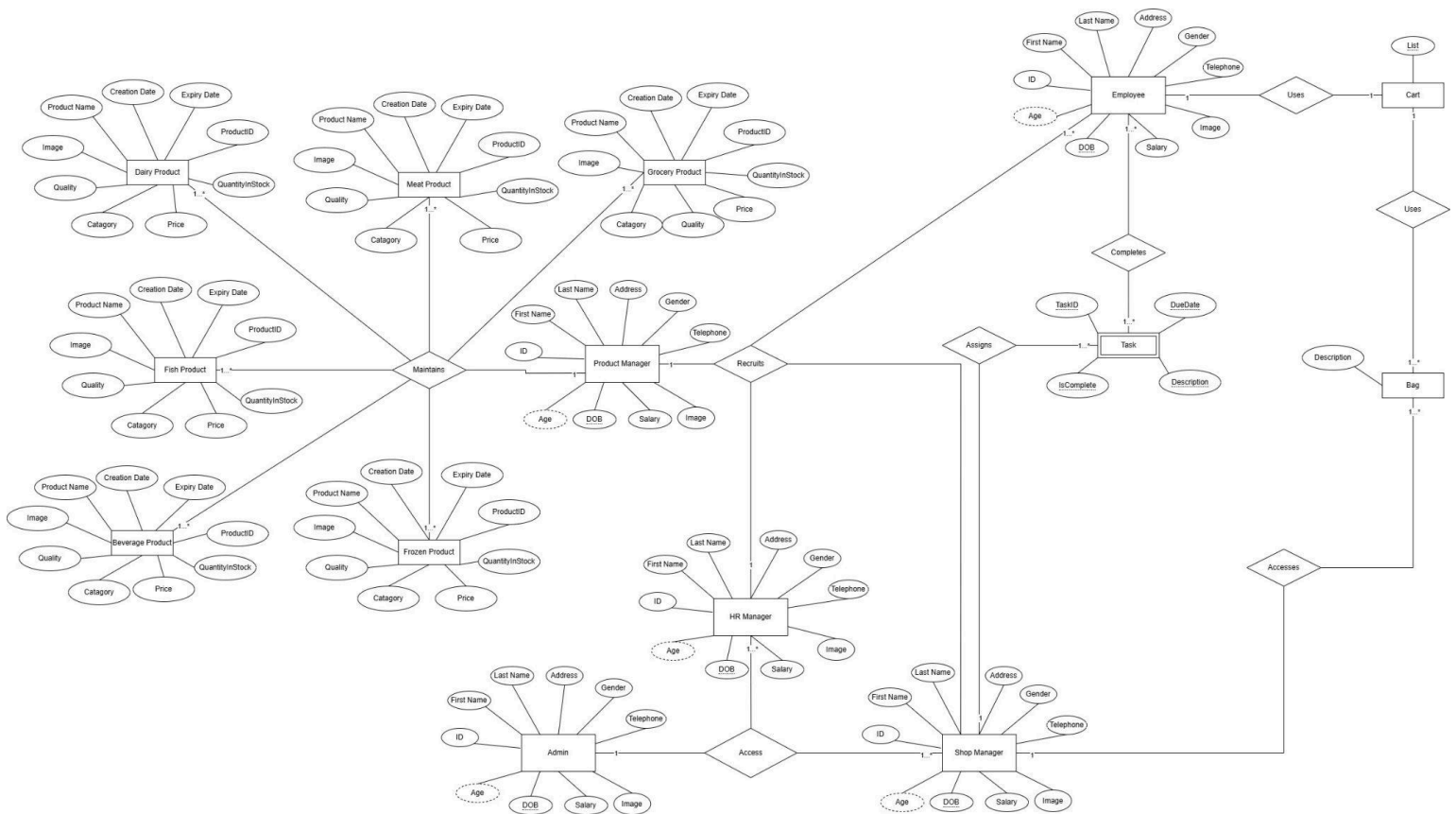
Implementation of industry-standard security practices including regular vulnerability assessments.

Compliance with relevant data protection regulations and standards to safeguard personal and financial information.

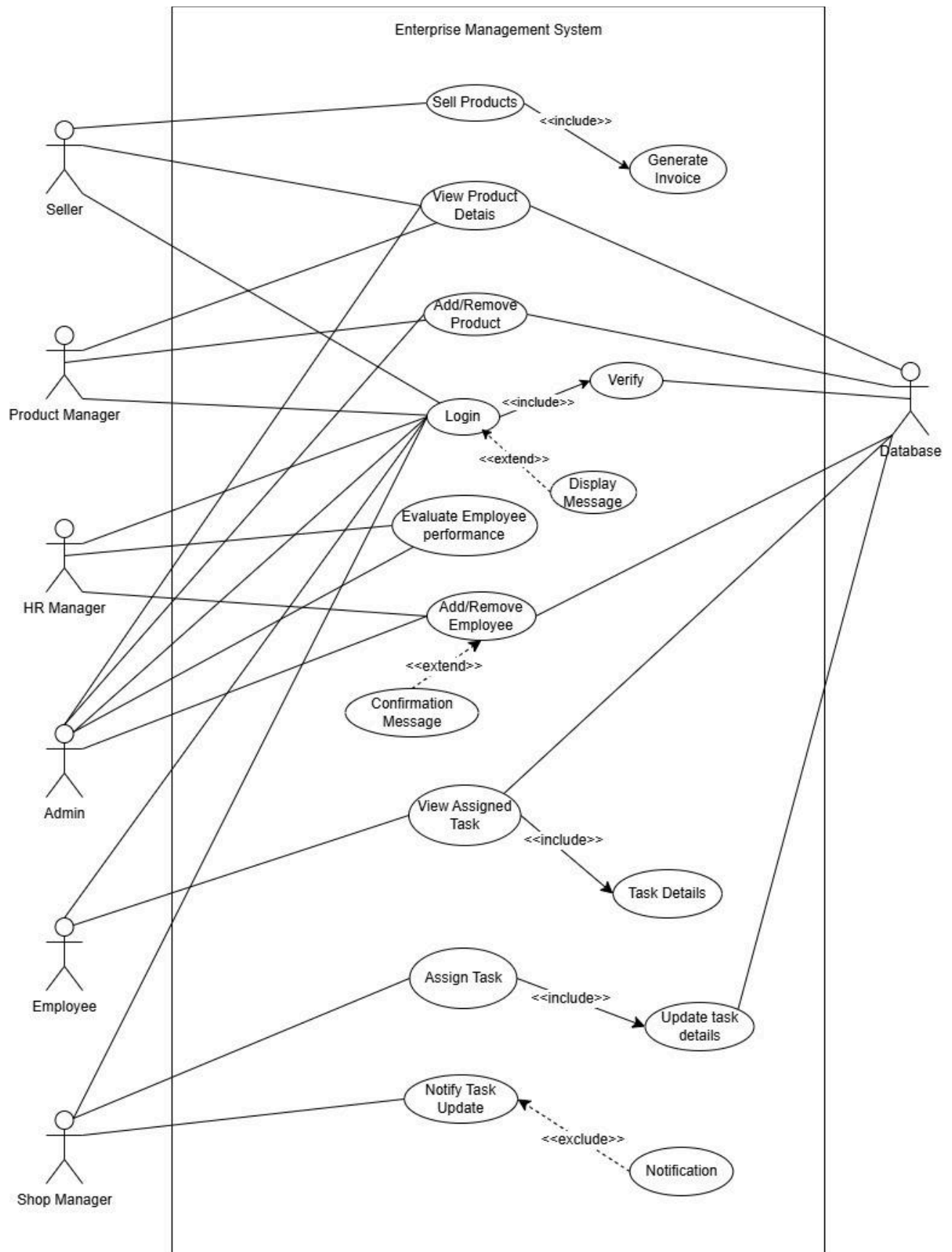
Maintenance and Support:

The system will be easy to maintain with clear logging and monitoring capabilities. Support for quick resolution of issues through an efficient deployment of updates and patches.

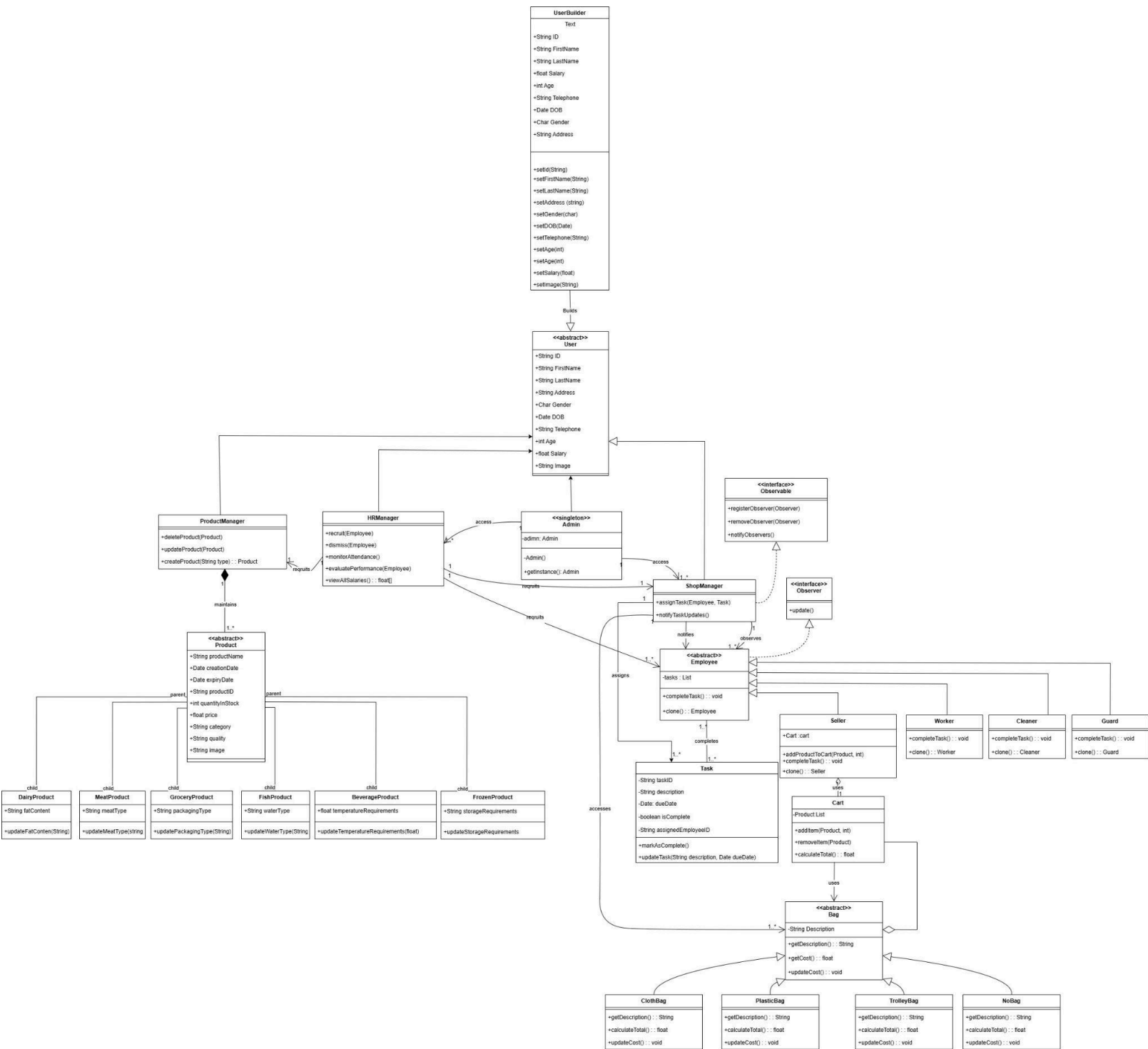
Entity relationship diagram (ER):



Use case diagram:



Class diagram:



Sequence diagram:

