Supply Chain Management system

A supply chain management system provides a platform for monitoring information regarding processes involved in turning raw materials and components into final products and getting them to the customer. Choose a product of your choice, which will be managed by your supply chain management system. The system should manage the process from the raw materials to when the final product reaches the retail stores. In order to optimize production, the system should perform analytics and make the following recommendations (**using machine learning**):

1. Predict future demand based on sales data
2. Segment customers based on purchasing patterns in order to derive recommendations for personalization for improved customer satisfaction

The system should allow for various categories of users to login and perform their necessary functions. Other functions include

1. **Chat function** between suppliers and consumers for improved support ie. A supplier may be a raw material supplier, supplying to the factory, may be a factory supplying to a whole seller etc.
2. Analytics to support decision-making
3. Inventory management
4. Order processing
5. Workforce distribution management at different supply centres
6. Scheduled tasks for sending reports to various stakeholders (These reports MUST reflect what a specific stakeholder needs)
7. Vendor validation: **Design a java server,** which checks for applications (**submitted using PDF**) from those who wish to become vendors. The validation includes checking data on financial stability, reputation and adherence to regulatory requirements. Its up to you to come up with the requirements (financial stability, reputation and adherence to regulatory requirements). If one passes the validation tests using the data they submitted during the application process, the server automatically schedules a visit to their facility before the entity or individual is confirmed to be a vendor in the system.

Instructions:

1. Get your own data sets over the internet and make sure to explain why that dataset or datasets can serve the purpose
2. Use Laravel framework for your interface, MySQL for the database
3. Set up git repository and let all members contribute (will be used to assess individuals)
4. Meet your supervisors atleast once in two weeks and confirm your registration for every meeting
5. Write a design document for the above system (Deadline is **6th June 2025** submission link on muele)- Use the design document template for the format of the design document. Show your group numbers on the document
6. Deadline for the system implementation is **20th July 2025**
7. Presentation (21st to 25th July 2025)
8. Explain your machine learning model in the design document
9. Those with wrong registration numbers will not be able to receive their results in ACMIS

10. NO DOCUMENT WILL BE RECEIVED ON EMAIL. IF YOU FAIL TO MEET THE DEADLINE, KINDLY DO THE COURSE NEXT YEAR. WHEN ACTUAL PRESENTATION DATES ARE COMMUNICATED, NO EXTENSIONS SHALL BE MADE

Contact: Mary Nsabagwa (mnsabagwa@cit.ac.ug)