CM 1601 Programming Fundamentals

Case Study 1

ERP SOFTWARE DEVELOPMENT FOR RETAIL

Client and Business Goals:

You are a German-based B2B product company with 20 years of experience in the retail sphere. You want to partner with "SHEILED" a Software Development Firm for development and ongoing deployment of an innovative and reliable ERP software suite for retail and restaurant businesses.

Product Description:

A flexible cloud-based SaaS ERP solution with data science extensive automation for desktop and mobile POS software, accounting and inventory management software, an administration portal, and an eShop.

Project Highlights

The first version: 1 year from idea to release

Automated testing and server deployment to ensure 24/7 POS software reliability

Data science applied to predict and facilitate sales

The First Version: 1 Year from Idea to Release

You want the SHEILED to take over the software development process and to design the product from scratch with the goal of replacing an older version of the product. The system should go live live in mid-2021 for its first retail chain.

Flexibility will be always the focus.

Automated Testing and Server Deployment to Ensure 24/7 Reliability

Automating server deployment and updates is a must. The solution also needs to operate a 24/7 failsafe. Ecosystem must be developed that will allow SHEILED to instantaneously update all 80 POS terminals with the push of a button. Setting up a new instance should be completed in as little as 10-15 minutes with the support team.

Another big step in testing automation to increase stability, reduce the number of minor updates, and speed up regular major deliveries without compromising product quality. The entire system should use standard internal API.

Data Science Applied to Predict and Facilitate Sales

An adaptive selective model should be designed that makes demand predictions for each following week based on 2.5 years of retail sales statistics. However, processing this data to figure out what goods would be in high demand is essential. Th model should contain several autoregressive models with some external data, and its key feature should be the selection process, which enables forecasting for any product at any point in time.

selected product. It helps recommend additional goods to fill the basket of every customer, driving additional revenue.