Stock Management System

Summary

Applied Computer Science

David Silva Troya

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Campus Geel, Kleinhoefstraat 4, BE-2440 Geel

LID VAN ASSOCIATIE KU LEUVEN

THOMAS MORE

INTERNSHIP SUMMARY

During my 13-week internship at CERcuits, which took place from February 27, 2023, to May 26, 2023, I worked on improving the company's inventory system. CERcuits specializes in ceramic PCB and substrates for prototypes and small series, and as the company grew, there was a need to enhance the existing inventory management process.

The current manual data storage method was time-consuming and inefficient. Therefore, the main objective of my assignment was to develop a Stock Management System that would offer better control over inventory and send notifications based on specific parameters, such as low stock levels or approaching expiration dates.

As CERcuits expanded its client base, received more orders, and dealt with a wider range of products, managing inventory manually became increasingly challenging. The Stock Management System aimed to address key questions such as product availability, location, order requirements, timelines for reordering, and expiration date information.

To implement the Stock Management System, I conducted a thorough analysis of the company's requirements, considering various options that aligned with the assignment's objectives and weighed their pros and cons.

The assignment had specific requirements that needed to be met, although they were subject to change as further research was conducted. The most important requirements included:

- Preference for the use of open-source software.
- The core application should run on a virtual machine.
- Virtual Machine works with a Linux operating system.
- Selection of frameworks and a Relational Database.
- Documentation with UML diagrams, database structure, and user stories.
- Development of a web browser version of the Stock Management System.
- Development of a mobile version of the Stock Management System.
- Documentation of the developed Stock Management System.

To fulfill these requirements, the company needed an automated system with user-friendly interfaces that would provide accurate inventory information. The system would include the option to scan QR codes to access stock information and update quantities. It would be accessible through web browsers on computers and a dedicated Android application on mobile phones. Additionally, the system would replace the current manual stocking method and support the production department.