INVENTORY MANAGEMENT FOR RETAIL STORE

ABSTRACT

The advancements of computing technologies have resulted to cheaper mobile devices and access to various mobile applications in the market. These developments have also opened opportunities for micro and small enterprises to streamline their business processes without investing heavily on enterprise software licenses and hardware resources. This paper explores the convergence of a mobile point of sales (POS) application and a cloud computing inventory management system. However, one of the major problems in implementing a cloud computing system is the Internet speed in the Philippines. Latency issues can greatly affect the productivity of micro and small businesses since majority of them are engaged in wholesale and retail trade. This can be solved by synchronizing the data coming from the native mobile POS through batch processing with the data of the inventory management system on the cloud in situations where unavailability of, limited, or slow network connection makes it impossible to perform real-time update of data. This paper will also discuss the architecture, data synchronization method, and the challenges and growth prospects of mobile and cloud computing.

Keywords: cloud application, cloud computing

INTRODUCTION:

Retail inventory management is the process of ensuring you carry merchandise that shoppers want, with neither too little nor too much on hand. By managing inventory, retailers meet customer demand without running out of stock or carrying excess supply.

In practice, effective retail inventory management results in lower costs and a better understanding of sales patterns. Retail inventory management tools and methods give retailers more information on which to run their businesses. Applications have been developed to help retailers track and manage stocks related to their own products. The System will ask retailers to create their accounts by providing essential details. Retailers can access their accounts by logging into the application.

Once retailers successfully log in to the application they can update their inventory details, also users will be able to add new stock by submitting essential details related to the stock. They can view details of the current inventory. The System will automatically send an email alert to the retailers if there is no stock found in their accounts. So that they can order new stock.

SYSTEM ARCHITECTURE:

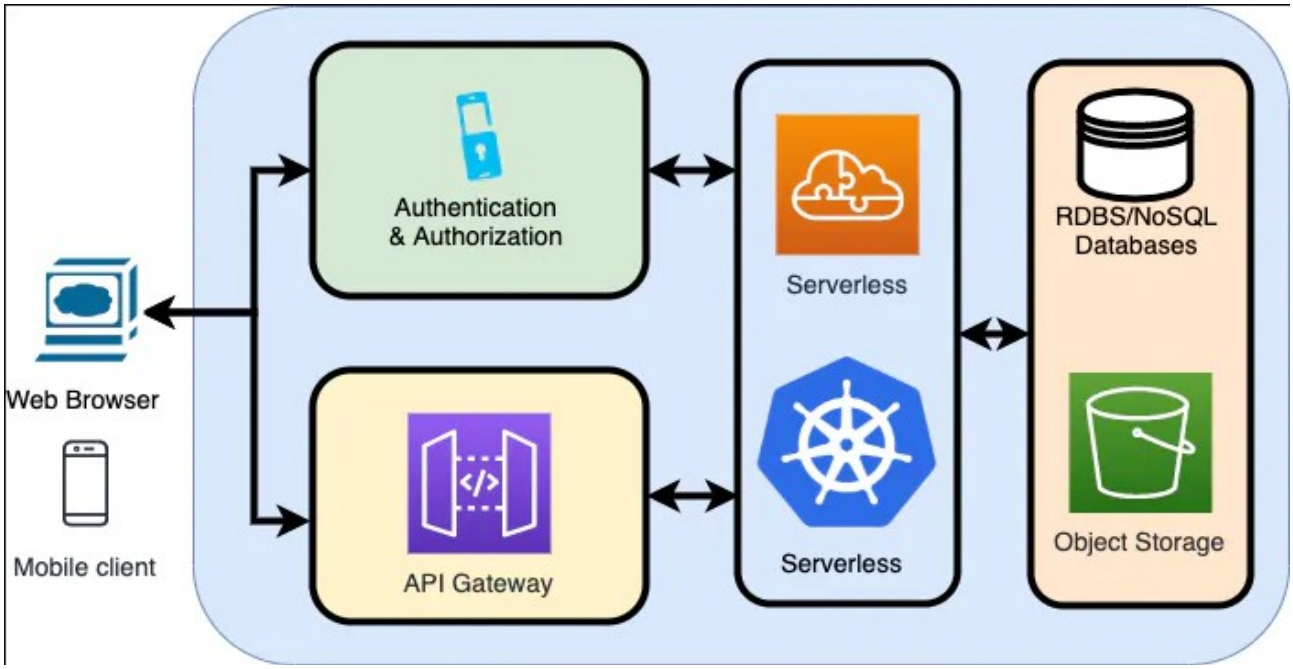

FIGURE 1.0 : SYSTEM ARCHITECTURE FOR CLOUD APPLICATION

Above Image illustrates the System Architecture of the Inventory Management Application working machanism in the cloud storage basic overall representation of the cloud application is illuestrated in the above diagram.

DIAGRAMATIC REPRESENTATION FOR INVENTORY MANAGEMENT :

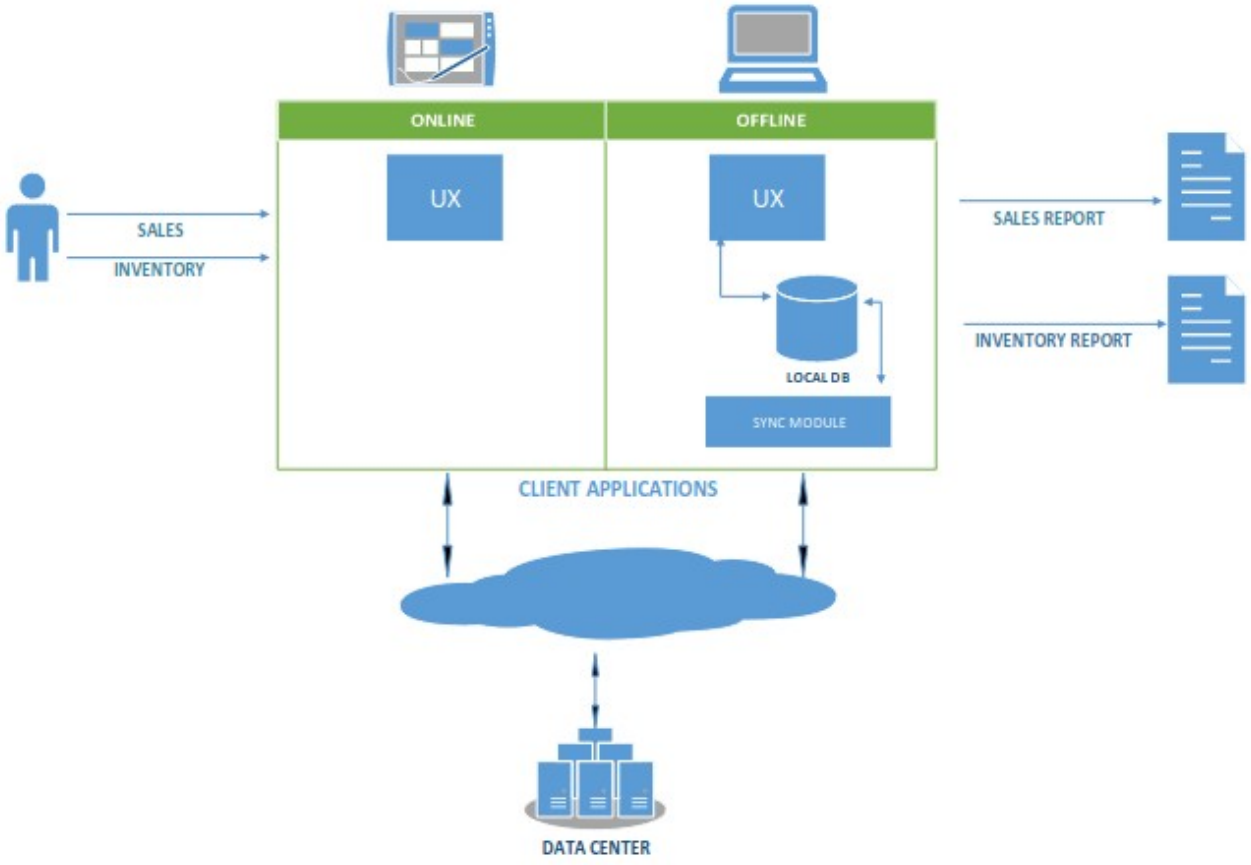

FIGURE 2.0 : INVENTORY MANAGEMENT APPLICATION WORKING SYSTEM

Above figure represents the the whole working system of the inventory management application.

PROBLEM STATEMENT :

Managing inventory touches on everything from large initiatives like supply chain management to smaller, but no less important, particulars related to lead times, customer demand, and stock levels for individual products. Every business is different, but it’s likely you’ll encounter one or more of these while fine-tuning your inventory system.

SUB-PAR WAREHOUSE MANAGEMENT:

Large, often labyrinthine, and difficult to organize manually, warehouses can create significant pain points, and serious losses, if managed inefficiently.

Manual data collection, paired with a lack of a centralized data management strategy, can create a reading ground for :

- Lost Orders
- Inaccurate inventory counts
- Slow order fullfillment
- Shipping errors
- High storage costs and less space for more sucessfull products due to excess inventory.
- No connection between purchase orders, shipping documents and invoices sent

That same lack of centralized data management and poor communication can also create inventory discrepancies across multiple locations, creating an exponentially expensive inventory management disaster.

THE SOLUTION :

INVENTORY MANAGEMENT SOFTWARE :

Tackling all of the problems that can arise from slow, inefficient, incomplete, and error-riddled inventory management requires more than a switch from pen and paper to an Excel spreadsheet. Choosing an inventory management solution powered by both automation and artificial intelligence transforms every aspect of how your team handles inventory, whether as an addition to your existing enterprise resource planning (ERP) package or as part of a stand-alone, centralized procurement solution.

Imagine how much easier inventory, and how much healthier your bottom line, can be with:

- Real-time visibility, access and communication for all stakeholders, both from the desktop and on the go with a mobile app.
- Optimized inventory counts for rock-solid reporting, forecasting, and analytics.
- Better customer service thanks to improved visibility and accurate data for all products.
- Automated review and approval workflows, including automatic reminders to keep the ball rolling and contingency roles and workflows for all hierarchies.
- Tighter cybersecurity and transparent, real-time inventory updates between both eCommerce sites and physical locations.

CONCLUSION

In summary, the project works is relevancy to the objectives set. Thus, activities of developing the system which is planning and analysis is based on the result retrieved from the interview on observation. Not only that, as this would be the first computerized system that will be used by the store, the functions only focused on solving major problem which is inventory management problem. The interfaces design is also categorized as user friendly due to lack of IT background of the workers which means the system can be handle by people not even from IT background. Due to time constraints, it is not possible for the developer to implement many functions in the system, thus the developer has few future works suggestions for continuation. By having this integration, Store can practice Just-In-Time inventory where the store does not need to hold many stocks which is not a good practice of inventory control.

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