International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2019): 7.583

Modern Warehouse Operations Execution Using Mobile Devices

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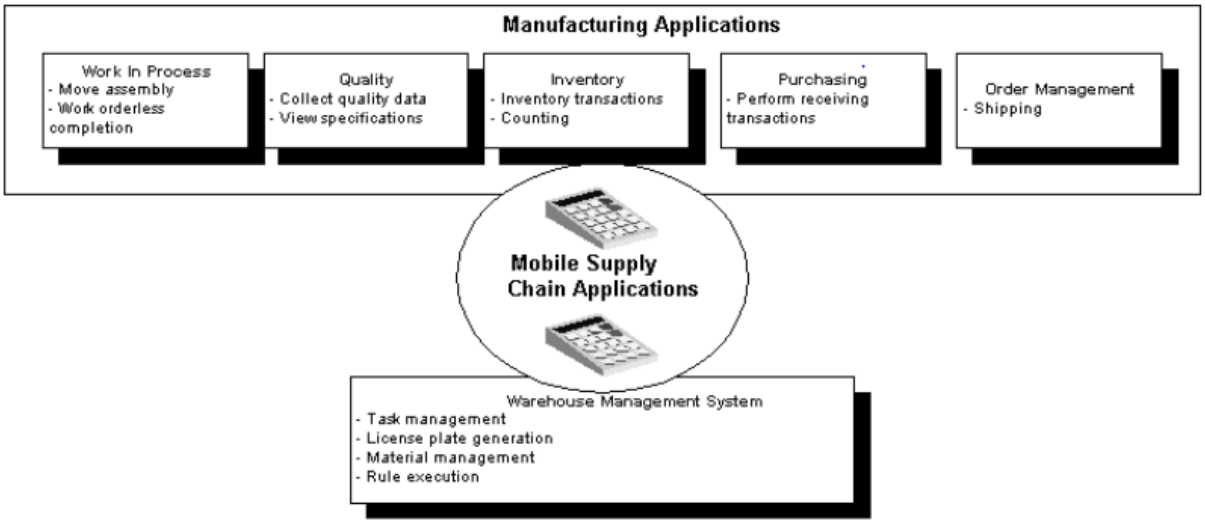
Abstract: ***Industrial warehouse management systems growthis fueled by the ever increasingfulfillment demands in the ecommerce sector.The rapid rise of connected and omni channel logistics are providing new opportunities to leverage connected technologies in order to gain visibility across a wide range of operations. End to end visibility into a diverse array of systems allows organizations to coordinate activities with more precision and align business operations. This can be achieved if warehouse operations are performed using mobile supply chain applications, RF scanner enabled Mobile devices and IOT enabled machines.Mobile devices are proving central to driving advances across the connected logistics sector.***

Keywords: Modern warehouse operations, Mobile Devices

Mobile Supply Chain Applications are enabling variety of manufacturing application transactions, without using a desktop computer. Mobile Supply Chain Applications come pre integrated with various manufacturing modules, including Integrated Warehouse Management system.



Mobile apps can allow for real-time inventory management, people-technology connectivity, and smart analytics.

Mobile Supply Chain Applications enable warehouse employees to use smart phones to perform a variety of warehouse transactions, including the following:

- Inbound transactions, such as receiving, inspecting, and putting away
- Outbound transactions, such as picking, packing, and loading transactions
- Warehousing transactions, such as cycle and physical counting, miscellaneous receiving, and moving inventory from one location to another (move orders)

Mobile Supply Chain Applications allow you to do the following:

- Record transactions while you work
- Eliminate duplicate data entry
- Eliminate documents and multipart forms

Key advantages of Mobile applications for Warehouse Management syste

Efficiency & Productivity

The departure from fixed desktop workstations to smartphones is a major step forward in gaining warehouse efficiency. Mobile apps not only allow only allow employees to find what they are looking for faster, but it also allows managers to communicate with and dispatch warehouse operators more efficiently.

Improving Accuracy

Mobile device apps allow instant communication on any discrepancies encountered during Picking or put away. Operator need not rush to desktop to send an email. He can communicate using messaging options available on smart devices

Flexibility

Remote data collection and barcode scanning functionality enables companies to establish teams devoted to specific supply chain, distribution or fulfillment tasks in the most productive locations possible. This geographic flexibility can lay the groundwork for business innovation by eliminating problem-solving barriers.

Overhead

Modern warehouse management systems can be designed with high availability and automated data collection and integration tools that ensure information always remains up to date. If the connection is lost at any point, the remote system will keep itself running and update the WMS when connectivity returns.

Inventory Models

Once assets start spreading across the facility, production teams need to be able to update inventory levels in real time or risk having their operations disrupted. This is where connected devices are paying off. Having a mobile barcode scanner located near the small caches of goods in production environments lets users log inventory updates quickly, feeding that information back into the warehouse.Whether or not your business is interested in this variety of lean operations, the reality is that greater visibility into inventories gives you an opportunity to establish parts storage and supply strategies that align with your specific operational demands.

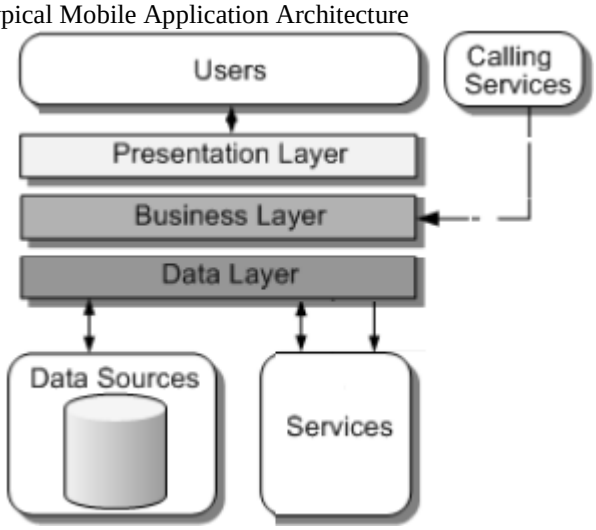
Training

Mobile devices are familiar and comfortable as they are used so prolifically in consumer settings. Asking employees to leverage data in more nuanced ways in their operations doesn't have to prove technologically overwhelming. Instead, delivering advanced apps and services on comfortable, familiar interfaces makes it much easier to get users on board with the new solution.

Field Service Management

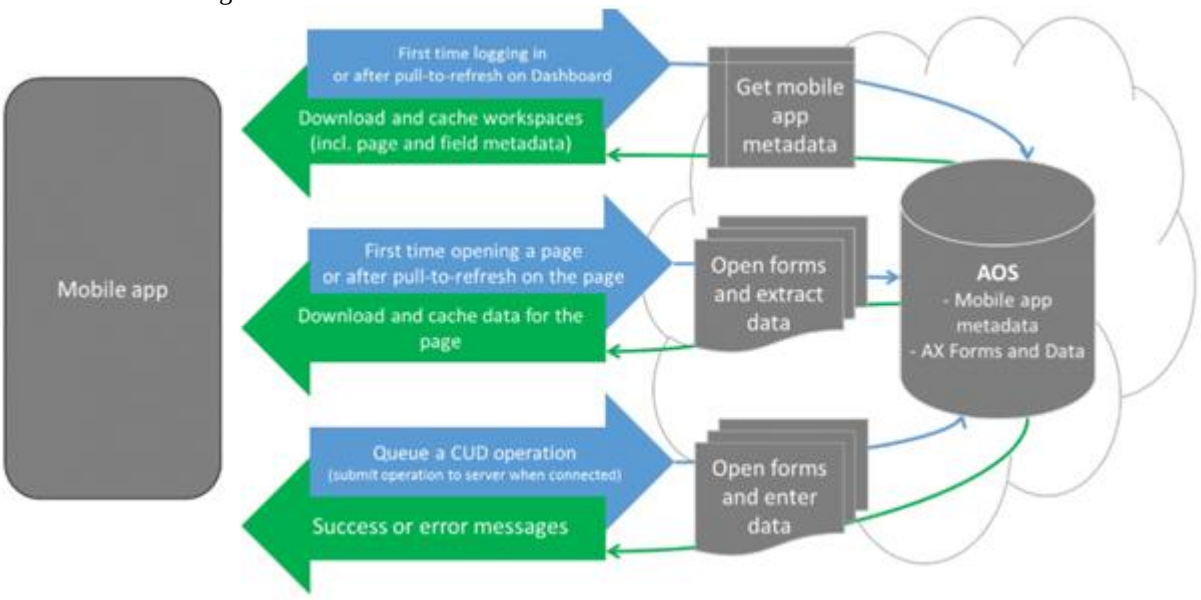
Field services have a huge impact on both internal and external stakeholders. Giving drivers mobile devices lets them submit bills electronically during customer interactions, file inventory updates when they use assets stored in their trucks and otherwise update team members back in the warehouse as circumstances change at any given time.

Typical Mobile Application Architecture



- **Presentation Layer** - contains UI components as well as the components processing them.
- **Business Layer** - composed of workflows, business entities and components.
- **Data layer** - comprises data utilities, data access components and service agents.

Process Flow



Conclusion

Smartphones and tablets are transforming operations across warehouse operations. The combination of data visibility and user friendliness offered by mobile apps is invaluable in a sector that depends so heavily on maintaining tight control over every facet of operations. Businesses that modernize their operations around mobile device functionality can keep up with the blistering pace of an increasingly digital world.Real-time records paired with analytics also can provide a business with a more complete picture of what's happening in its warehouse operations. And that can serve as fuel to help the business to drive continuous improvement.

References

[1] https://www.camcode.com/asset-tags/top-mobile-apps-for-warehouse-managers/