



GadgEon

Engineering Smartness

NEXT GEN ORDER PICKING SOLUTION

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Version 01



Next Generation Order Picking Solution for Warehouse



A Warehouse management system provider wanted to develop an efficient and accurate solution for their order picking challenges. The current manual order picking process has challenges like low productivity, expensive order picking errors were common due to wrong placement of inventory items, longer order picking cycles, increased cost so on.

Solution Description

- Gadgeon's Next-Gen order picking solution uses an AR based HMD combined with voice-guided picking to produce a faster, hands-free solution in industrial environments
- The solution has the following major functional components:
 - WMS Interface to download relevant data for the orders to be fulfilled
 - Path-planner module – calculates the shortest path to collect all the items in a given set of orders
 - Wearable smart-glass that guide visually and audibly to pick the orders
 - Scanning of item's object code (QR code) by the HMD.

Outcome and Benefits Delivered

- Communicating clearly with the picker via audio and visual display at each step of the picking process reduced manual errors significantly.
- PathFinder module with the shortest path enabled the order picker to complete the process accurately and efficiently.
- Head-mounted displays or the smart glasses offered hands-free solution, reduced the order picking cycle time



The Business Context and Challenges of the Customer

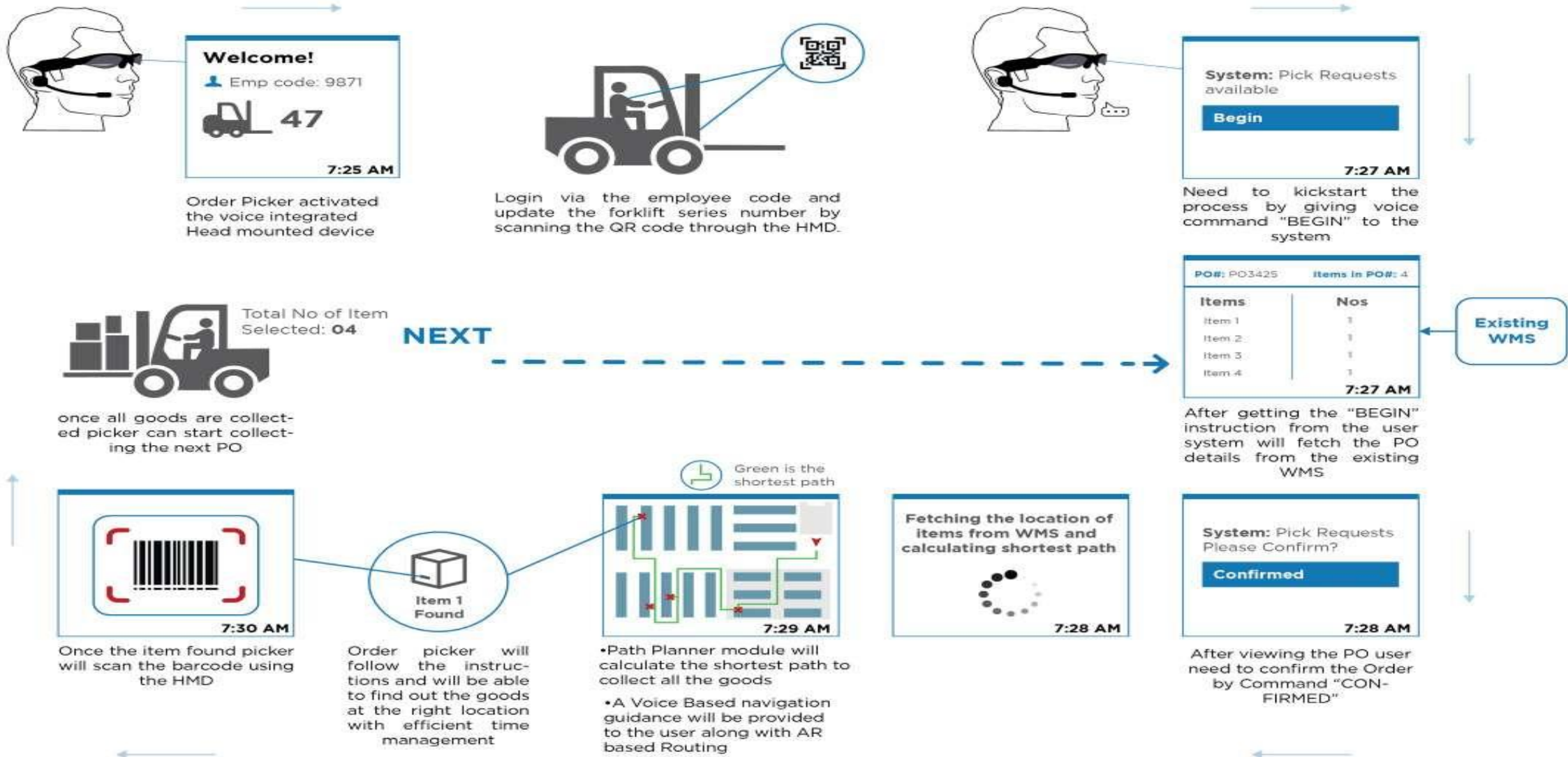
- However typically the Order Picking process has limitations resulting in time-wasting errors like:
 - Not finding the correct items in the locations
 - Takes longer to complete an order fulfilment due to manual processes involved
 - Picking the wrong items or quantities
 - Unaddressed half picked orders
- Major percentage of the total operation cost of a Warehouse is for Order picking, hence the limitations and errors in this area results in un-necessary cost and operational loses



The Solution / System Description

- Gadgeon's Next Gen Order picking uses wearable technology combined with vision-and-voice-guided picking to produce a faster, hands-free solution for industrial environments
- Uses smart glasses that merge virtual images and information with a picker's surrounding environment
- The picker wears the glasses, follows the commands given, and scans product barcodes all within the glasses' display
- The combination of real-world and virtual information provides speed and accuracy
- Our solution has the following major functional components:
 - WMS Interface to download relevant data for the orders to be fulfilled
 - Path-planner (Auto-navigation) module – calculates the shortest path to collect all the items in the set of orders
 - Wearable smart-glass that guide visually and audibly to place the product into the right position on the picking cart

System / Architecture Description





The System Description

Passive/Pre-defined Path planning

- Once the list of orders are known to our central server, it prepares an optimal path and gets downloaded to the glasses
- There won't be any active checking for optimal path in between - in case the driver made some detour from the path given to him
- May result in sub-optimal route usage as well order fulfillment

Active/Dynamic path planning

- Additional hardware on the order Picker vehicle, like Camera + IMU sensors + Processing unit or BLE based sensors deployed in the warehouse to dynamically locate the current position of the vehicle
- If the new position indicates a deviation from the initial path, recalculation can be triggered to compute new optimum path from the current position for the remaining items to be picked
- This will ensure that the vehicle always be traveling in the most optimum path

THANK YOU



For More Details, Let's Connect



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