

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

OPEN v2.0: Smart Order Picking

The Capstone Experience

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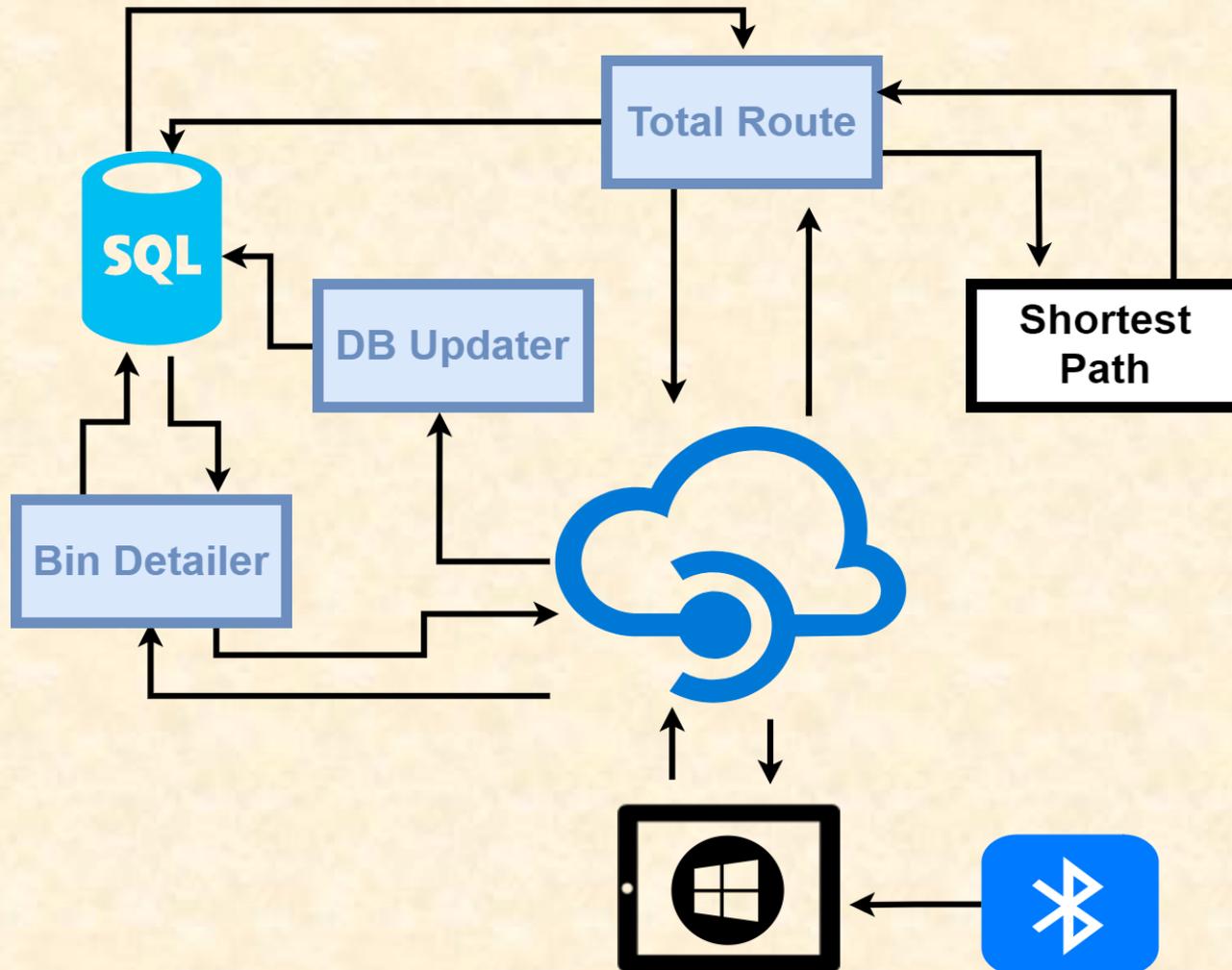
Fall 2017



Project Overview

- Enhance Warehouse Order Picking Process
- Include Real Time Inventory Control
- Integrate with Current Application (O.P.E.N v2.0)

System Architecture



Administration Panel

The screenshot shows a web browser window with the address bar displaying `ec2-18-220-3-73.us-east-2.compute.amazonaws.com:3004`. The page title is "Grid". The interface includes several input fields and controls:

- Rows:** Input field with value "20".
- X Dimension (ft):** Input field with value "20".
- Cell Dimension X (ft):** Input field with value "1".
- Select Dimension X (ft):** Input field (empty).
- Cols:** Input field with value "20".
- Y Dimension (ft):** Input field with value "10".
- Cell Dimension Y (ft):** Input field with value "0.5".
- Select Dimension Y (ft):** Input field (empty).

Below the input fields are several controls:

- Generate:** Button.
- DESELECT / SELECT:** Toggle switch, currently in the "SELECT" position.
- HIDE ENTITY / SHOW ENTITY:** Toggle switch, currently in the "SHOW ENTITY" position.
- 100%:** Dropdown menu.
- Export Grid:** Button.
- Add Entity:** Button.

At the bottom, there are two sections for importing data:

- Import Grid:** Includes a "Choose File" button and the text "No file chosen".
- Import Image:** Includes a "Choose File" button and the text "No file chosen".
- Load Grid:** Button.
- Upload Grid:** Button.

The main area of the page is a large grid with 20 columns and 20 rows.

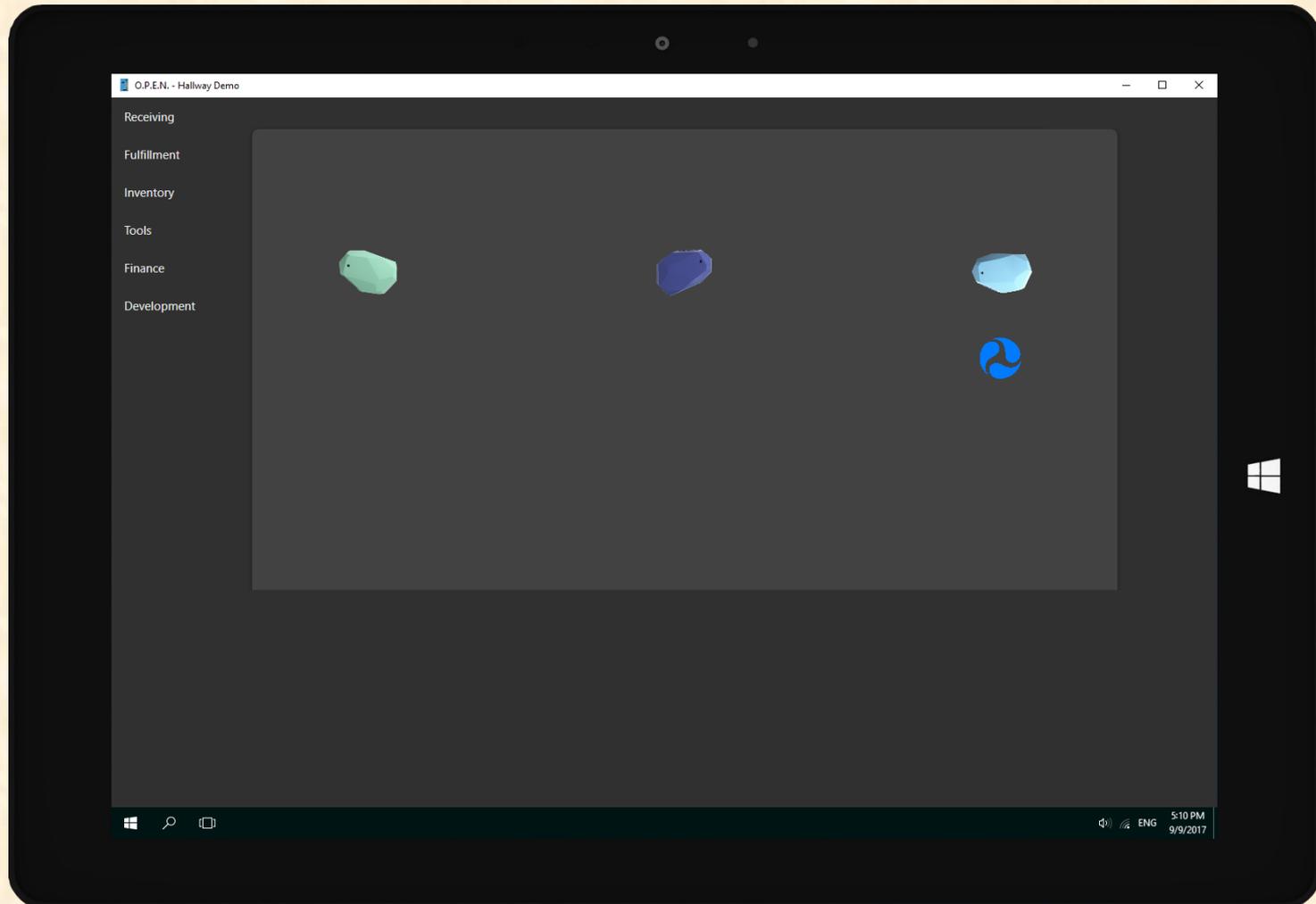


Administration Panel

The screenshot displays a web-based administration panel for a grid system. At the top, a browser window shows the URL `ec2-18-220-3-73.us-east-2.compute.amazonaws.com:3004`. The main interface is divided into several sections:

- Grid Configuration:** Fields for Rows (125), X Dimension (ft) (250), Cell Dimension X (ft) (2), and Select Dimension X (ft) (0.0164). Below these are fields for Cols (125), Y Dimension (ft) (250), Cell Dimension Y (ft) (2), and Select Dimension Y (ft) (-0.0167). A "Generate" button is located to the left of the Cols field.
- Entity Management:** A central logo with "DESELECT" and "SELECT" labels. To its right are "HIDE ENTITY" and "SHOW ENTITY" buttons, along with a "100%" dropdown, "Export Grid", and "Add Entity" buttons.
- Import Options:** Two sections: "Import Grid" with a "Choose File" button and the filename `testGridAfterGrid_7.grid`; and "Import Image" with a "Choose File" button and the filename `WarehouseMap.JPG`. "Load Grid" and "Upload Grid" buttons are also present.
- Grid Layout:** A large grid visualization showing various colored blocks and labels. A legend on the left lists 12 numbered items (1-12) and 12 categories (Cage, Order, start, Exceptions, Quality, Shipping, mgr, reviewing), each with "edit" and "delete" buttons. The grid itself features red blocks for "Cage" and "Quality Control", blue blocks for "Order Printing" and "Shipping", and various other colored blocks and lines representing the layout. Labels like "XPT", "PG", "MR", and "MR" are scattered throughout the grid.

Bluetooth Demo



Map Order Fulfillment

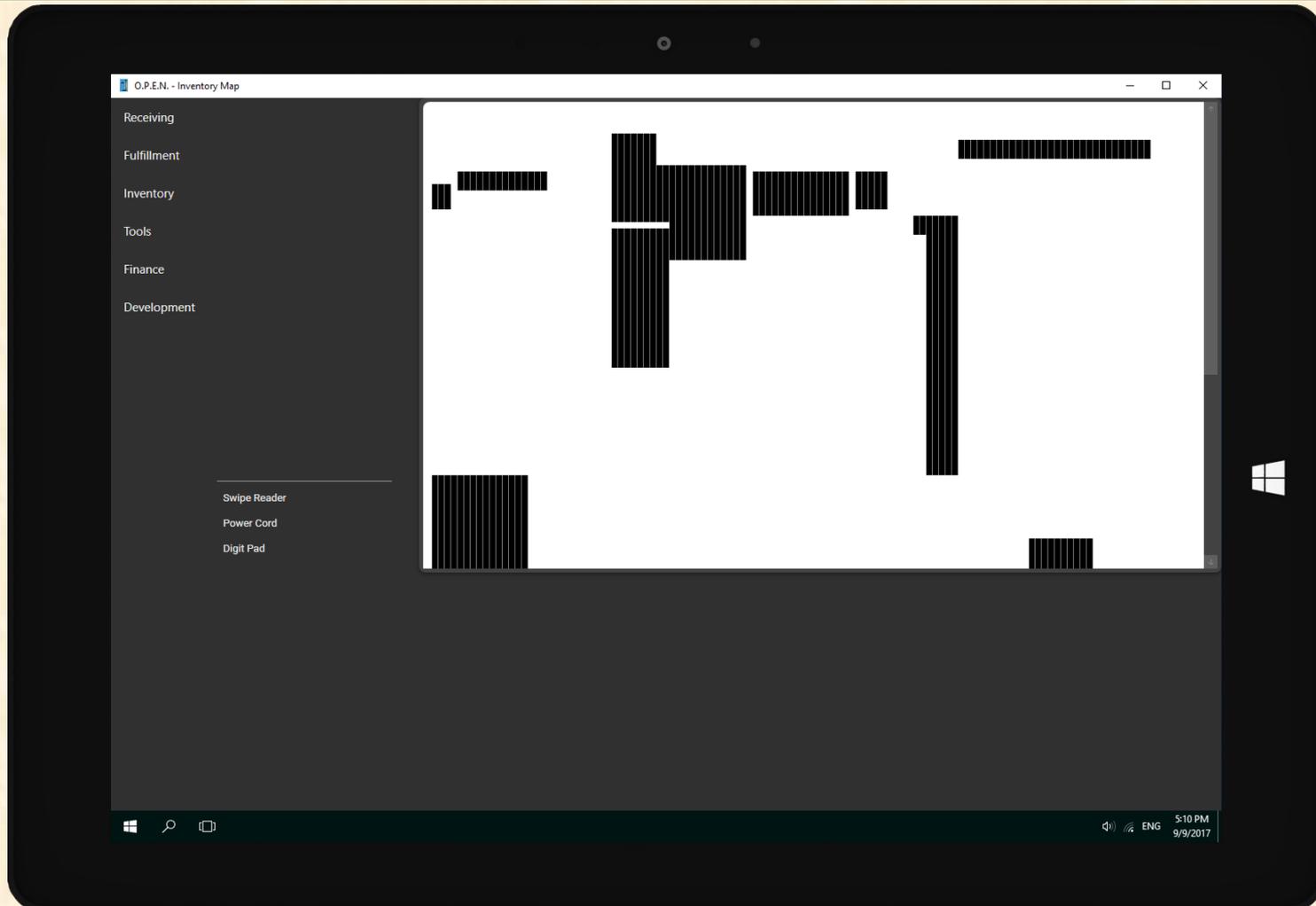
The screenshot shows a tablet interface for a warehouse management system. The main window is titled "O.P.E.N - Find My Route". On the left, there is a vertical navigation menu with the following items: Receiving, Fulfillment, Inventory, Tools, Finance, and Development. The central area displays a grid-based map of a warehouse layout with various aisles and storage bins. A green path is highlighted on the left side of the map, indicating a route. Below the map, there is a table with the following data:

Item Name	Item Location	Item Quantity	
Swipe Reader	Aisle 45 Bin 3	2	Move to Front of Queue
Power Cord	Aisle 3 Bin 4	4	Move to Front of Queue
Digit Pad	Aisle 10 Bin 1	36	Move to Front of Queue
USB Cable	Aisle 33 Bin 3	12	Move to Front of Queue

At the bottom right of the map area, there is a blue button labeled "Collapse Ticket". The Windows taskbar is visible at the bottom of the tablet screen, showing the time as 5:10 PM on 9/9/2017.



Inventory Map



What's left to do?

- Full Routing On All Items
- Connect All API Functionality
- Integrate BLE Into Tablet Routing
- Inventory Interface on Tablet
- Interface Bar Code Scanner for Inventory



Questions?

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