

# Sales Order Picking

## Project Specifications

### Group B

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# Índice

<b>Project overview</b>	<b>3</b>
<b>Functionalities/Features</b>	<b>4</b>
BPMN for Picker	4
Picker Functionalities/Features	4
Picker views picking wave to be prepared	4
Picker enters location of a product	4
Picker views product units to pick	4
Picker checks picked products	4
Manager Functionalities/Features	5
Manager views sales orders and pickers	5
Manager views Inventory	5
Manager creates picking wave	6
Manager appoints picking waves to pickers	6
Manager receives a Delivery Note	6
Other Functionalities/Features	6
User Authentication	6
Calculate best route for a picking wave	6
<b>Information Architecture</b>	<b>7</b>
Picker	7
Picker views picking wave to be prepared	7
Picker enters location of a product	7
Picker views product units to pick	8
Picker finishes all picking waves	9
Manager	9
Manager views Inventory	9
Manager creates picking waves and appoints them to pickers	10
Manager views all pickers	10
Other functionalities/features	11
User Authentication	11
<b>Planning (Gantt Project)</b>	<b>12</b>

## **Project overview**

In general, this project consists of creating a Web App that allows users to make a picking process of a sales order.

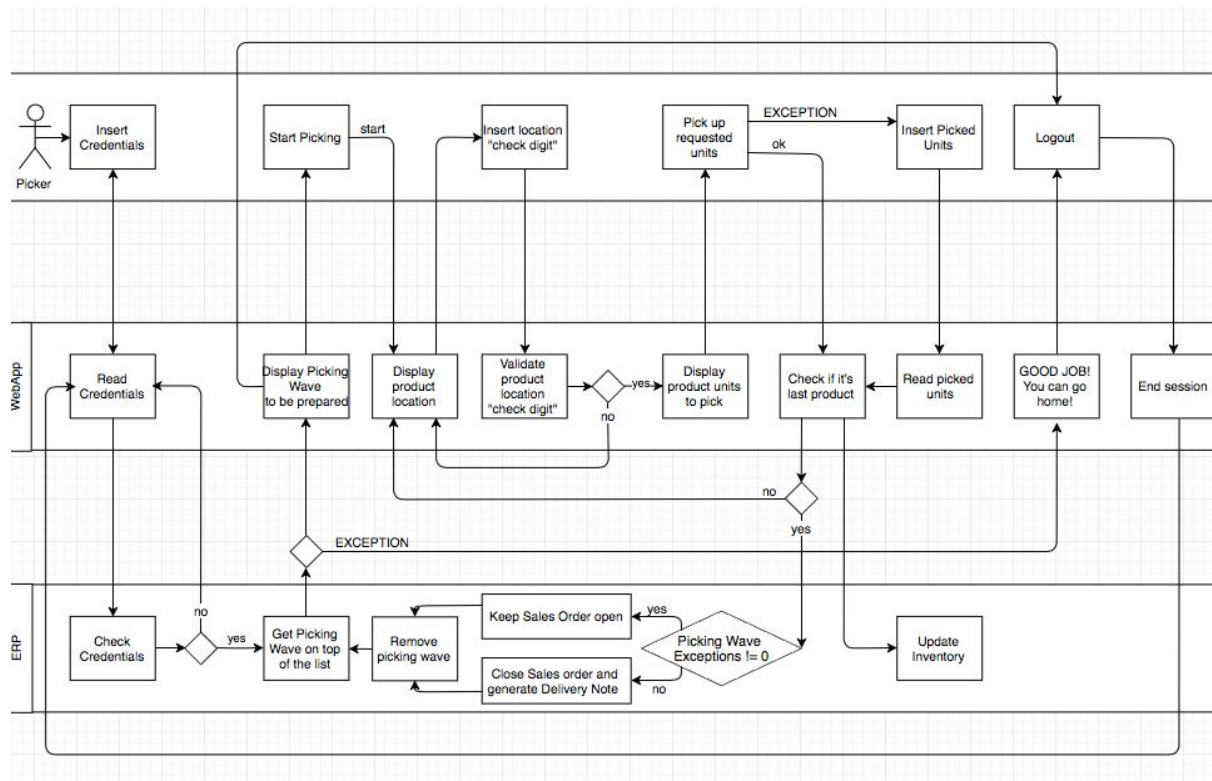
It is considered that the Web App has two types of users, namely the picker and manager, in which the latter is responsible for assigning sales orders to the existing pickers and the former receives the appointed set of sales orders. Then, our system calculates the proper route to be followed by the picker to collect the different products of each picking wave.

This product is based on the process that is implemented in Sonae's Modelo Continente, allowing the pickers to view the best route to pick several products that are listed in a picking wave, as well as reduce the decision-making load of the picking process and increase productivity.

More specifically, we opted for the PBS process, which stands for Picking by Store. In this process, each sales order corresponds to an order commissioned by a store, which includes several products in various quantities. Pickers are appointed to one or more sales orders, picking the products of several sales orders at a time. This means, once all the products in a picking wave have been picked, the picker moves on to the next picking wave and so on until all have been finished.

# Functionalities/Features

## BPMN for Picker



## Picker Functionalities/Features

### 1. Picker views picking wave to be prepared

The picker should be able to see the products of the picking wave he will prepare.

### 2. Picker enters location of a product

The user should be able to enter the code of the location of the product that he is being told to pick.

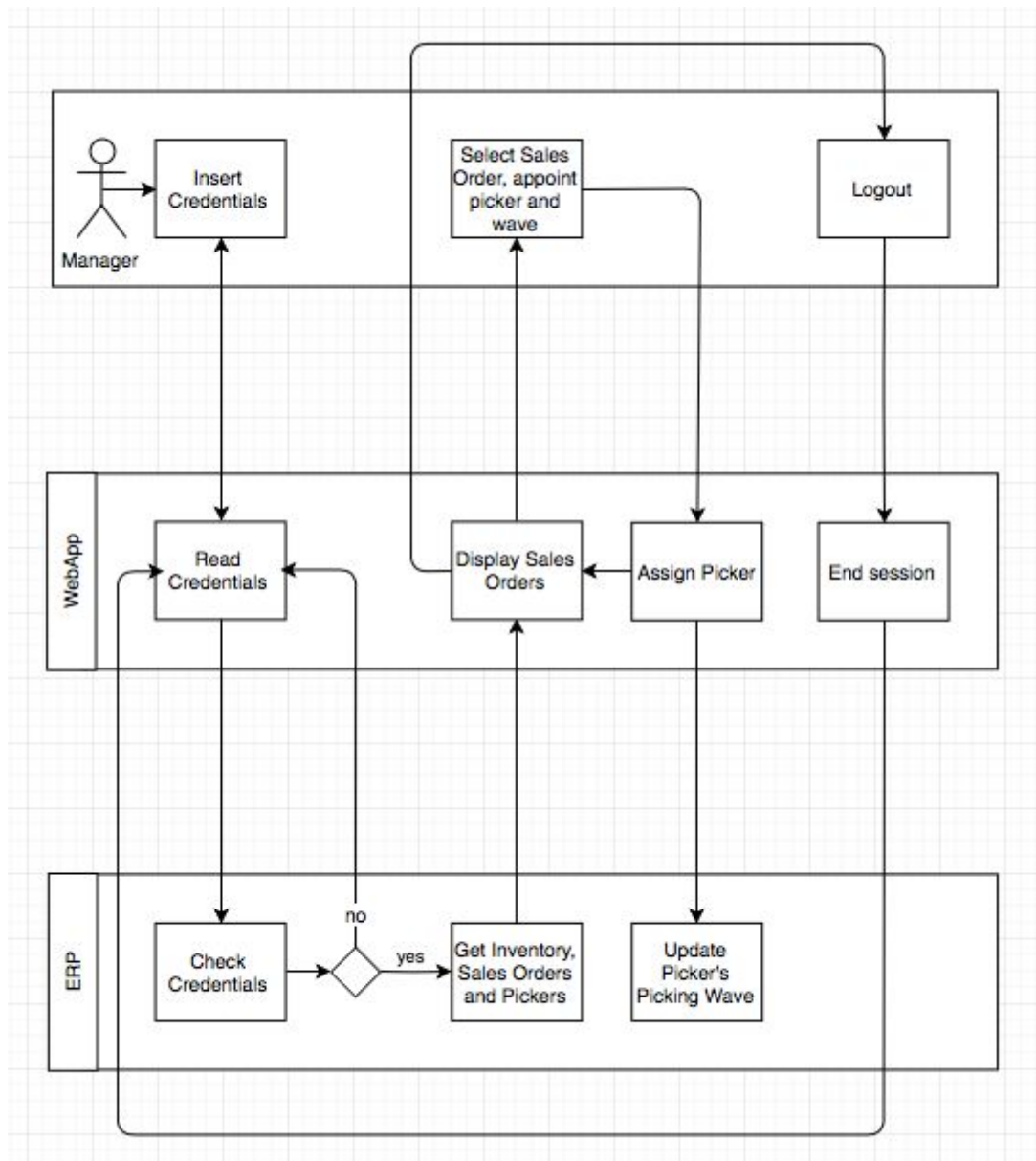
### 3. Picker views product units to pick

The picker should be able to view the quantity of a product he will pick.

### 4. Picker checks picked products

The picker should be able to check a product as picked.

## BPMN for Manager



## Manager Functionalities/Features

### 1. Manager views sales orders and pickers

The webapp should be able to display all the available sales orders and all available pickers to the manager.

### 2. Manager views Inventory

The manager should be able to view all the available and non-available inventory in the warehouse, as well as the reference, name and quantity of each product.

**3. Manager creates picking wave**

The manager should be able to create picking waves.

**4. Manager appoints picking waves to pickers**

The manager should be able to assign picking waves to a picker.

**5. Manager receives a Delivery Note**

The manager should be able to receive a delivery note for each sales order that is completed by a picker.

**Other Functionalities/Features**

**1. User Authentication**

The user (manager or picker) can authenticate in the webapp.

**2. Calculate best route for a picking wave**

The route to be executed is calculated with the entry point as the reception and the exit point as the delivery location, passing by all locations.

# Information Architecture

## Picker

### 1. Picker views picking wave to be prepared

The screenshot shows a web application interface with a top navigation bar containing 'Logo', 'Home', 'Wave', and 'Logout' buttons. The main content area is titled 'Picking wave to be prepared' and includes a sub-header 'Picking Wave 1' and a date '20/11/2018'. Below this is a table with three columns: '#', 'Product', and 'Quantity'. The table contains five rows of data. At the bottom right of the interface is a 'Start picking' button.

#	Product	Quantity
1	Honda	2009
2	Toyota	2012
3	Hyundai	2010
4	Honda	2009
5	Toyota	2012

### 2. Picker enters location of a product


The screenshot shows a web application interface with a top navigation bar containing 'Logo', 'Wave', and 'Logout' buttons. The main content area is titled 'Product Location' and includes a sub-header 'PRODUCT XPTO' and a date '20/11/2018'. Below this is a prompt 'Enter location's check digit:'. Under the prompt are four input boxes containing the digits '2', '1', '1', and '3'. At the bottom center is an 'OK' button.

### 3. Picker views product units to pick

Logout

Wave

Logout

Product Location 

PRODUCT XPTO20/11/2018

Quantity: 200 units


OK

Not enough units

Logout

Wave

Logout

Product Location 

PRODUCT XPTO20/11/2018

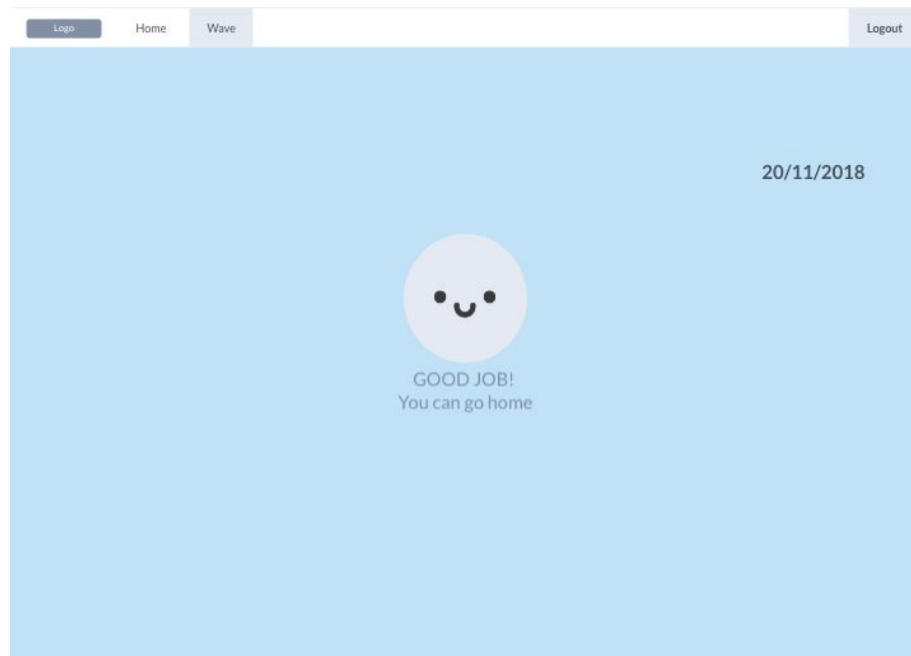
Quantity: 200 units

Picked: 150 units

OK

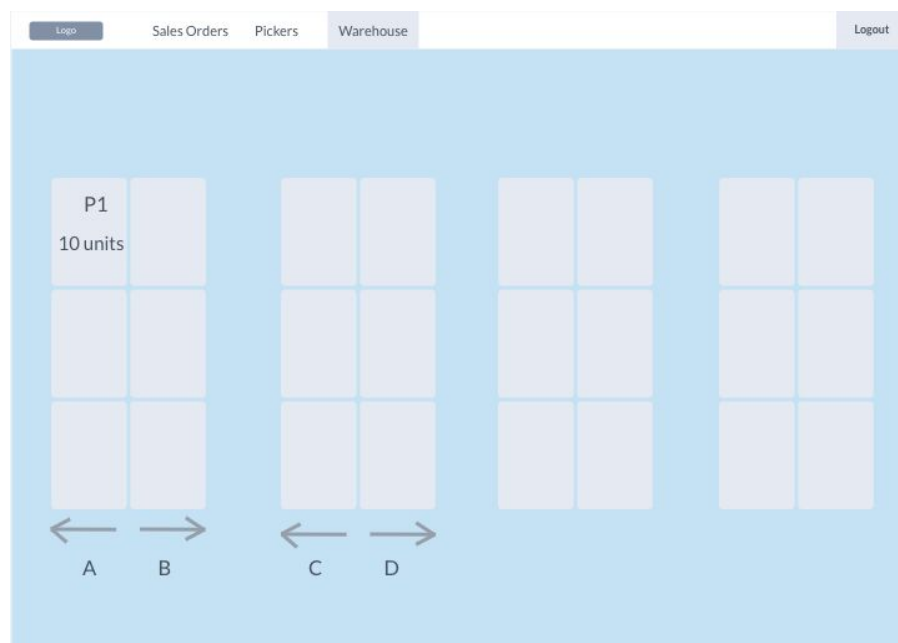


#### 4. Picker finishes all picking waves



### Manager

#### 1. Manager views Inventory



## 2. Manager creates picking waves and appoints them to pickers

Logo

Sales Orders

Pickers

Warehouse

Logout

✓ Sales Order 1 - Store 43 - Order Date

Wave 1 of Picker 1

▼

Product - P1 location - 5 Unit.

Product - P3 location - 2 Unit.

Product - P6 location - 10 Unit.

Product - P8 location - 1 Unit.

✓ Sales Order 2 - Store 45

Select wave of Select picker

▼

☐ Sales Order 3 - Store 4

▼

☐ Sales Order 4 - Store 32

▼

☐ Sales Order 5 - Store 5

▼

☐ Sales Order 6 - Store 13

▼

123...202122

## 3. Manager views all pickers


Logo

Sales Orders


Pickers

Warehouse


Logout




Picker 1




Picker 2




Picker 3




Picker 4




Picker 5




Picker 6




Picker 7




Picker 8




Picker 9



Picker 10



Picker 11



Picker 12

123...202122

## Other functionalities/features

### 1. User Authentication

### Sign up

Lorem ipsum dolor sit amet, consectetur  
adipiscing elit. In nec nibh vitae...

Sign up

By signing up you agree to our  
Terms & Conditions

### Sign in

Lorem ipsum dolor sit amet, consectetur  
adipiscing elit. In nec nibh vitae...

Sign in

Forgot your password?

## Planning (Gantt Project)

In order to organize the development of the project, we use a tool that allows us to organize the different tasks in temporal terms and assign them to the team's elements. It is also considered that the effort of the task is proportional to the size of the rectangles.

