U.PORTO

Information Systems, MIEIC

Tempura

P3 - 360º Company Dashboard

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1. Project Overview

With this project we strive to create a web application that is able to present information and key performance indicators (KPIs), relevant to any business, in a more comprehensive and straightforward manner.

In order to achieve our main objective we intend on implementing a dashboard that focuses on displaying all kinds of data using a more graphical centered approach, from high level information about a company, such as its sales or purchases, to more specific information, for example a product's price variation.

This web application interoperates with the Primavera ERP and is meant for the company's internal use.
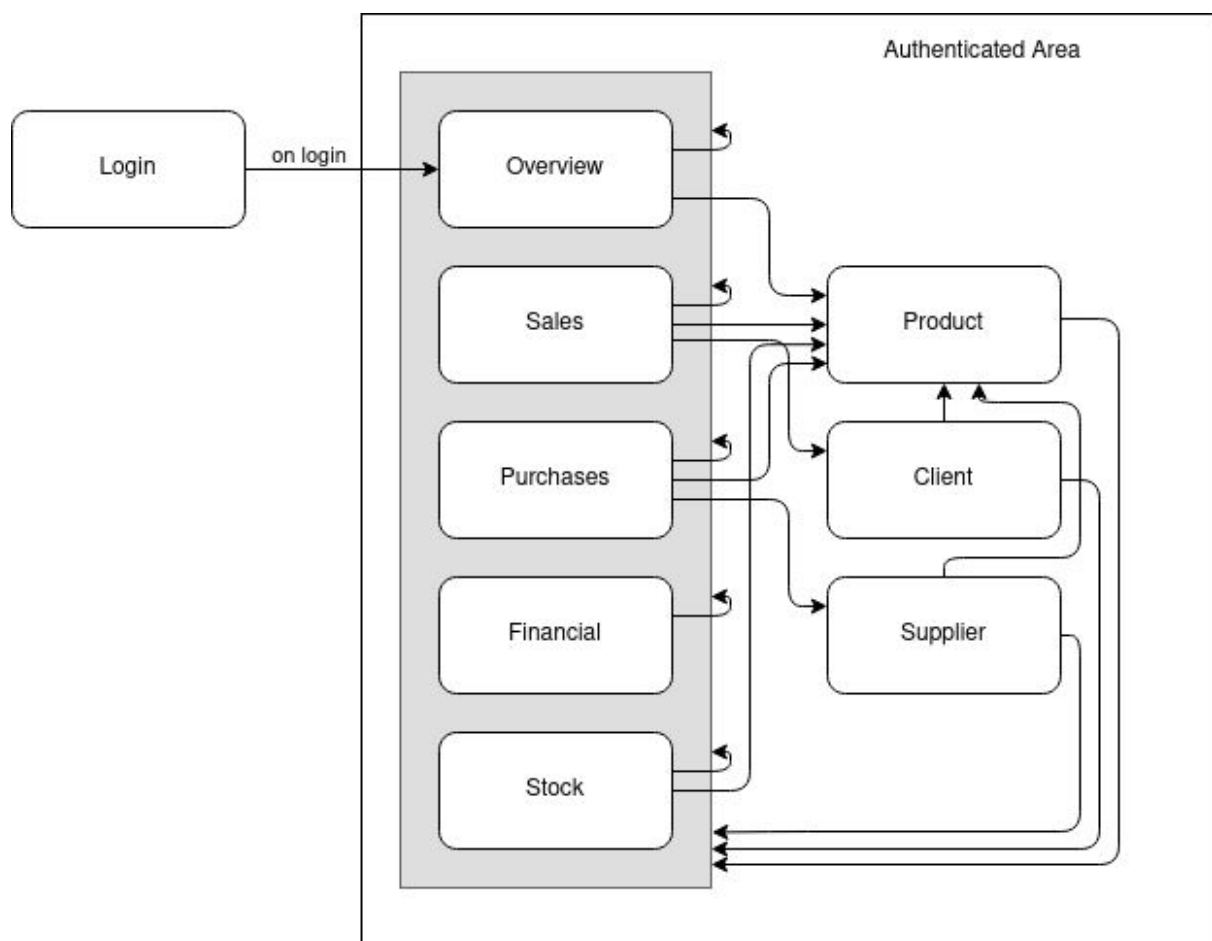
Figure 1: Sitemap of the project

To achieve this, we conceptualized a resale's company called *Tempura*.
It focuses on bringing fresh, traditional asian food products to Europe. It acquires big amounts of nourishment products (such as Sushi, Hosomakis, Yakisoba, …) and resells them to big food chains. This type of company lets us understand basic industry behaviours and financial strategies. We will now define the company's sales and purchases procedures.

2. Functionalities

Overall content inventory of the project, sitemap

2.1. Overview

Functionality	Description	Value
Total Profit	The amount of profit made so far.	Understand how much the company has profited.
Total Revenue	Value of the total sales volume.	Understand how much the company has received.
Total Costs	Value of all the company's expenses and costs.	Understand how much the company has spent.
Liquidity	The company's liquidity value.	Understand how easily the company can meet its financial obligations with the liquid assets available.
Revenue Growth	Graphic displaying the revenue growth of the company.	Understand the company's revenue evolution over time.
Top Selling Products	List of the top selling products.	Understand which are the most bought products.

Table 1: Functionalities present on the Overview core view

2.2. Sales

Functionality	Description	Value
Total Revenue	Value of the total sales volume.	Understand how much the company has received from sales to clients.
Costs of Goods Sold vs Sales Revenue	Two line graph of cost of goods sold and sales revenue through time.	Understand the profit margin of the company throughout the time of operation.
Top Clients	List of clients top clients.	Understand who are the most lucrative clients.
Average Sales Price	Average value of sales.	Understand what is the average client's purchase value.
Top Selling Products	List of the top selling products.	Understand which are the most bought products.

Table 2: Functionalities present on the Sales core view

2.3. Purchases

Functionality	Description	Value
Total Cost of Goods	Value of the total purchase volume.	Understand how much the company spends on purchases from suppliers.
Top Products Purchased	List of the top purchased products.	Understand what are the most purchased products.
Top Suppliers	List of the top suppliers.	Understand what suppliers the company purchases more inventory from.
Best Supplier Region	Pie chart of suppliers by their regions.	Understand where your stock is coming from.

Table 3: Functionalities present on the Purchases core view

2.4. Financial

Functionality	Description	Value
Revenue Growth	Graphic displaying the revenue growth of the company.	Understand the company's revenue evolution over time.
Accounts Receivable	Credit supplied to clients.	Understand how much money the clients owe to the company.
Accounts Payable	Amount of money owed to suppliers.	Understand how much liabilities the company has to its suppliers.
Total Profit	The amount of profit made so far.	Understand how much the company has profited.
Balance Sheet	A table presenting the company's balance sheet.	Understand the company's financial status.

Table 4: Functionalities present on the Financial core view

2.5. Stock

Functionality	Description	Value
Total Value of Assets in Stock	Value of the assets in stock.	Understand how much all the items currently in stock are worth.
Inventory Turnover	Number of times the inventory is replaced in a year.	Understand how efficiently the company can convert its inventory into sales.

Functionality	Description	Value
Average Inventory Period	Average number of days the company takes to sell all current stock.	Understand how efficiently the company can convert its inventory into sales.
Product List	Table that lists all the products in stock with relevant information about each product.	Understand how many units of each product are in stock, as well as their ids, purchase and resale values and units sold.
Average Sales Volume	Average number of units sold in a determined accounting period.	Understand how many units the company sells per accounting period.

Table 5: Functionalities present on the Stock core view

2.6. Product Drilldown

Functionality	Description	Value
Information	Product's important information and a detailed description.	Understand what kind of product is being looked at.
Units Sold	Number of units sold in a given time period.	Understand how well a particular product is doing.
Units in Stock	Number of units currently in stock.	Understand the need for the company to acquire more stock of a certain product.
Average Price	Average price throughout time.	Understand the average cost of the product to the company.
Average Retail Price	Average retail price throughout time.	Understand the revenue that this product provides to the company.
Average Profit Margin	Average profit margin throughout time.	Understand the profit margin that this product has given the company.

Table 6: Functionalities present on the Product Drilldown core view

2.7. Supplier Drilldown

Functionality	Description	Value
Information	Supplier's important information and a detailed description.	Understand what supplier is being looked at.
Total Purchases	Total number of purchases from that	Understand the volume of stock purchased from the supplier.

	supplier.	
Accounts Payable	Amount of money owed to that supplier.	Understand the company's liabilities to this supplier.
Top Purchased Products	List of the top purchased products from that supplier.	Understand what the most common products purchased from this supplier are.

Table 7: Functionalities present on the Supplier Drilldown core view

2.8. Client Drilldown

Functionality	Description	Value
Information	Client's important information and a detailed description.	Understand what customer is being looked at.
Total Sales	Total number of sales to that client.	Understand the volume of sales made with this client.
Accounts Receivable	Amount of credit supplied to that client.	Understand how much this client owes the company.
Top Sold Products	List of the top sold products to that client.	Understand what products are most commonly bought by this client.

Table 8: Functionalities present on the Client Drilldown core view

2.9. Other Functionalities

Functionality	Description	Value
Login/Logout	Users can login and logout.	Allow the users to access the dashboard.
Change time window	Users can change the time period of the display data.	Allow the users to view data collected during a specific time period.
Export SAF-T	Export a SAF-T file with the company information.	Allow the user to export a SAF-T file.
Import SAF-T	Import a SAF-T file and extract the present information.	Allow the user to import the information contained on a SAF-T file.

Table 9: Other functionalities
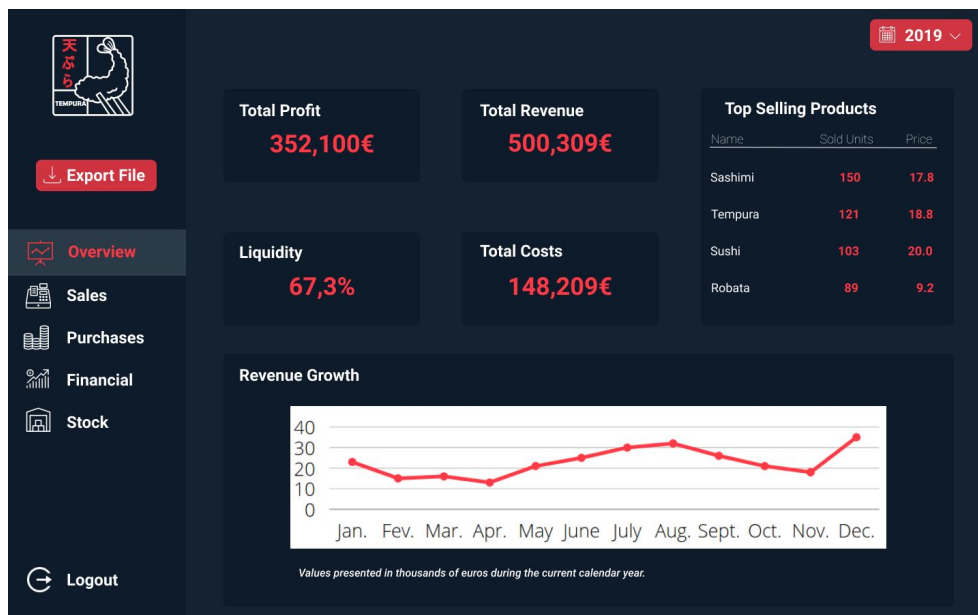
3. Information Architecture

3.1. Overview Core

USER AND BUSINESS GOALS

- company overview (Profit, Revenue, Costs, Growth...)
- view to be used as management tool
- quick overview of the state and performance of the company

INWARD PATHS

- Login
- Logo Button
- Left Side Menu
- URL
  {https://tempura/
  overview}

OUTWARD PATHS

- Provide the user with a global view of the company in a given period of time
- Changing the viewing period (year)
- Export analysis
- Drilldown to know more on Products
- Access to the left side menu

ELEMENTS OF THE CORE

KPI_001(KPI) | Total Profit   KPI_002(KPI) | Total Revenue   KPI_003(KPI) | Liquidity

KPI_004(KPI) | Total Costs   KPI_005(KPI) | Revenue Growth

LIST_001(LIST) | Top Selling Products

3.2. Sales Core

USER AND BUSINESS GOALS

- Sales overview
- View to be used as management tool

INWARD PATHS

- Left Side Menu
- URL
  {https://tempura/sales}

OUTWARD PATHS

- Provide the user with a more concrete view of a company's sales, as well as additional relevant information (top customers, top products sold)
- Changing the viewing period (year)
- Export analysis
- Access to the left side menu
- Drilldown to know more on Products and Clients

ELEMENTS OF THE CORE

KPI_001(KPI) | Total Revenue   KPI_002(KPI) | Average Sales Price

LIST_001(LIST) | Top Clients   LIST_002(LIST) | Top Selling Products

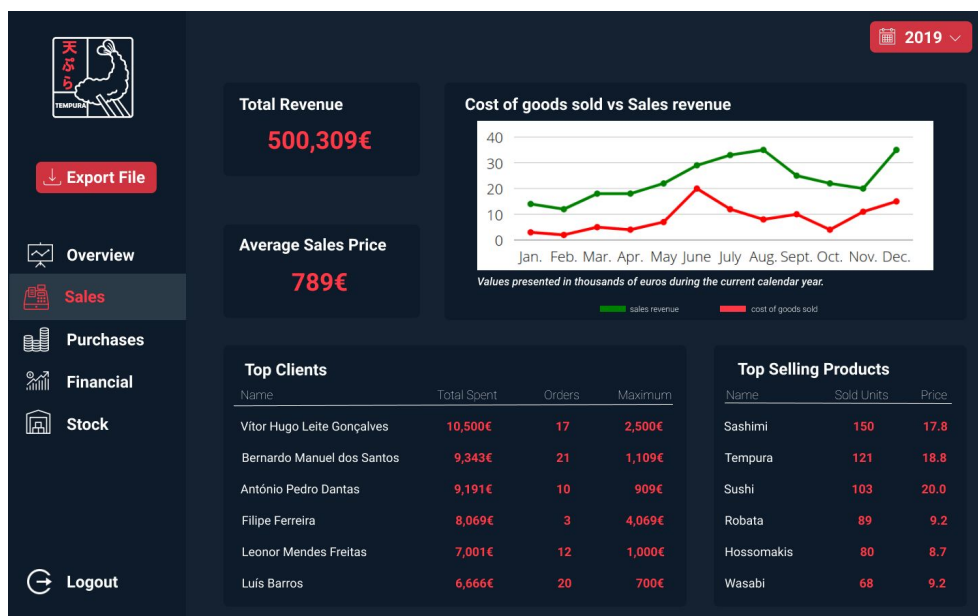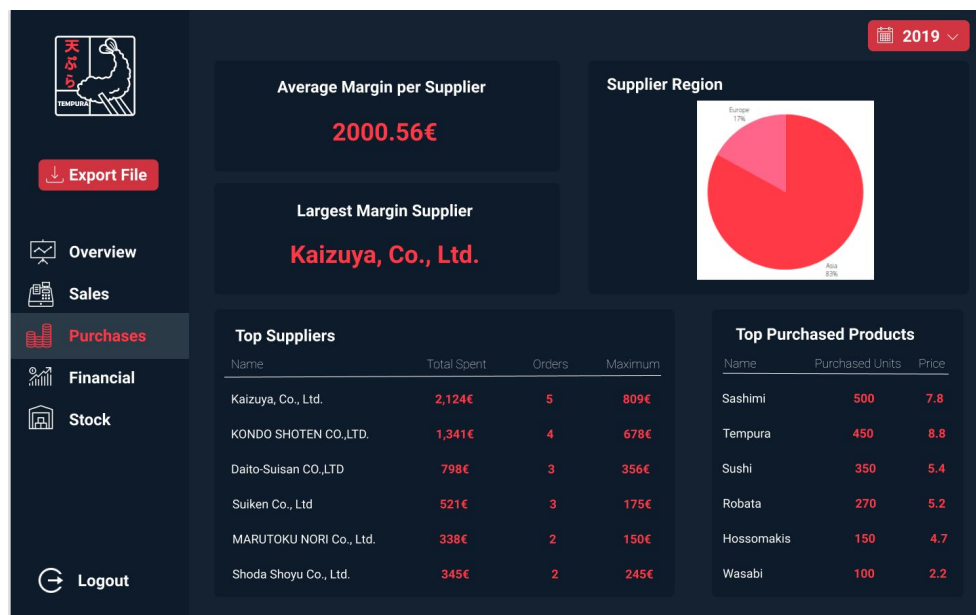LINE_001(LINE) | Cost of Goods Sold vs Sales Revenue

3.3. Purchases Core

USER AND BUSINESS GOALS

- Purchases overview
- View to be used as management tool

INWARD PATHS

- Left Side Menu
- URL
  {https://tempura/purchases}

📅 **2019** ⌄

Average Margin per Supplier

2000.56€

⬇ **Export File**

Largest Margin Supplier

Kaizuya, Co., Ltd.

Supplier Region

Europe 17%

Asia 83%

📉 Overview

📒 Sales

📕 Purchases

📊 Financial

🏛 Stock

↩ Logout

Top Suppliers

Name	Total Spent	Orders	Maximum
Kaizuya, Co., Ltd.	2,124€	5	809€
KONDO SHOTEN CO.,LTD.	1,341€	4	678€
Daito-Suisan CO.,LTD	798€	3	356€
Suiken Co., Ltd	521€	3	175€
MARUTOKU NORI Co., Ltd.	338€	2	150€
Shoda Shoyu Co., Ltd.	345€	2	245€

Top Purchased Products

Name	Purchased Units	Price
Sashimi	500	7.8
Tempura	450	8.8
Sushi	350	5.4
Robata	270	5.2
Hossomakis	150	4.7
Wasabi	100	2.2

OUTWARD PATHS

- Provide the user with a more concrete view of related purchases, as well as additional relevant information (top suppliers, top products purchased)
- Changing the viewing period (year)
- Export analysis
- Access to left side menu
- Drilldown to know more on Products and Suppliers

ELEMENTS OF THE CORE

KPI_001(KPI) | Average Margin per Supplier   KPI_002(KPI) | Largest Margin Supplier

PIE_001(PIE) | Supplier Region   LIST_001(LIST) | Top Suppliers

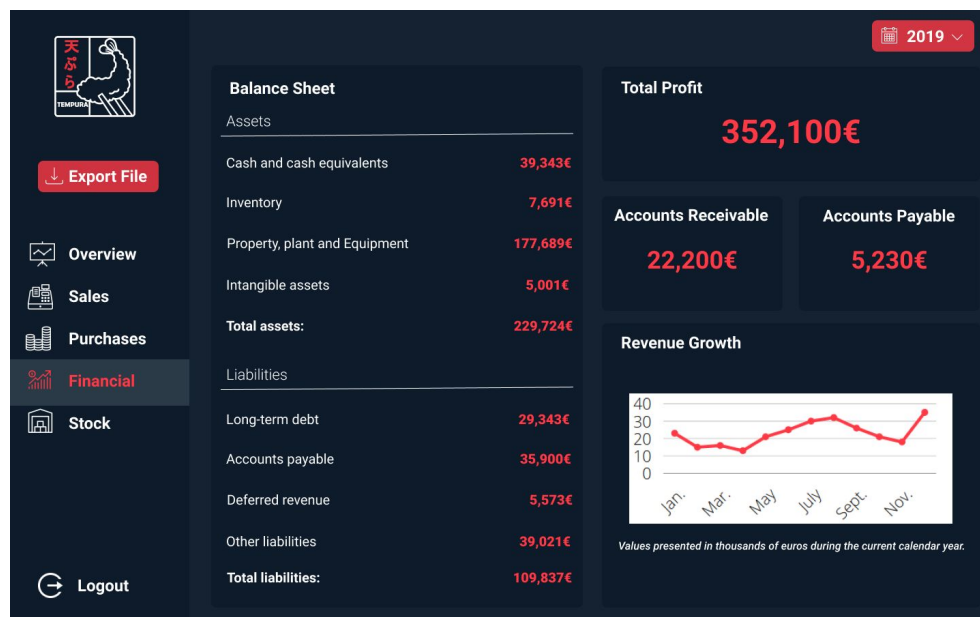LIST_002(LIST) | Top Purchased Product

3.4. Financial Core

USER AND BUSINESS GOALS

- Financial overview
- View to be used as management tool

INWARD PATHS

- Left Side Menu
- URL
  {https://tempura/
  financial}

OUTWARD PATHS

- Provide the user with a more detailed and in-depth view of a company's finances
- Changing the viewing period (year
- Export analysis
- Access to left side menu

ELEMENTS OF THE CORE

LIST_001(LIST) | Balance Sheet   KPI_001(KPI) | Total Profit

KPI_002(KPI) | Accounts Receivable   KPI_003(KPI) | Accounts Payable
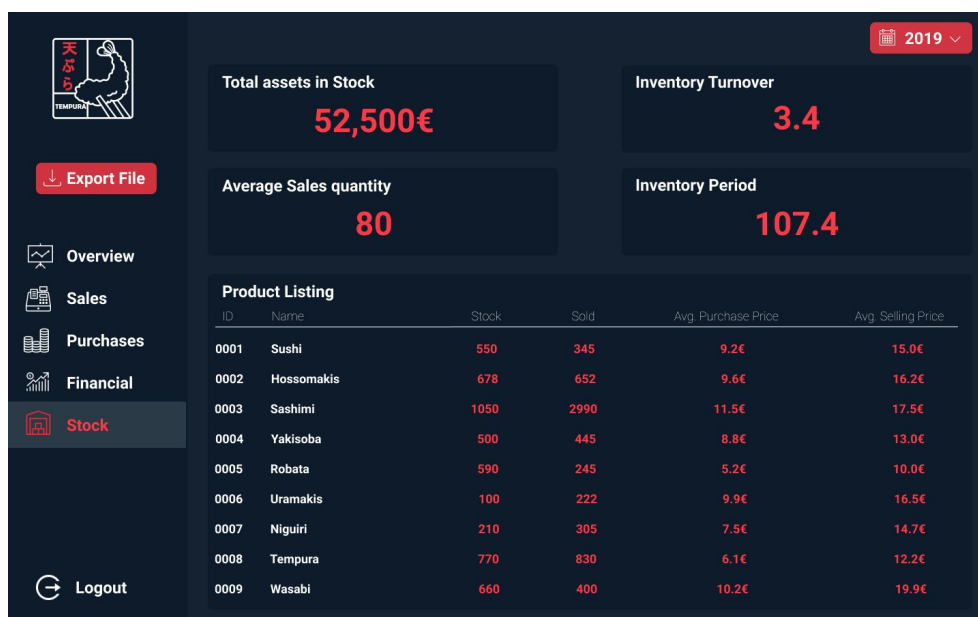
KPI_004(LINE) | Revenue Growth

3.5. Stock Core

USER AND BUSINESS GOALS

- Stock overview
- View to be used as management tool

INWARD PATHS

- Left Side Menu
- URL
  {https://tempura/
  stock}

OUTWARD PATHS

- Provide the user with a more detailed view of the inventory that the company has, as well as additional relevant information for its management (inventory turnover, inventory period)
- Changing the viewing period (year)
- Export analysis
- Access to left side menu
- Drilldown to know more on Products

Stock dashboard

		2019 ⌄
Total assets in Stock 52,500€		**Inventory Turnover** 3.4
Average Sales quantity 80		**Inventory Period** 107.4

Product Listing

ID	Name	Stock	Sold	Avg. Purchase Price	Avg. Selling Price
0001	Sushi	550	345	9.2€	15.0€
0002	Hossomakis	678	652	9.6€	16.2€
0003	Sashimi	1050	2990	11.5€	17.5€
0004	Yakisoba	500	445	8.8€	13.0€
0005	Robata	590	245	5.2€	10.0€
0006	Uramakis	100	222	9.9€	16.5€
0007	Niguiri	210	305	7.5€	14.7€
0008	Tempura	770	830	6.1€	12.2€
0009	Wasabi	660	400	10.2€	19.9€

Left side menu: Overview, Sales, Purchases, Financial, Stock, Export File, Logout

ELEMENTS OF THE CORE

KPI_001(KPI) | Total assets in Stock

KPI_002(KPI) | Inventory Turnover

KPI_003(KPI) | Average Sales quantity

KPI_004(KPI) | Inventory Period
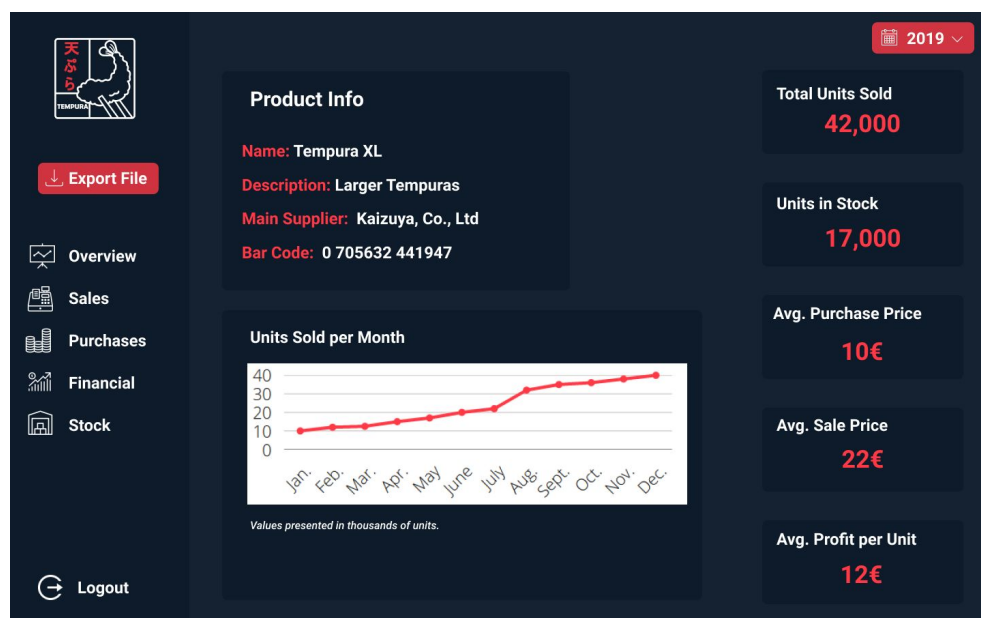
LIST_001(LIST) | Product Listing

3.6. Product Drilldown

USER AND BUSINESS GOALS

- Product overview
- View to be used as management tool
- View detailed Product's information

INWARD PATHS

- Top Selling Products: Overview Core
- Top Selling Products: Overview Core
- Top Purchased Products: Overview Core
- Product Listing: Stock Core
- Top Products Purchased: Client Drilldown Core
- URL {https://tempura/product/id}

Product Info

Name: Tempura XL

Description: Larger Tempuras

Main Supplier: Kaizuya, Co., Ltd

Bar Code: 0 705632 441947

2019 ⌄

Total Units Sold
42,000

Units in Stock
17,000

Avg. Purchase Price
10€

Avg. Sale Price
22€

Avg. Profit per Unit
12€

⤓ Export File

Overview
Sales
Purchases
Financial
Stock

Units Sold per Month

40
30
20
10
0

Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

Values presented in thousands of units.

Logout

OUTWARD PATHS

- Provide the user with the details of the products that the company sells and buys
- Changing the viewing period (year)
- Export analysis
- Access to left side menu

ELEMENTS OF THE CORE

CARD_001(CARD) | Product Info   LINE_001(LINE) | Units Sold per Month

KPI_001(KPI) | Total Units Sold   KPI_002(KPI) | Units in Stock

KPI_003(KPI) | Avg. Purchase Price   KPI_004(KPI) | Avg. Sale Price

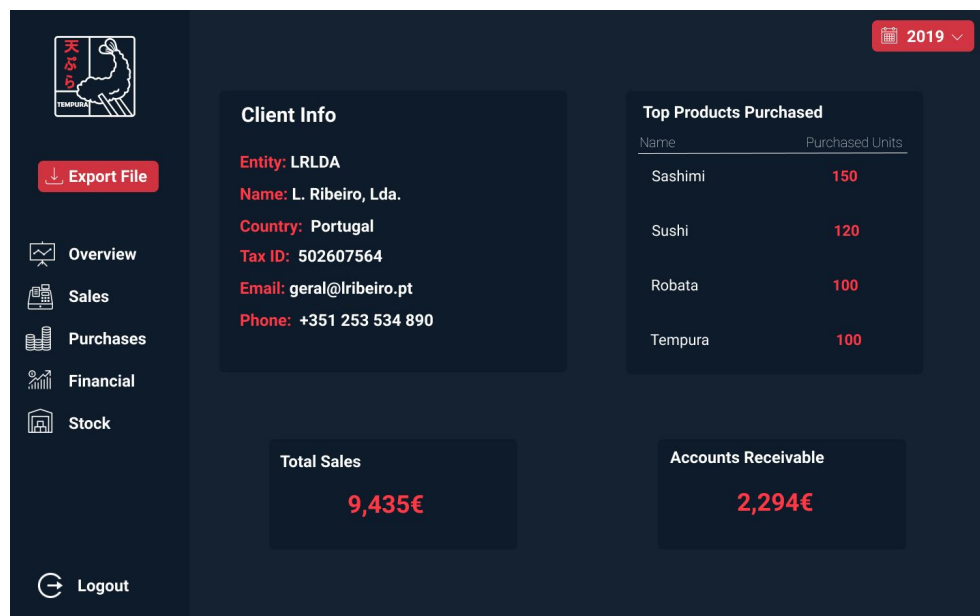KPI_005(KPI) | Avg. Profit per Unit

3.7. Client Drilldown

USER AND BUSINESS GOALS

- Client overview
- View to be used as management tool
- View detailed Client's information

INWARD PATHS

- Top clients:
  Sales Core
- URL
  {https://tempura/
  client/id}

[Dashboard mockup]

2019 ⌄

Client Info

Entity: LRLDA
Name: L. Ribeiro, Lda.
Country: Portugal
Tax ID: 502607564
Email: geral@lribeiro.pt
Phone: +351 253 534 890

Export File
Overview
Sales
Purchases
Financial
Stock
Logout

Top Products Purchased

Name	Purchased Units
Sashimi	150
Sushi	120
Robata	100
Tempura	100

Total Sales
9,435€

Accounts Receivable
2,294€

OUTWARD PATHS

- Provide the user with the information of the clients that generate the most profit for the company.
- Changing the viewing period (year)
- Export analysis
- Access to left side menu
- Drilldown to know more on Products.

ELEMENTS OF THE CORE

CARD_001(CARD) | Client Info   LIST_001(LIST) | Top Products Purchased
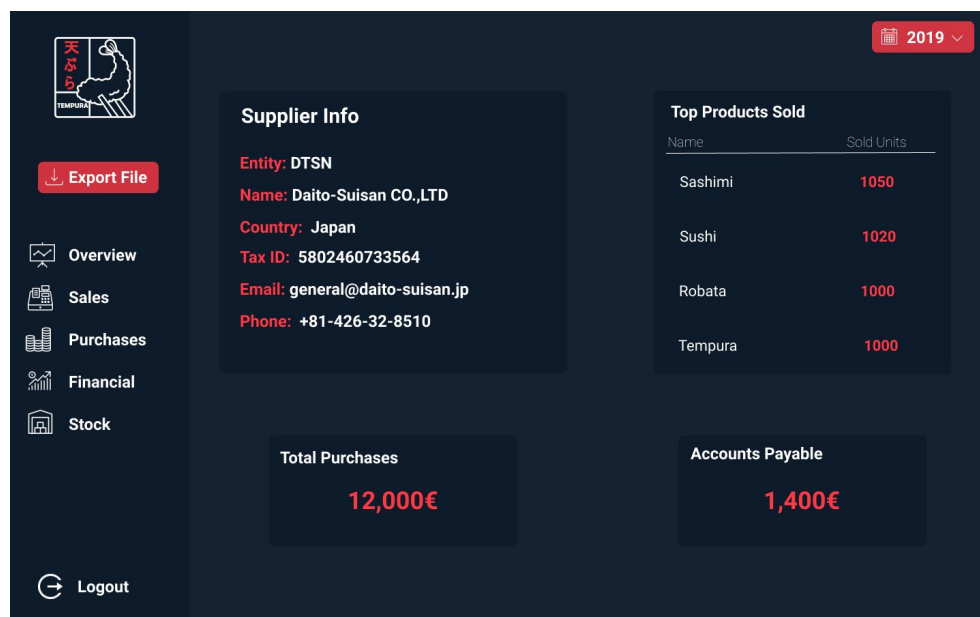
KPI_001(KPI) | Total Sales   KPI_002(KPI) | Accounts Receivable

3.8. Supplier Drilldown

USER AND BUSINESS GOALS

- Supplier overview
- View to be used as management tool
- View detailed Supplier's information

INWARD PATHS

- Top Suppliers: Purchases core
- URL {https://tempura/supplier/id}

OUTWARD PATHS

- Provide the user with the information of the suppliers with whom he most interacts
- Changing the viewing period
- Export analysis
- Access to left side menu
- Drilldown to know more on Products.

Supplier Info

Entity: DTSN
Name: Daito-Suisan CO.,LTD
Country: Japan
Tax ID: 5802460733564
Email: general@daito-suisan.jp
Phone: +81-426-32-8510

Top Products Sold

Name	Sold Units
Sashimi	1050
Sushi	1020
Robata	1000
Tempura	1000

Total Purchases
12,000€

Accounts Payable
1,400€

Export File · Overview · Sales · Purchases · Financial · Stock · Logout · 2019

ELEMENTS OF THE CORE

CARD_001(CARD) | Supplier Info

KPI_001(KPI) | Total Purchases

LIST_001(LIST) | Top Products Sold

KPI_002(KPI) | Accounts Payable

4. BPMN Flows

4.1 Sales Procedure

A sales worker from Tempura receives an email from a potential customer asking for a delivery of a certain product with a given quantity and payment method. The sales worker then contacts the Stock department. There, he checks if there is enough stock for the requested products, if not, he gives an estimated time for a delivery request. The sales worker receives a quotation from Stock with the potential order's price tag and estimated time of delivery.

The worker responds to the customer by email with said quotation. The customer then has to decide what to do. Does he want to proceed with the order? If not, the event ends there. If so, he responds, confirming it. The sales worker then contacts the Financial department with the order info needed to pursue with the activity. A financial worker will send the billing info to the client and the shipping info to the Stock department. The stock worker proceeds with the shipping and the goods will finally be sent to the customer.
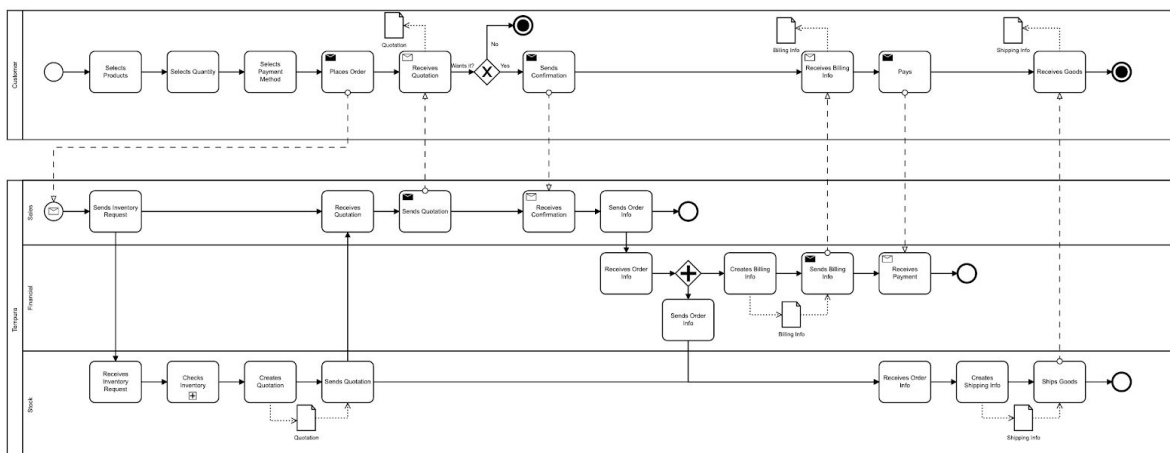
4.2 Purchases Procedure

A Financial worker can sense that the company will need more inventory in the future and hence, contacts the Purchases department to acquire it. In the same way, after a sales request, a Stock worker can realize that there is not enough stock to complete said sale and will send the same request to Purchases.

The Purchases worker will select some suppliers (based on the company's business rules) and send them tender invitations. After exchanging some emails, the worker will end up with a lot of supplier bids. It will send them to the Financial department to be analysed. The Financial worker will choose the best one and contact Purchases to process the order. The payment is done by the Financial department and the order is processed by Purchases.
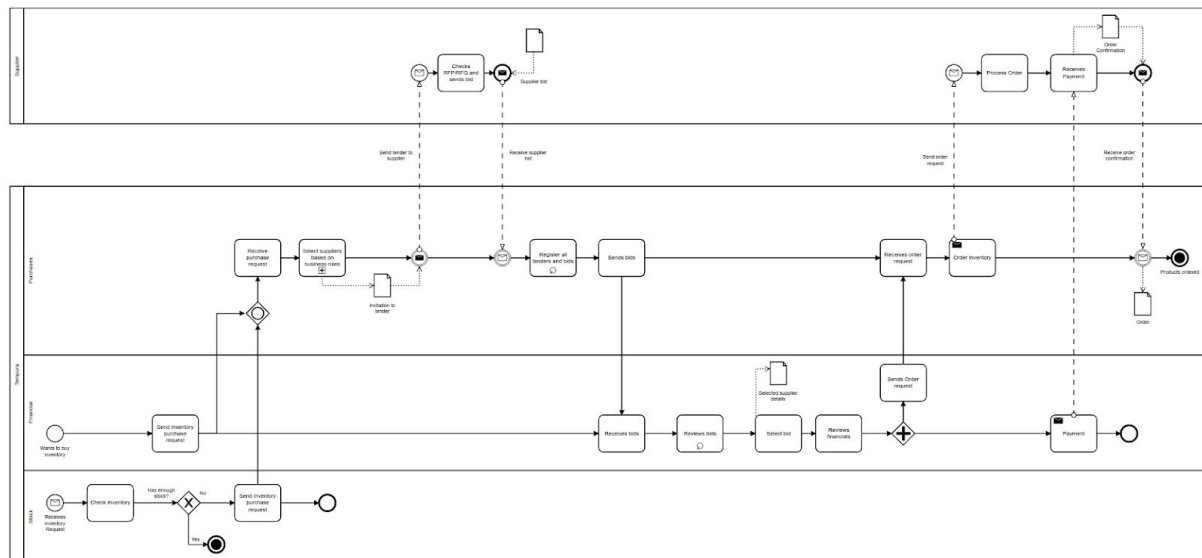
5. Planning

Project Planning

Days of the project