

360° Company Dashboard
Interoperability



Masters in Informatics and Computing Engineering
Information Systems

UP20 Grupo AF

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Information Architecture

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- Inventory core view
- Finances core view

Interoperability with Primavera

- interoperability with primavera web API and own database with data obtained through the SAF-T

Technology used:

Several technologies were used in conjunction to power the web app. *NodeJS* was at the core of our project as a way to serve the frontend with request to the database and *primavera WebApi*.

To process the SAF-T file we opted to go with pure java for our parser. This made it simpler to extract all the information we needed. To handle the database, we opted for the safe route and went with *MySQL*. SQL databasing has been our go to in the past for similar projects and served its purpose again here. Quick and easy way to pull and manipulate data, allowing us to fuel our charts on the go.

At the frontend of the app is *React*. React is a front-end development tool that structures our code in a way that facilitates importing and re use assets from page to page. With it we quickly turned out mockups into functional pages and added features from there.

The sidebar:

The sidebar is presented throughout our web front. It serves as a quick and handy shortcut to navigate the five core views. By default, is it shown in its expanded mode, covering a small area of the screen. If the user prefers, it can be toggled to its compacted mode, covering an even smaller area of the screen and preserving all its usefulness. It should be noted that, when the webpage is being resized in a tab, the sidebar will change to its compact mode in the case of the tab being made smaller.

We decided to incorporate the sidebar early on in development as the de facto way to navigate the site, based on previous work experience.

Dashboard

Inward Paths:

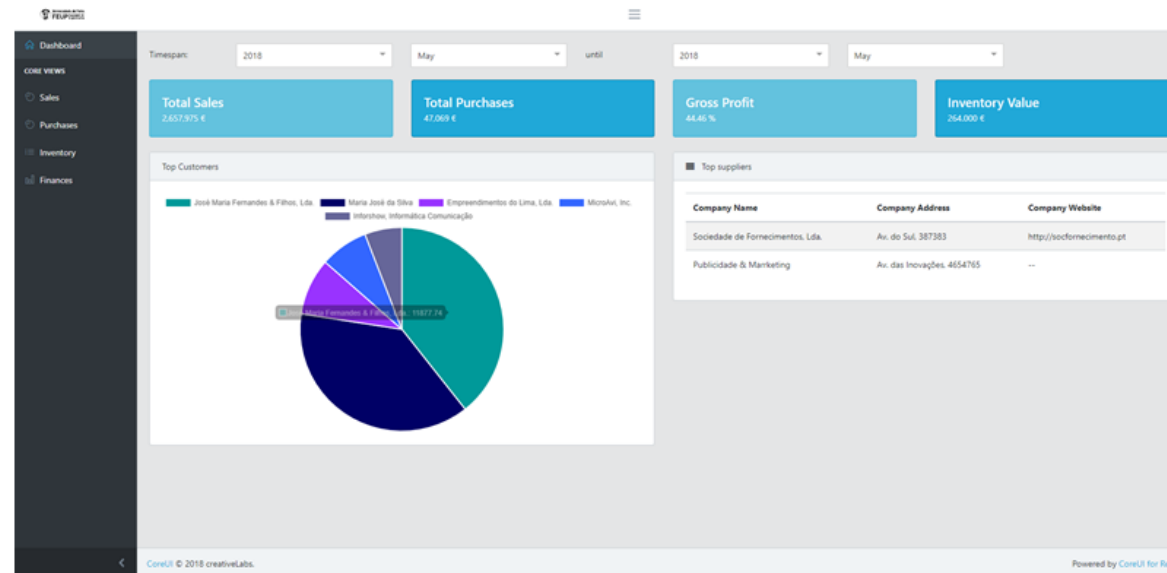
- Landing page
- Sidebar shortcut

Outward Paths:

- Sidebar shortcut

Goals and Function:

- Quick access to relevant information
- Top company view
- Display of sales numbers from set time range



← Range Picker

← Key Value display

← Pie Chart

Fetches->Displayed Data:

- Total Sales (Sum value of sales without purchase reduction)
- Total Purchase (Amount spend on inventory for time frame)
- Gross Profit (Percentage margin gain of sales)
- Inventory Value (Total retail value of current stocks)
- Top Customers (Pie chart of comparative purchases of these)

Elements – Core Views:

- **KPI_11** – Total Sales
- **KPI_12** – Total Purchase
- **KPI_13** – Gross Profit
- **KPI_14** – Inventory Value
- **GRA_15** – Top Customers

The **Dashboard** is our landing page and serves as a general hub that display the total sums and values we find most important for the user, namely:

- Total sales
- Total purchases
- Gross profit
- Inventory value

These values can be set to show only for a specific range of time.

Also displayed on this page is a pie chart showing the top customers.

Features implemented:

- Total sales values pulled from SAF-T
- Total purchases values pulled from Primavera Web API
- Operational Pie Chart with live results

Features Missing:

- Gross profit calculation and display
- Inventory value calculation and display
- Time Range picker

Sales WIP

Inward Paths:

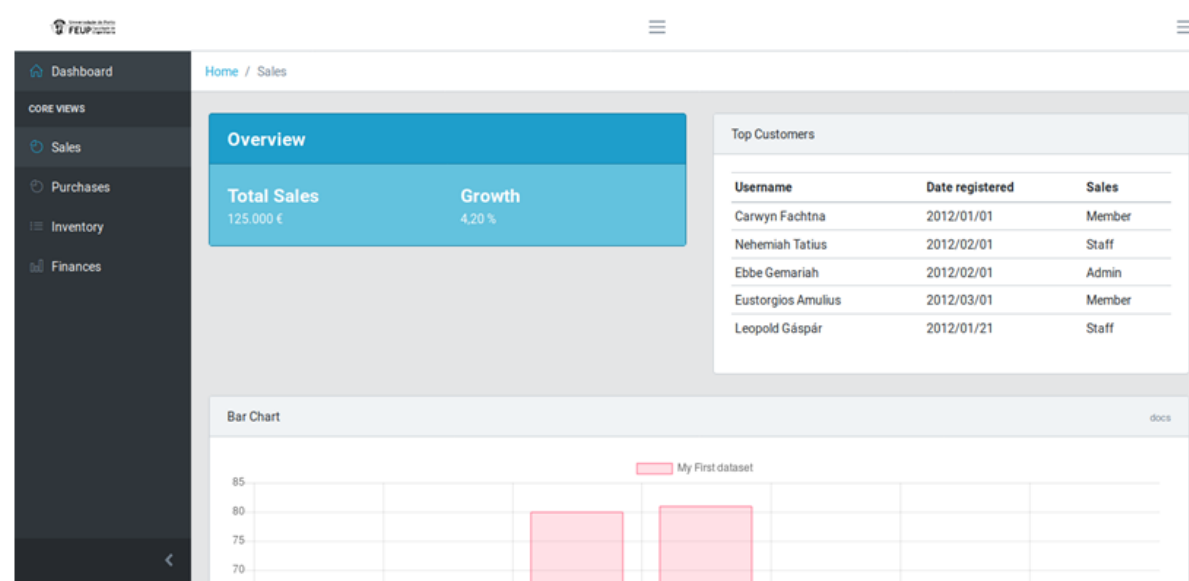
- Sidebar shortcut

Outward Paths:

- Sidebar shortcut

Goals and Function:

- Quick reference for sales
- Display top costumers



←
Top Costumers

←
Bar Chart

Fetches->Displayed Data:

- Total Sales (Sum value of sales without purchase reduction)
- Growth (Percentage revenue increase for company)
- Inventory Value (Total retail value of current stocks)
- Top Customers (List of top spending clients)
- Sales per Month (bar chart with sales numbers per month)

Elements – Core Views:

- **KPI_21** – Total Sales
- **KPI_22** – Growth
- **KPI_23** – Top Customers
- **GRA_24** – Sales/month

The **Sales** page is where the user goes for an in-depth look at sales numbers. It's core showings of information are:

- Total Sales
- Growth
- Top Customers
- Sales per Month

Also displayed on this page is a bar chart showing a distribution of sales per month.

Features implemented:

- Total sales values pulled from SAF-T
- Bar chart updated with live results
- Top customers calculation and display

Features Missing:

- Growth calculation and display

Purchases

Inward Paths:

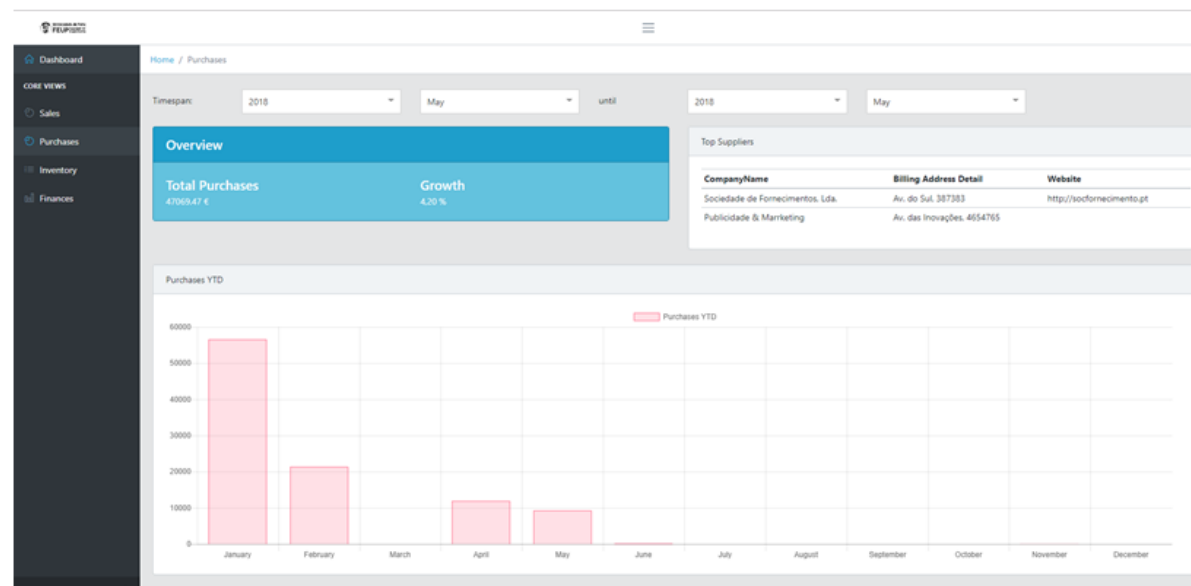
- Sidebar shortcut

Outward Paths:

- Sidebar shortcut

Goals and Function:

- Streamlined purchases and company growth visualization
- Top suppliers display



← Range Picker

← Overview and suppliers

← Bar Chart

Fetches->Displayed Data:

- Total Purchases (Amount spend on inventory for time frame)
- Growth (Percentage revenue increase for company)
- Top Suppliers (Name; Address; Website of top Suppliers)
- Purchases YTD (Bar chart with total purchases per month)

Elements – Core Views:

- **KPI_31** – Overview
- **KPI_32** – Total Suppliers
- **GRA_33** – Purchases YTD

The **Purchases** page gives the user an overall look at the companies purchases and spending. Main specifications:

- Total Purchases
- Growth
- Top Suppliers
- Purchases per month bar chart

This page displays a bar chart showing a distribution of purchases per month.

Features implemented:

- Values pulled from SAF-T and Primavera Web API
- Bar chart

Features Missing:

- Growth calculation and display
- Time Range picker

Inventory WIP

Inward Paths:

- Sidebar shortcut

Outward Paths:

- Sidebar shortcut

Goals and Function:

- Quick access to inventory supply numbers
- Safety stock checks
- View listings for inventory items

The screenshot displays a web application interface for inventory management. It features a dark sidebar with navigation links: Dashboard, Sales, Purchases, Inventory (highlighted), and Finances. The main content area is titled 'Home / Inventory' and contains three sections: 'Inventory Value' showing 125.000 €, 'Products in inventory' with a table of items, and 'Below Security Stock' with a list of items. Arrows on the right point from the text labels to their corresponding sections in the interface.

Name	Value per Unit	Quantity	Total Value
Powerbank Miaomi Mi 2C	24 €	220	5,280 €
Memória RAM G.Skill V 16GB	156 €	140	21,000 €
Router Asus RT-AX88U	428 €	70	29,960 €
Portátil PNY Prevail Pro	799 €	22	17,578 €

← Safety stock alert

← Inventory info list

Fetches->Displayed Data:

- Inventory Value (Sum value of all inventory items)
- Products in inventory (Inventory listing)
- Below security stock (Items flagged for under minimum recommended amount)

Elements – Core Views:

- **KPI_41** – Inventory Value
- **KPI_42** – Products in inventory
- **KPI_43** – Below security stock

The **Inventory** lists all items in stock and highlights those below their security stock number. Its features are:

- Inventory Value
- Inventory item listing
- Low inventory alerting

Features implemented:

- Listings and list scrolling operational.

Features Missing:

- No values linked from SAF-T or Primavera Web API

Finances

Inward Paths:

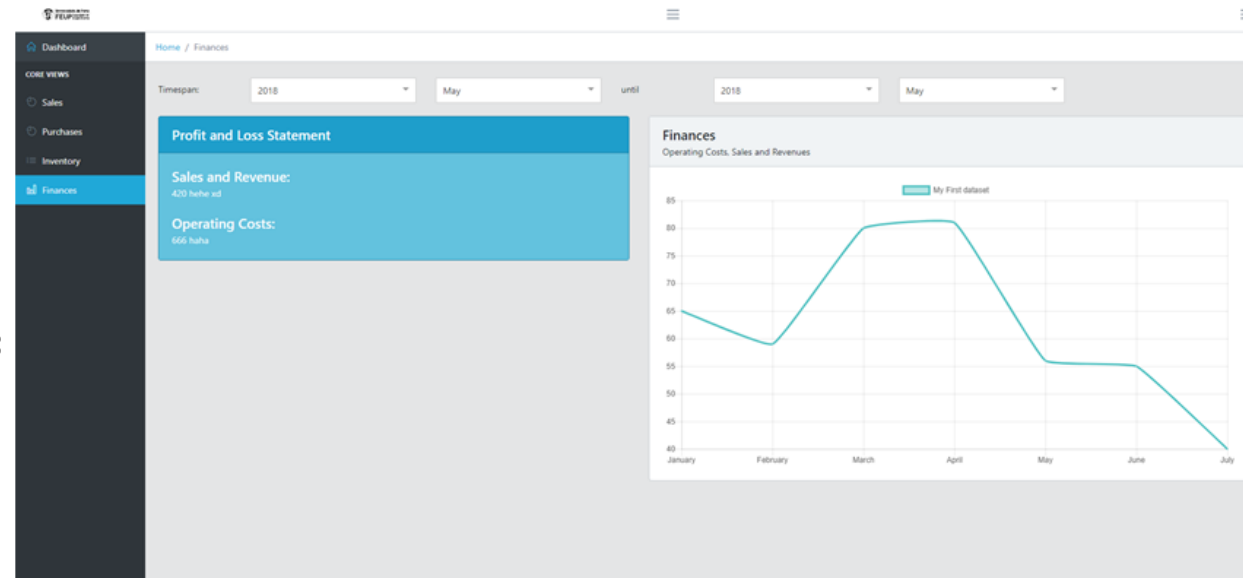
- Sidebar shortcut

Outward Paths:

- Sidebar shortcut

Goals and Function:

- Access to company profit and loss numbers
- Financial situation visualizer



← Range Picker

← Line Chart

Fetches->Displayed Data:

- Sales and Revenue(Sum value of sales and revenue profit)
- Operating Costs(Amount spent on operating and maintaining sales operation)
- Finance Chart (Display of Financial status)

Elements – Core Views:

- **KPI_51** – Sales and Revenue
- **KPI_52** – Operating Costs
- **GRA_53** – Finance Chart

The **Finances** page displays the company's financial record

- Profit numbers
- Statement numbers
- Financial situation line chart.

Features implemented:

- Listings and graph operational.

Features Missing:

No values linked from SAF-T or Primavera Web API

6. ERP Calls

Web Service	getAuthenticationToken
Description	Gets an access token
Related Core Views	All
Route	WebApi/token
Verb	POST
Input (urlencoded)	username; password; instance; grant_type; line; company

Output	<pre>{ "accessToken": token, "accesstype": type, "expiresIn": time }</pre>
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Web Service	getPurchases
Description	Gets purchases
Related Core Views	All
Route	Administrador/Consulta
Verb	POST

Input	"SELECT abs(sum(TotalMerc)) FROM CabecCompras"
Output	{ "DataSet": { "Table": [{ "Column1": 47069.47 }] }, "Query": "System.Data.SqlClient.SqlCommand" }