



## PROJECT SPECIFICATION

INFORMATION SYSTEMS  
2018/2019

INTEGRATED MASTER IN INFORMATICS AND COMPUTER  
ENGINEERING

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### 360° Company Dashboard

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# 1 Project Overview

This project consists in the development of a web application to provide data and key performance indicators (KPIs) relevant to the business. The use of comprehensive visualizations aims to simplify the analysis of the large stream of data inherent to the business, thus easing the decision making process.

The dashboard will present information regarding the financial performance of the company, its sales, its purchases from suppliers, its inventory, and its products' specifications. The app will also rely and inter-operate with the *Primavera* ERP, but all authentication data and KPIs calculations will be handled by our own backend service.

This WebApp is for use internal to the company, and thus should not have pages indexed in search engines, safe for, possibly, the login page.

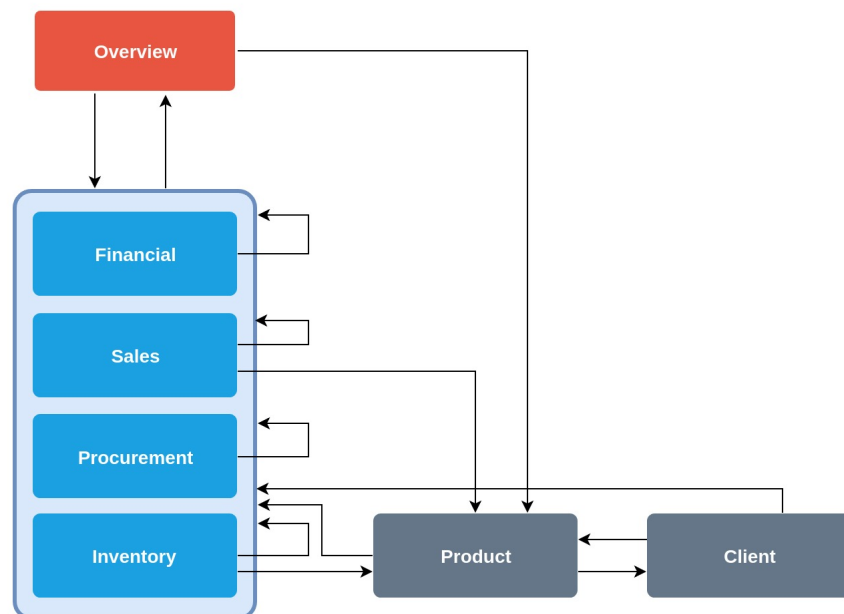


Figure 1: Site map of the project.

## 2 Functionalities

### 2.1 Overview

Functionality	Description	Value	Associated Dashboard
Sales vs Expenses	Graph with the two values against each other.	An overview of financial operation.	CORE_OVER
Sales Volume	Graph of the monthly sales volume.	An overview of how well the sales are.	CORE_OVER
Debt to Suppliers	Value currently in debt to the suppliers.	An overview of the procurement liabilities.	CORE_OVER
Assets in Stock	Value of the currently held inventory.	Understand how much money is sitting in shelves.	CORE_OVER
Top Products	List of the top selling products.	Understand which products the clients buy the most.	CORE_OVER

## 2.2 Financial

Functionality	Description	Value	Associated Dashboard
Return on sales, assets & equity	A graph with the mentioned metrics plotted against one another.	Presents an overview of the company's financial status.	CORE_FINANCIAL
Average collection and payment period	Descriptors side by side with averages of collection of sales and payments to suppliers.	To understand what type of liquidity we can have with respect to its debts and credits.	CORE_FINANCIAL
Acid Test Ratio & Cash Ratio	Ratios of current assets to liabilities.	Understand to what extent the company can respond to its liabilities.	CORE_FINANCIAL
Debt to Equity	Value for a given time period, to allow some degree of comparison with previous values.	A must-have if the user is to act on loaning necessities/opportunities.	CORE_FINANCIAL
Net & Gross profit margin	Graph of the current and historical gross profit plotted against the net profit.	Instrumental to understand if the profits are actually becoming net earnings or if we need to act on possible abnormal situations.	CORE_FINANCIAL
EBIT	Value of the earnings before interest and taxes.	A common metric to evaluate the performance of a company's core operations.	CORE_FINANCIAL

## 2.3 Sales

Functionality	Description	Value	Associated Dashboard
Sales	A graph of the company's sales volume.	Allows the user to quickly realise if the company's sales volume is increasing or decreasing.	CORE.SALES
Growth	Indicator of the sales volume growth compared to previous time intervals.	Presents a fast way of predicting the company's sales volume behaviour.	CORE.SALES
Top Products	List of the top sales completed in the past.	Present information regarding the top sales providing useful comparison data to current sales.	CORE.SALES
Cumulative Sales	A cumulative graph about the company's sales volume in the past.	Understand the discrepancy in the sales volume, peaks and stagnation periods between time intervals.	CORE.SALES
Sold versus Projected	Doughnut chart with the completed sales and the projected sales.	Realise if the sales are going as projected. Ideally, the doughnut chart is 100% completed, indicating that all the projected sales were fulfilled.	CORE.SALES
Average Profit Margin	Indicator of the average profit obtained in each sale.	Understand how much the company is making in average with each unit sold.	CORE.SALES
Sales per Store	List associating each store to its sales' volume.	Understand which stores are selling more and how much are they selling.	CORE.SALES

## 2.4 Procurement

Functionality	Description	Value	Associated Dashboard
Purchase Rotation	A value representing how many days to the next order of the main suppliers (the supplier can be a filter).	At which point a drop in liquidity might be expected due to orders being all concentrated around a point in time or more disperse.	CORE.PROCUR
Purchases	A graph of all the purchases from suppliers.	How much money is spent through orders of inventory.	CORE.PROCUR
Suppliers	Pie chart of sales percentage grouped by supplier and filtered by the top suppliers.	Understanding about which supplier is contributing more to our sales margin.	CORE.PROCUR
Purchases Total	Indicator of how much the company bought to suppliers.	Understand how much money was spent in procurement of products.	CORE.PROCUR
Debt to Suppliers	Indicator of how much the company owes its suppliers.	Understand how much liabilities the company has to its suppliers.	CORE.PROCUR
Product Backlog	Indicator of how much of what we bought still hasn't been delivered to us.	Understand what we can expect not to sell because it still isn't in our inventory.	CORE.PROCUR

## 2.5 Inventory

Functionality	Description	Value	Associated Dashboard
Products	List with search capability of all the inventory products.	Find any company's product and view basic related data, such as units in stock and product name.	CORE_INVENTORY
Assets in Stock	Indicator of the total value of the inventory's products and growth compared with previous months.	Understand if the assets' value is having a positive evolution.	CORE_INVENTORY
Average Inventory Period	Asset utilization ratio that indicates how long goods remain in inventory or unsold.	Comprehend if the company's good are spending too much time without being sold, therefore losing value.	CORE_INVENTORY
Turnover	Ratio showing how many times the company has sold and replaced inventory during the last semester.	Help businesses make better decisions on pricing, manufacturing runs, how to leverage promotions to move excess inventory, and how and when to purchase new inventory.	CORE_INVENTORY



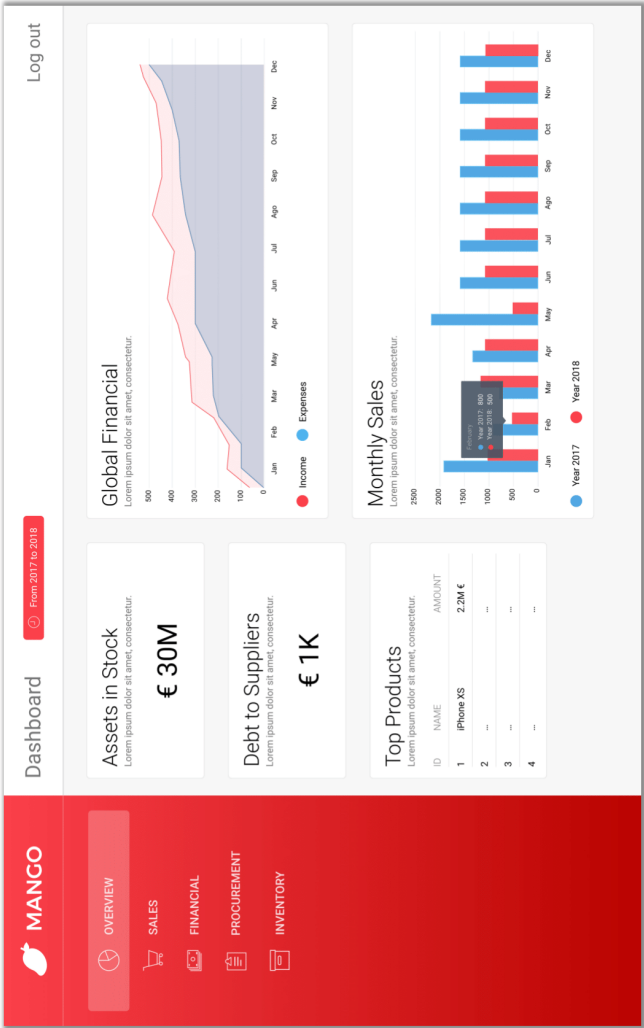
## 2.6 Product Specific

Functionality	Description	Value	Associated Dashboard
Units Sold	The number of units sold in a given time period.	Conclude about life-time of a given product.	CORE_PROD
Units in Stock	Indicator of how many units of the selected product are still in stock.	It's possible to see if a given product represents a lot of cash just sitting tight.	CORE_PROD
Profit	A line chart of the profits due to this product.	Understand if a possible change in units sold can be correlated with the profit that arises from said product's sales.	CORE_PROD
Product Information	Small product card where the general characteristics can be found.	Easy to understand what kind of product is being reviewed.	CORE_PROD
Top Clients	List of clients who have bought the product more times.	Targeted marketing or even promotions.	CORE_PROD

### 3 Information Architecture

#### 3.1 CORE\_OVERVIEW

- User and Business Goals
- Company overview (Sales & Expenses, Debt, Inventory).
  - Quickly View Company Status.
  - View to be used as a management tool.



Inward Paths/ Trigger Words

- Sign-in.
- Aside Navigation Menu.

Outward Paths/ Calls to Action

- Provide the User an overall view of the company's current state.
- Drill down to “know more” on all areas of effect (Financial, Sales, Procurement, Inventory).
- Change the time interval of the data being analysed/displayed.

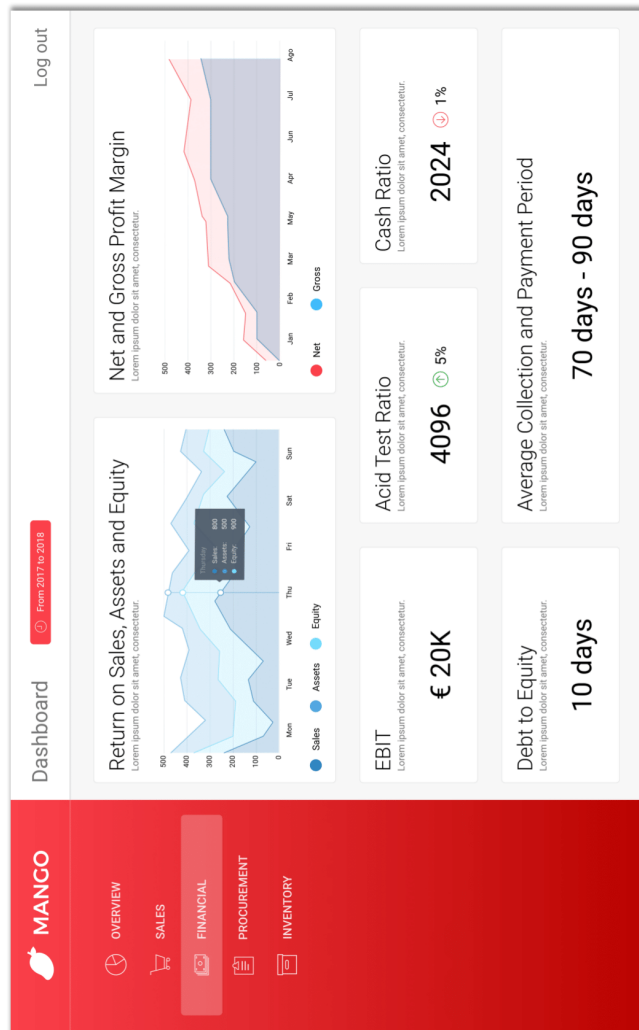
Elements of the core

- LINE\_01(Line Chart) – Sales vs Expenses
- LIST\_01(List) – Top Products
- BAR\_01(Bar Chart) – Sales Volume
- KPI\_01(KPI) – Debt to Suppliers
- KPI\_02(KPI) – Assets in Stock

## 3.2 CORE\_FINANCIAL

### User and Business Goals

- Financial Overview (Returns, Liquidity, Ratio of Assets to Liabilities, Debts to Equity, Net & Gross Profit, EBIT).
- View in detail the company's Financial Status.
- View to be used as a management tool.



Inward Paths/ Trigger Words

- Aside Navigation Menu.

Outward Paths/ Calls to Action

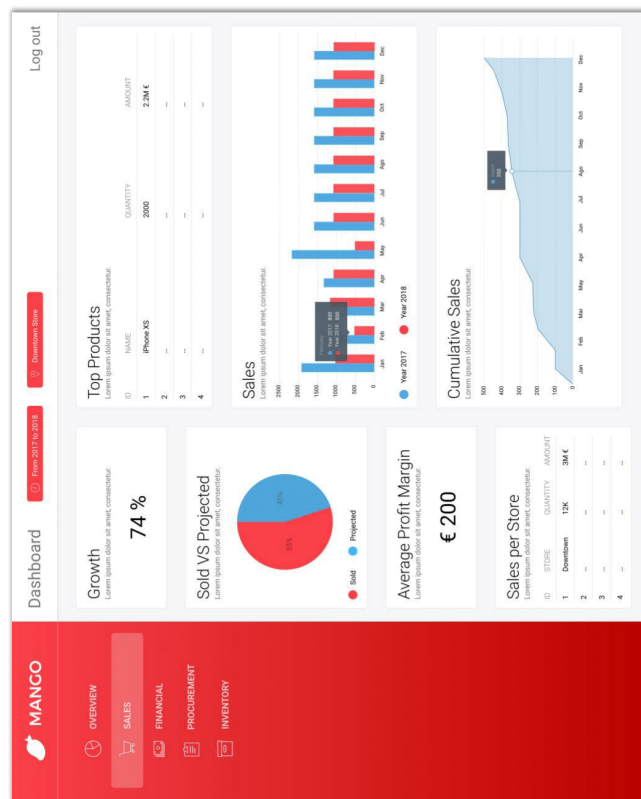
- Provide the User with detailed data of the company's financial state.
- Change the time interval of the data being analysed/displayed.

Elements of the core

LINE_01(Line Chart) – Return on Sales, Assets & Equity	KP1_01(KPI) – Average Collection and Payment Period	KP1_03(KPI) – Debt to Equity
LINE_02(Line Chart) – Net & Gross Profit Margin	KP1_02(KPI) – Acide Test & Cash Ratios	KP1_04(KPI) – EBIT

### 3.3 CORE\_SALES

- User and Business Goals
- Sales overview (Sales, Growth, Top Products, Profit Margin).
- View in detail the company's Sales Status.
- View to be used as a management tool.



Inward Paths/ Trigger Words

- Aside Navigation Menu.

Outward Paths/ Calls to Action

- Provide the User with detailed data of the company's sales state.
- Drill down to "know more" about the Products.
- Change the time interval of the data being analysed/displayed.

LINE\_01(Line Chart) Cumulative Sales

KPI\_02(KPI) – Average Profit Margin

PIE\_01(Pie Chart) – Sold vs Projected

BAR\_01(Bar Chart) – Sales

LIST\_01(List) – Top Products

LIST\_02(List) – Sales per Store

KPI\_01(KPI) – Growth

### 3.4 CORE\_PROCUR

#### User and Business Goals

- Procurement overview (Purchases, Debt to Suppliers, Product Backlog).
- View in detail the company's Procurement Status.
- View to be used as a management tool.

Dashboard

Log out

From 2017 to 2018

Overview

Sales

Financial

Procurement

Inventory

MANGO

Purchase Rotation

23 days

Suppliers

Apple

Samsung

Purchases

Line Chart

Purchases Total

€ 22K

Debt to Suppliers

€ 1K

Product Backlog

€ 2K

Outward Paths/ Calls to Action

- Provide the User with detailed data of the company's procurement state.
- Change the time interval of the data being analysed/displayed.

Elements of the core

KPI\_01(KPI) – Purchase Rotation

PIE\_01(Pie Chart) – Suppliers

LINE\_01(Line Chart) – Purchases

KP1\_01(KPI) – Product Backlog

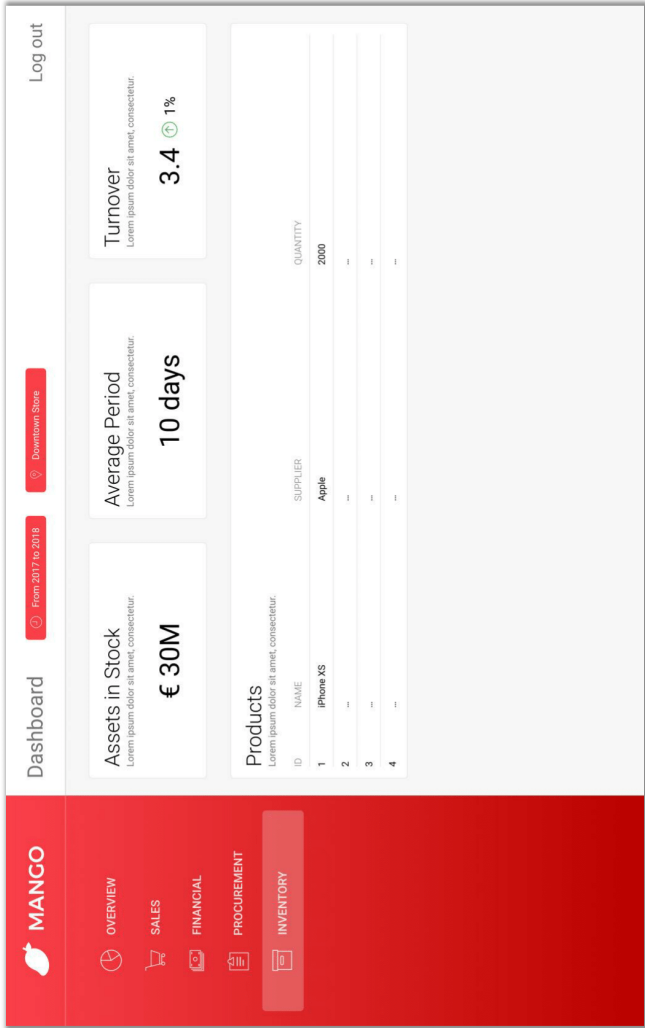
KPI\_02(KPI) – Purchases Total

KP1\_03(KPI) – Debt to Suppliers

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3.5 CORE\_INVENTORY

- User and Business Goals
- Inventory overview (Product, Turnover, Period Ratio).
  - View in detail the company's Inventory Status.
  - View to be used as a management tool.



Inward Paths/ Trigger Words

- Aside Navigation Menu.

Outward Paths/ Calls to Action

- Provide the User with detailed data of the company's inventory state.
- Drill down to "know more" about the Products.
- Change the time interval of the data being analysed/displayed.

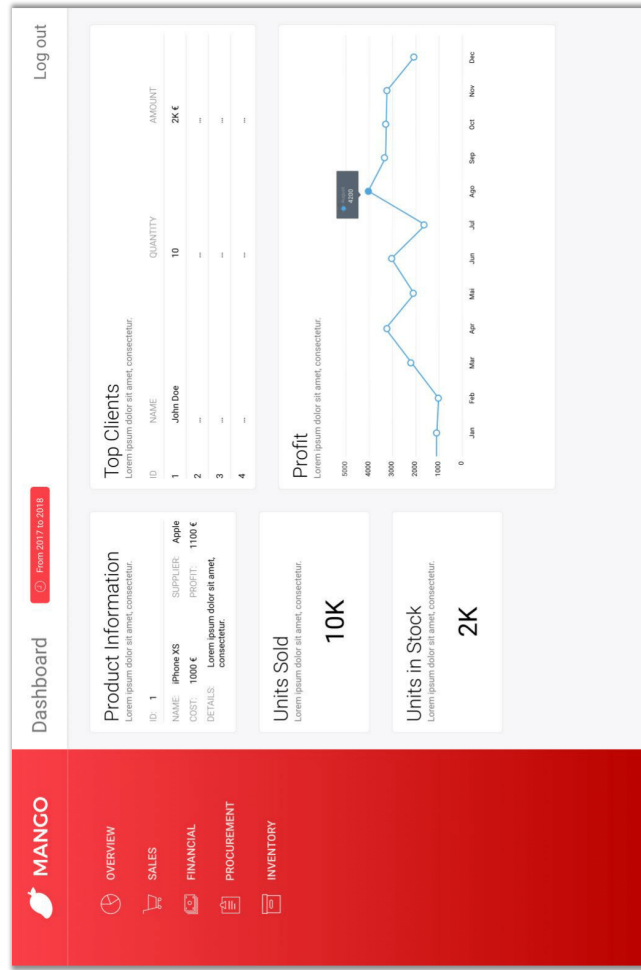
Elements of the core

KP1\_01(KPI) – Assets in Stock      KP1\_03(KPI) – Turnover  
KP1\_02(KPI) – Average Inventory Period      LIST\_01(List) – Products

### 3.6 CORE\_PROD

#### User and Business Goals

- Product overview (Stock, Profit, Clients).
- View in detail the company's Products.
- View to be used as a management tool.



#### Inward Paths/ Trigger Words

- Aside Navigation Menu.
- Top Products – CORE\_SALES.
- Products – CORE\_INVENTORY.

#### Outward Paths/ Calls to Action

- Provide the User with detailed data of the company's products.
- Drill down to “know more” about the Clients.
- Change the time interval of the data being analysed/displayed.

KP1\_01(KPI) – Units Sold  
KP1\_02(KPI) – Units in Stock

LIST\_01(List) – Top Clients

CARD\_01(Card Information) – Product Information

LINE\_01(Line Chart) – Profit

Elements of the core

## 4 Planning

### Gantt Chart

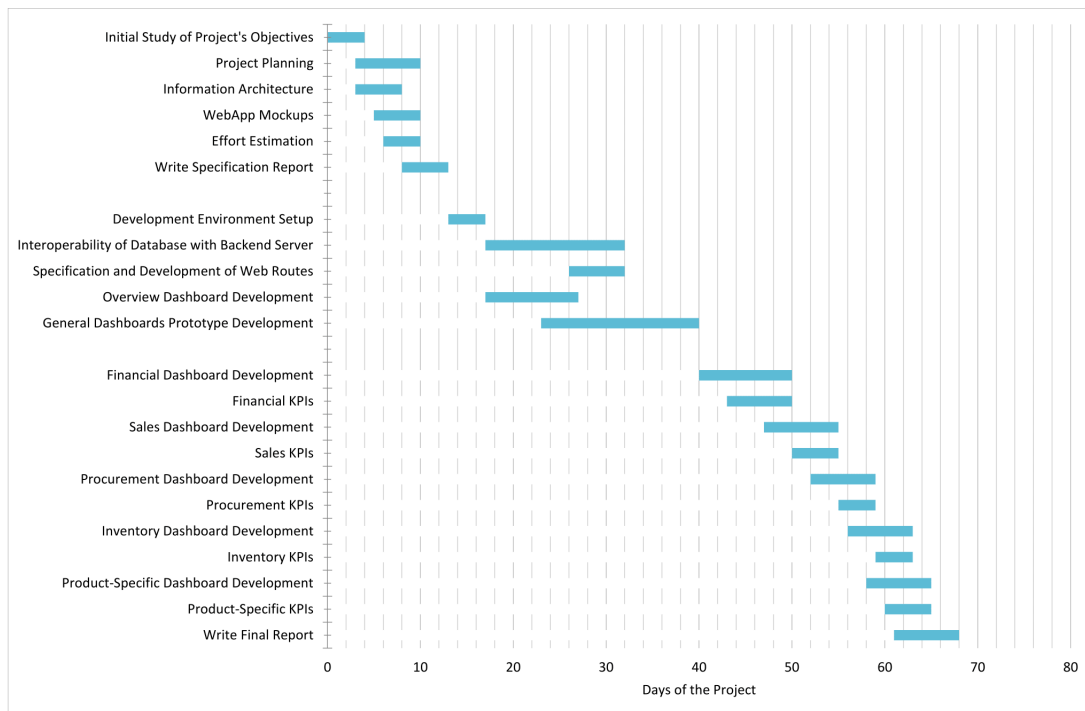


Figure 2: Gantt chart of the project development.