

**FACULTY OF ENGINEERING OF
THE UNIVERSITY OF PORTO**

**MASTER IN INFORMATICS AND
COMPUTING ENGINEERING**



Sales Force Automation

Deliverable 1 - Specification

(4th Year – 1st Semester)

21st October 2016

Project specifications

Team presentation:

Team class: 3

Team identification: Grupo K

Project identification: P4 - Sales Force Automation

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Project overview:

Sales Force Automation software is a program oriented to automate business tasks like inventory control, sales processing or tracking customer interactions as well as studying sales forecasts and performance.

The project's main goal is to manage the agenda of the sales representative to better suit the needs of a salesperson.

The web app aims to enhance the sales representative performance by providing useful and detailed information on a nice and clean interface. Therefore, the main features provide customer details (profile (name, gender, age, ...), status, number of visits, acquisitions (purchases), ...), allow the registration of customers, their visits and sales orders and visualization of graphics detailing sales information.

Functionalities/Features (Overall content of the project)

The following list introduces the features to be implemented during the development of this project. For each feature, we describe the purpose of the functionality, the roles that can have access to them (in the column “Authorized Roles”) and the corresponding core view, in case it is archived in the report.

Feature ID	Description	Purpose	Authorized Roles	Core View ID
F_001	Director of Sales Login	Authentication of the Director of Sales	Guest	N/A
F_002	Sales Representative Login	Authentication of a registered Sales Representative	Guest	N/A
F_003	Director of Sales Logout	Closing the current session of the Director of Sales	Director of Sales	N/A
F_004	Sales Representative Logout	Closing the current session of the Sales Representative	Sales Representative	N/A
F_005	Sales Representative Registration	Registration of sales representative on the database by the Director of Sales	Director of Sales	N/A
F_006	View Sales Representative Profile Information	Consulting the profile record of a Sales Representative of the company	Director of Sales	CORE_VIEW_4
F_007	View Profile Information	As a Sales Representative, view his own profile details or the profiles of other Sales Representative	Sales Representative	CORE_VIEW_4
F_008	Edit Profile Information of Sales Representative	Edition of the profile information of the Sales Representative	Director of Sales, Sales Representative	N/A

F_009	List of Sales Representative	The Director of Sales will be able to display all Sales Representative associated to company	Director of Sales	CORE_VIEW_4
F_010	Client Registration	Registration of clients on the database	Director of Sales, Sales Representative	N/A
F_011	View Client Profile Information	Consulting the profile record of a Client associated to the company	Director of Sales, Sales Representative	CORE_VIEW_2
F_012	Edit Profile Information of Client	Edition of the profile information of a Client associated to the company	Director of Sales, Sales Representative	N/A
F_013	List of Clients	Display of all Clients linked to the company	Director of Sales, Sales Representative	CORE_VIEW_2
F_014	List of Associated Clients	Display of the Clients linked to a respective Sales Representative	Director of Sales, Sales Representative	N/A
F_015	Sale Order Registration	Registration of a sale order on the database	Director of Sales, Sales Representative	N/A
F_016	Update Sale Order Status	Update the status of a Sale Order according to the respective operation of the Sale Process	Director of Sales, Sales Representative	N/A
F_017	List of Sale Orders	Display of all Sale Orders linked to the company,	Director of Sales, Sales Representative	N/A

F_018	List of Associated Sale Orders of a Client	Display of the Sale Orders associated to certain Client	Director of Sales, Sales Representative	CORE_VIEW_2
F_019	Client Visit Registration	Creation of the record of visits from a Sales Representative to a customer	Sales Representative	N/A
F_020	View Visit Details	Consulting all the detail from a visit made to a customer	Director of Sales, Sales Representative	N/A
F_021	List of Client Visits	Display of all the visits made to a customer	Director of Sales, Sales Representative	N/A
F_022	Create Visiting Routes	For a certain date, a set of targets is created for each Sales Representative in order to attend the respective Clients	Sales Representative	N/A
F_023	Create Leads/Prospects	Creation of a detailed profile of possible contacts (Clients) that can result in a successful trade	Director of Sales	N/A

The application will rely on a database with the record of potential clients alongside with their requisitions and priorities. Each sales representative will have his own profile where he can consult and manage their potential clients, keeping the record of the tasks to be concluded, from the first contact with these leads until the prospective requisition of products of each one of them. They will be able to keep up with an updated log of the visits, where they can register the notes of a meeting with a client.

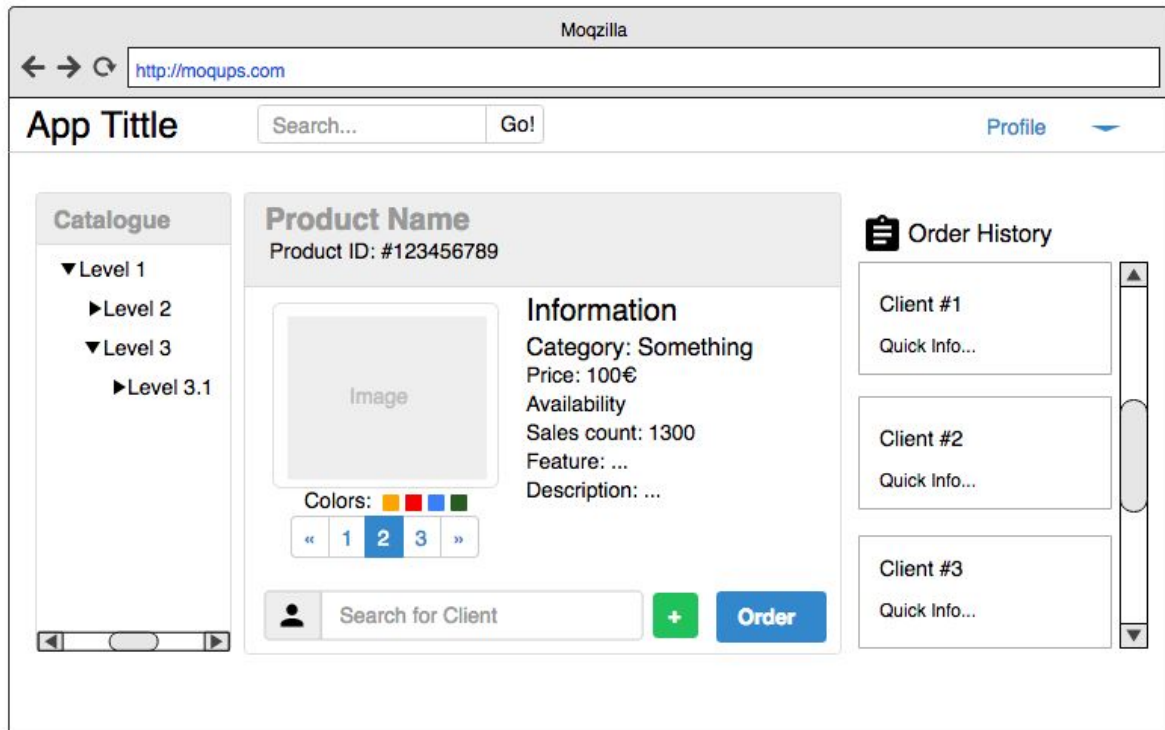
There will be a managing mechanism for directors to visualize statistics about the records on the system, giving them the opportunity to strategically take the most profitable decisions, analyzing employees, customers, products and warehouses. This type of role will also be able to manage the registration of all other entities in the system.

It will also be possible for both directors and sales representative to check a client's history, evaluating his profile and deciding whether or not they can make him an offer.

Information Architecture (core views):

CORE_VIEW_1

Product overview the most important and essential information as to help the representative to better sell the product to the client.



Inwards paths: search bar, search in product catalogue.

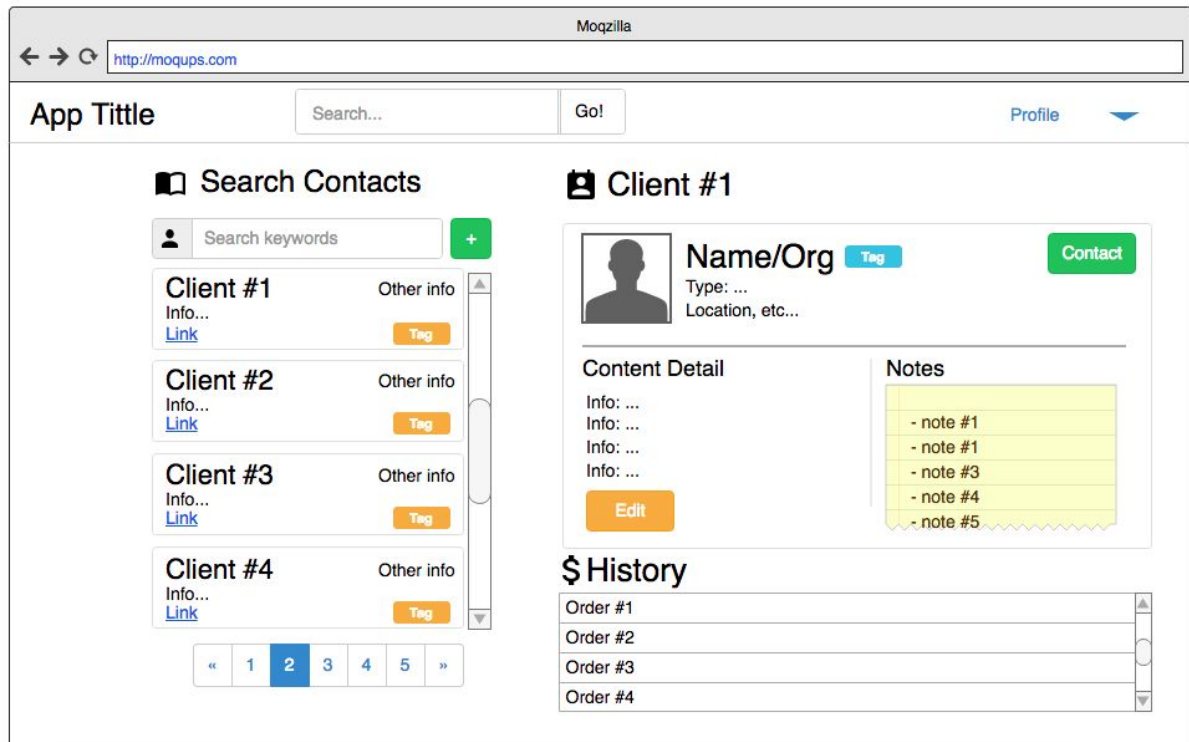
Outward paths: display product information for the user, add ability to order the product for a client, add ability to order stock.

Elements of the core:

- Product catalogue panel;
- Product info panel(images, name, id, price, ...);
- Order history panel;
- Search client bar;
- Add client button;
- Order button.

CORE_VIEW_2

Client information overview in order for the representative to learn more about his client so that the selling process can be more effective.



Inward paths: navbar menu, search bar.

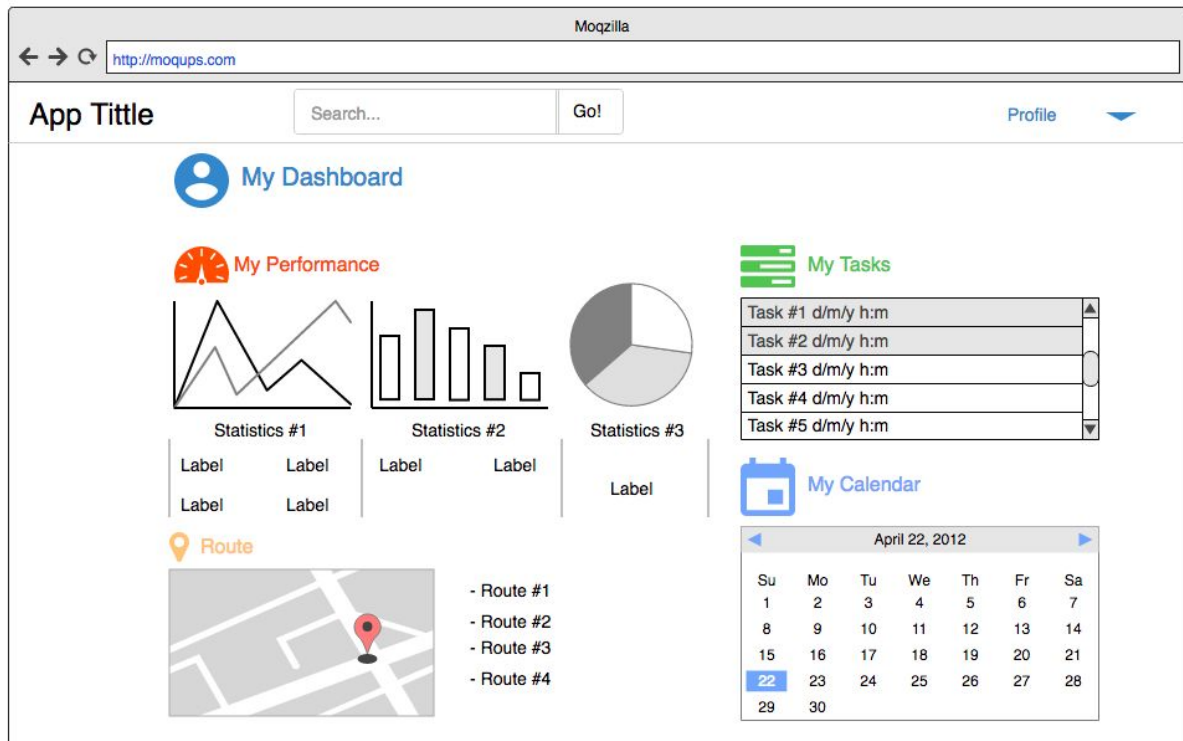
Outward paths: ability to edit a client's information, establish contact with the client, search for other clients, view client's history, ability to register a new client.

Elements of the core:

- Search contacts panel;
- Client panel with his information(image, name, location, ...);
- Notes panel;
- Client's history panel;
- Edit client information button;
- Contact client button.

CORE_VIEW_3

Dashboard of a sales representative with an overview of his information so that he can analyse his data and automate his next step in his sales force.



Inward paths: Home button, navigation bar, login.

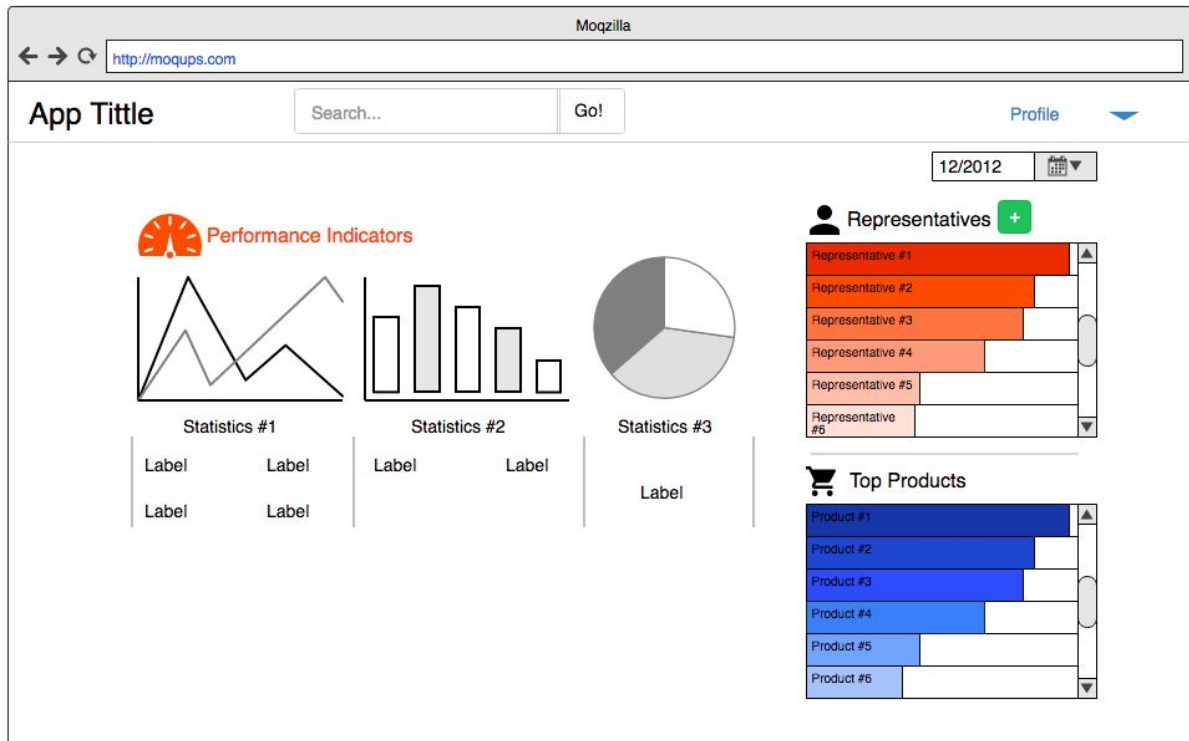
Outward paths: provide the representative with data about his performance and statistics, indicate upcoming tasks to be completed, display calendar with events, show a route for the representative to make.

Elements of the core:

- Representative's performance section with charts;
- Statistics panel;
- Tasks list;
- Calendar section;
- Route map;
- Route list.

CORE_VIEW_4

Manager dashboard With general overview of the sales force in order maximize management and to minimize efforts by calculating important metrics and statistics



Inward paths: Home button, navigation bar, login.

Outward paths: inspect important data related to this sales force by date, analyse representatives and add them, analyse products

Elements of the core:

- Statistics and charts panel
- Date picker
- Representatives list
- Create representative button
- Products list

Interoperability with Primavera (Webservice ID, Webservice Description, Related Core View(s), route+verbs, Input Example, Expected Output):

In order to connect the Web App with Primavera, several webservices have to be defined to guarantee an agreement between both parts. Therefore, the following tables express this intention. Also, all the access to Primavera passes through an authentication layer returning the corresponding HTTP return codes. Finally, there are two groups of users: Director of Sales and Representatives of Sales.

Sales Orders

Protocols to define how to get, create and update sales orders by both groups of users.

Webservice ID	SALES_ORDERS_GET_BY_REP_SALES
Webservice Description	Get one or all sales orders by representative of sales.
Related Core View(s)	N/A
Authorized Groups of Users	Director of sales and Representatives of Sales
HTTP Verb	GET
Route	/sales/rep?salesOrderID=<salesOrderID>
Input Example	(If the parameter is missing, then it returns all sales orders) <salesOrderID> = "145649819"
Expected Output	Success: { "clientID" : "45619819874", "deliveryAddress" : "459 Valley Farms St. Everett, MA 02149", "maxDeliveryDate" : "2016-10-19", "productID" : "3615984984", "quantity" : 10 } Wrong sales order ID: { "msg" : "Invalid sales order ID" }

Webservice ID	SALES_ORDERS_GET_BY_CUSTOMER
Webservice Description	Get one or all sales orders by a customer.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Director of sales and Representatives of Sales
HTTP Verb	GET
Route	/sales/customer?salesOrderID=<salesOrderID>
Input Example	(If the parameter is missing, then it returns all sales orders) <salesOrderID> = "48949891"
Expected Output	<p>Success:</p> <pre>{ "representativeID" : "1895648919", "deliveryAddress" : "459 Valley Farms St. Everett, MA 02149", "maxDeliveryDate" : "2016-10-19", "productID" : "159649874", "quantity" : 10 }</pre> <p>Wrong sales order ID:</p> <pre>{ "msg" : "Invalid sales order ID" }</pre>

Webservice ID	SALES_ORDERS_GET
Webservice Description	Get one or all sales orders.
Related Core View(s)	CORE_VIEW_1, CORE_VIEW_2
Authorized Groups of Users	Director of sales and Representatives of Sales
HTTP Verb	GET
Route	/sales?id=<salesOrderID>
Input Example	(If the parameter is missing, then it returns all sales orders) <salesOrderID> = "159674891"

Expected Output	<p>Success:</p> <pre>{ "representativeID" : "5419189", "clientID" : "1986198", "deliveryAddress" : "459 Valley Farms St. Everett, MA 02149", "maxDeliveryDate" : "2016-10-19", "productID" : "21654981", "quantity" : 10 }</pre> <p>Wrong sales order ID:</p> <pre>{ "msg" : "Invalid sales order ID" }</pre>
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Webservice ID	SALES_ORDERS_CREATE
Webservice Description	Initiate a sales process by creating a sales order.
Related Core View(s)	CORE_VIEW_1
Authorized Groups of Users	Representatives of Sales
HTTP Verb	POST
Route	/sales/create
Input Example	<pre>{ "representativeID" : "564196851498", "clientID" : "519684198", "deliveryAddress" : "459 Valley Farms St. Everett, MA 02149", "maxDeliveryDate" : "2016-10-19", "products": [{"id" : "514989549", "quantity" : 10}, {"id" : "65149861984", "quantity" : 3}] }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p>

	<pre>{ "msg" : "Missing/Incorrect fields" }</pre>
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Webservice ID	SALES_ORDERS_UPDATE
Webservice Description	Update a sales process by updating a sales order.
Related Core View(s)	N/A
Authorized Groups of Users	Representatives of Sales
HTTP Verb	POST
Route	/sales/update
Input Example	<p>(At least one optional field must be present)</p> <pre>{ "saleOrderID" : "125619654", ? "deliveryAddress" : "459 Valley Farms St. Everett, MA 02149", ? "maxDeliveryDate" : "2016-10-19", ? "quantity" : 10 }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Product

Protocols to define how to get products.

Webservice ID	PRODUCT_GET
Webservice Description	Get one or more products.
Related Core View(s)	CORE_VIEW_1
Authorized Groups of Users	Director of sales and Representatives of Sales

HTTP Verb	GET
Route	/product?id=<productID>
Input Example	(If the parameter is missing, then it returns all sales products) <productID> = "1559794"
Expected Output	<pre>{ "id": "584991", "productCode" : "I_01", "name" : "Samsung UHD 50", "model": "UHDX16", "price" : 10, "vat" : 0.23, "categoryID" : "694989", "description" : "Incredible television.", "quantity" : 10, "price" : 10, "wharehouses" : ["549819"] }</pre>

Product Category

Protocols to define how to get product categories.

Webservice ID	CATEGORY_GET
Webservice Description	Get a list of all the products in the category
Related Core View(s)	CORE_VIEW_1
Authorized Groups of Users	Director of Sales and Sales Representative
HTTP Verb	GET
Route	/category/?id=<categoryID>
Input Example	(If the parameter is missing, then it returns all categories) <categoryID> = "126495"
Expected Output	<pre>{ [{"productID": 98494919}, {"productID": 19197198}] }</pre>

Sales Representative

Protocols to define how to get, create and deactivate sales representatives.

Webservice ID	SALES_REPRESENTATIVE_GET
Webservice Description	Get the information of one or more sales representatives.
Related Core View(s)	CORE_VIEW_4
Authorized Groups of Users	Director of Sales
HTTP Verb	GET
Route	/sales_representative?id=<salesRepID>
Input Example	(If the parameter is missing, then it returns all sales representatives) <salesRepID> = "54997"
Expected Output	<pre>{ "id": 1098408125019, "email": "albert_einstein@gmail.com", "name": "Albert Einstein", "dateOfBirth": "1975-04-09", "address": "459 Valley Farms St. Everett, MA 02149", "country": "United States of America", "nationality": "English", "phoneNumber": 978469732, "maritalState": "married", "civilID": 479542498, ... }</pre>

Webservice ID	SALES_REPRESENTATIVE_CREATE
Webservice Description	Create a sales representative.
Related Core View(s)	N/A
Authorized Groups of Users	Director of Sales
HTTP Verb	POST
Route	/sales_representative

Input Example	<pre>{ "id" : 1098408125019, "email" : "albert_einstein@gmail.com" "name" : "Albert Einstein", "dateOfBirth" : "1975-04-09", "address" : "459 Valley Farms St. Everett, MA 02149", "country" : "United States of America", "nationality" : "English", "phoneNumber" : 978469732, ? "maritalState" : "married", "civilID": 479542498, ? "passportNumber" : 1889756898, ... }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Webservice ID	SALES_REPRESENTATIVE_DEACTIVATE
Webservice Description	Deactivate a sales representative.
Related Core View(s)	N/A
Authorized Groups of Users	Director of Sales
HTTP Verb	Post
Route	/sales_representative/deactivate
Input Example	<pre>{ "id": 1968549819 }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p>

	<pre>{ "msg" : "Missing/Incorrect fields" }</pre>
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Customer Labels

Protocols to define how to get and create customer labels.

Webservice ID	CUSTOMER_LABELS_GET
Webservice Description	Get customer labels.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Director of Sales and Representative of Sales
HTTP Verb	GET
Route	/customer_labels
Input Example	Non existent
Expected Output	Success: <pre>{ "labels" : [{ "id" : 123456789, "name" : "Rich" }] }</pre>

Webservice ID	CUSTOMER_LABELS_CREATE
Webservice Description	Create customer labels.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Director of Sales
HTTP Verb	POST
Route	/customer_labels
Input Example	{"name" : "Poor"}
Expected Output	Success: <pre>{ "msg" : "Success" }</pre> Missing/Incorrect fields:

	<pre>{ "msg" : "Missing/Incorrect fields" }</pre>
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Customer

Protocols to define how to get, update and create customers.

Webservice ID	CUSTOMER_GET
Webservice Description	Get one or more customers.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Director of Sales and Representative of Sales
HTTP Verb	GET
Route	/customer?customerID=<customerID>
Input Example	(If the parameter is missing, then it returns all customers) <customerID> = 123456789
Expected Output	<p>Success:</p> <pre>{ "id" : 1234564879, "name" : "John Doe", "address" : "459 Valley Farms St. Everett, MA 02149", "email" : "john@bar.foo", "customerGroups" : ["123456789"] "genre" : "Male", "nationality" : "swedish", "dateOfBirth" : "1996/10/19" "nif" : "123456789", "civilID" : "123456789" }</pre> <p>Missing/Incorrect field:</p> <pre>{ "msg" : "Missing or Incorrect field" }</pre>

Webservice ID	CUSTOMER_CREATE
Webservice Description	Create a customer.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Representative of Sales

HTTP Verb	POST
Route	/customer
Input Example	<pre>{ "name" : "John Doe", "address" : "459 Valley Farms St. Everett, MA 02149", "email" : "john@bar.foo", "customerGroups" : ["123456789"] "genre" : "Male", "nationality" : "swedish", "dateOfBirth" : "1996/10/19" "nif" : "123456789", "civilID" : "123456789" }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Webservice ID	CUSTOMER_UPDATE
Webservice Description	Update the information of a customer.
Related Core View(s)	CORE_VIEW_2
Authorized Groups of Users	Representative of Sales
HTTP Verb	POST
Route	/customer/info
Input Example	<pre>{ "id" : 1234564879, ? "name" : "John Doe", ? "address" : "459 Valley Farms St. Everett, MA 02149", ? "email" : "john@bar.foo", ? "customerLabels" : ["123456789"] ? "genre" : "Male", ? "nationality" : "swedish", ? "dateOfBirth" : "1996/10/19" }</pre>

	<pre>? "nif" : 123456789, ? "civilID" : 123456789, ? "representativeID": 219519199 }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Customer Visits

Protocols to define how to get and create customer visits.

Webservice ID	CUSTOMER_VISITS_GET
Webservice Description	Get one or more customers visits.
Related Core View(s)	CORE_VIEW_3
Authorized Groups of Users	Director of Sales and Representative of Sales
HTTP Verb	GET
Route	/visits?id=<visitID>
Input Example	(If the parameter is missing, then it returns all visits) <visitID> = 123456789
Expected Output	<pre>{ "id" : 123456789, "representativeID" : 12345, "customerID" : 1234568, "date" : "2015/02/05", "time" : "14h50", "notes" : "Good customer" }</pre>

Webservice ID	CUSTOMER_VISITS_CREATE
Webservice Description	Create a customer visit.
Related Core View(s)	CORE_VIEW_3

Authorized Groups of Users	Representative of Sales
HTTP Verb	POST
Route	/visits
Input Example	<pre>{ "representativeID" : 1564984, "customerID" : 1234568, "date" : "2015/02/05", "time" : "14h50", "notes" : "Good customer" }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Customer Needs

Protocols to define how to get, delete and create customer needs.

Webservice ID	CUSTOMER_NEEDS_GET
Webservice Description	Get one or more customers needs.
Related Core View(s)	CORE_VIEW_3
Authorized Groups of Users	Representative of Sales
HTTP Verb	GET
Route	/needs?id=<needID>
Input Example	(If the parameter is missing, then it returns all needs) <needID> = 123456789
Expected Output	<pre>{ "id" : 123456789, "customerID" : 1234568, "productID" : 12345678, "quantity" : 10 }</pre>

Webservice ID	CUSTOMER_NEEDS_DELETE
Webservice Description	Delete a customer need.
Related Core View(s)	CORE_VIEW_3
Authorized Groups of Users	Representative of Sales
HTTP Verb	DELETE
Route	/needs
Input Example	<pre>{ "id" : 123456789 }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre> <p>Missing/Incorrect fields:</p> <pre>{ "msg" : "Missing/Incorrect fields" }</pre>

Webservice ID	CUSTOMER_NEEDS_CREATE
Webservice Description	Create a customer need.
Related Core View(s)	CORE_VIEW_3
Authorized Groups of Users	Representative of Sales
HTTP Verb	POST
Route	/needs
Input Example	<pre>{ "customerID" : 1234568, "productID" : 12345678, "quantity" : 10 }</pre>
Expected Output	<p>Success:</p> <pre>{ "msg" : "Success" }</pre>

	Missing/Incorrect fields: <pre>{ "msg" : "Missing/Incorrect fields" }</pre>
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Visiting routes and calendar

Protocols to define how to get a visiting route and calendar of a given day of a representative of sales.

Webservice ID	ROUTES_CALENDAR_GET
Webservice Description	Get a visiting route and calendar of a given day of a representative of sales.
Related Core View(s)	CORE_VIEW_3
Authorized Groups of Users	Director of Sales and Representative of Sales
HTTP Verb	GET
Route	/calendar?id=<representativeID>&day=<dayIndex>
Input Example	<representativeID> = 123456789 <dayIndex> = 525
Expected Output	Success: <pre>{ "visits" : [{ "time" : "9h30", "customerID" : 123456789 }] }</pre> Missing/Incorrect fields: <pre>{ "msg" : "Missing/Incorrect fields" }</pre>