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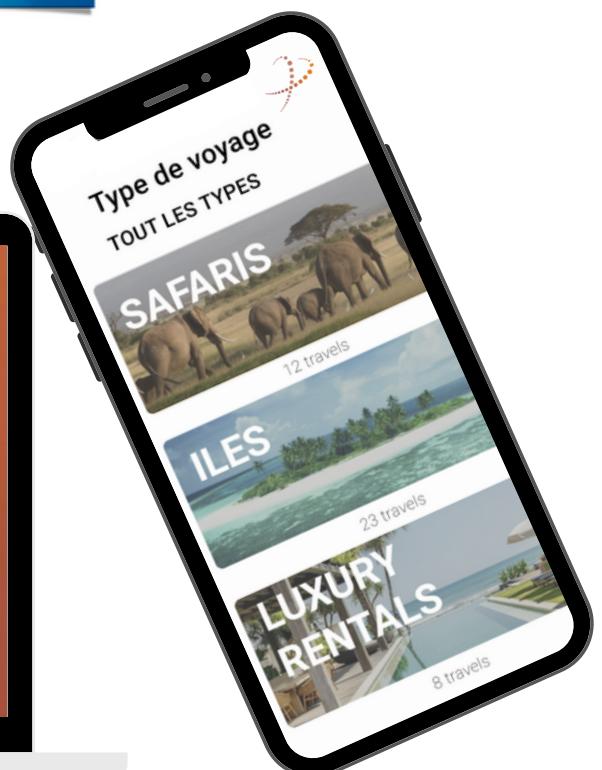
INTERNSHIP
REPORT AT
VIAXOFT



DATE: 01/04/20 - 30/07/20

Julien Ferrier

3ième année -



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Who is Viaxoft ?

I - 1 The company

Viaxoft is a software publisher (SSII) which was founded in 2008 by Vincent Fouquet and Eric Barthelemy.

The company grows up in tourism industry and its goal is to assist travel agencies and tour operators (TO) in their daily tasks.

Its software Viaxeo, manages business intelligence, accounting, business and customers management for its customers.

Today, the company has more than 70 employees spread over 3 sites. Paris (**S1**), Marseille (**S2**) and Montpellier (**S3**). The employees share their experience, technical expertise and help the customers to setup their IT projects.

Viaxoft has more than 700 customers and assists them on their activities.

Furthermore, the company has 4 datacenters.

Two in Marseille (**D1, D2**), one in Bâle (**D3**) and one in Lausanne (**D4**).

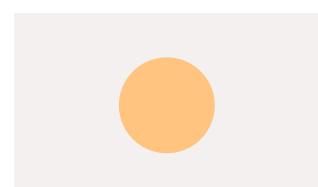
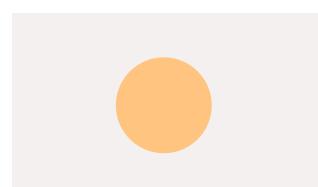
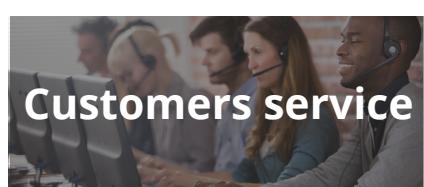
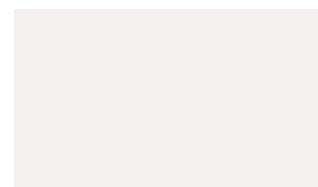
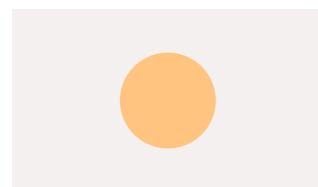
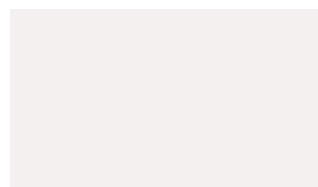
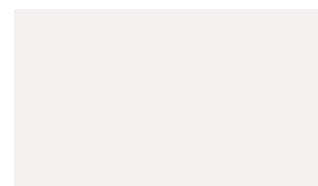
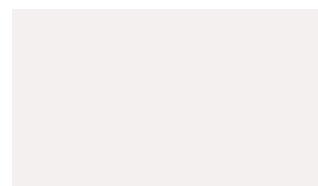
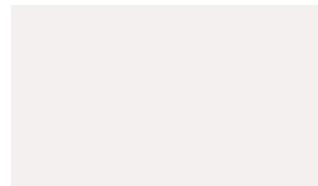
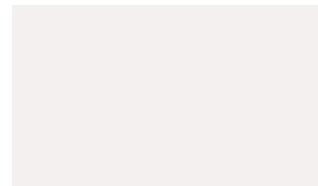


3 offices

4 datacenters

70 employees

I - 2 National Organization



I - 3 Organization Chart

The Vixoft team has grown steadily since its start twelve years ago and now has more than 70 employees to offer travel agencies and their customers the most effective solution to pilot and simplify their activities.

We thus find:

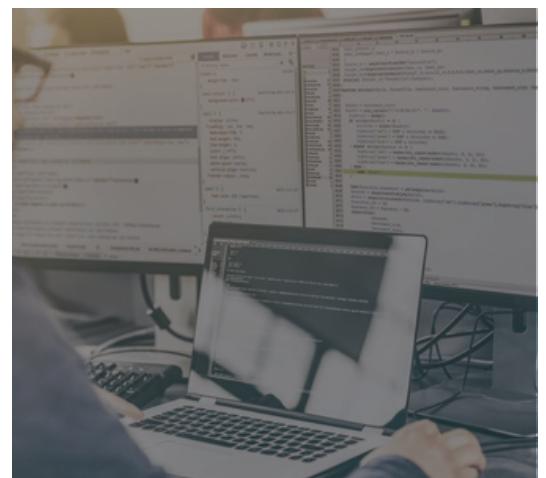


Accounting Team

This Team has evolved and grown over the years and most especially since ViaXeo launch. Today, the team is composed of **13** employees. They manage primarily the accounting of Viaxoft's customers.

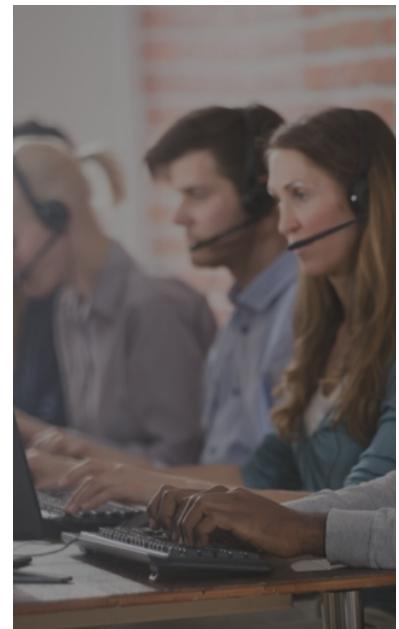
Developpers Team

As a standard IT Group, the developer Team is the biggest division at Viaxoft.
It is composed of Product Owner (PO) to manage the developers and ensure the effective functioning of Scrums Methods.
There are **24** developers for **4** Product Owners (PO).

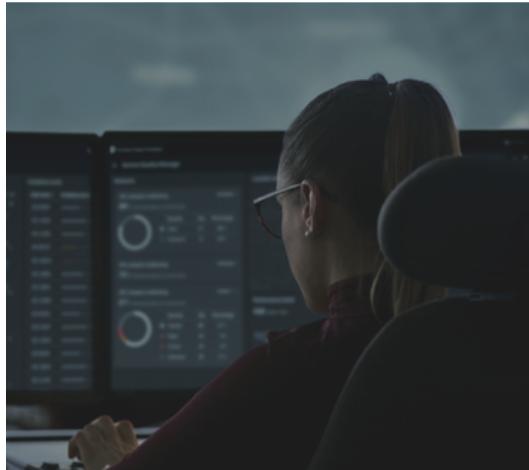


Customers Service

The customers service division or users functionnal support, allows to start-up the customer project on ViaXeo and follow them on their activity. This division is composed of **19** employees.



Network Support



This division allows to help the customers if they have a technical and external problem with ViaXeo. Same for intern problem with the computers, printers of the company, servers and datacenters. Most of the time, the network support work with the developers to manage the application infrastructure and to develop the software architecture. They are **4** employees working in this division.

I - 4 Target

For 20 years, the tourism industry continues to evolve thanks to digital shifting in a physical industry.

For years, Viamsoft has developed and suggested new tools to manage the process of their activity, improve their performances and ensure their customers relationship.

These solutions are used by 700 of 4800 french travel agencies/tour operators (TO) and continue to target others tourism stakeholders.



The products

I - What is ViaXeo ?

ViaXeo is the software of Viamsoft which was designed for and by travel agencies and Tour Operators (TO) to evolve their performances, ensure their productivity and profitability by the automation of tasks and the management of their business processes.

Within this software, we thus find several solutions :



ViaXeo Loisirs

Allows to centralize all ideas of travellers to realize a perfect travel in only one project before the preparation of an order or a travel quote.

This service also allows to automate folders creation.



ViaXeo CRM

This part of the software allows travel agencies and Tour Operators to improve their customers relationship and their loyalties by customers data backups.



ViaXeo Business Travels

This concerns in particular all business trips.

ViaXeo Business Travels allows to save and manage a customers data, expense accounts to generate and optimize business savings.



ViaXeo GED

For Electronic Documents Management.

It allows to ensure digital archiving documents and improve the capacities, efficiency of travel agencies and Tour Operators (TO) thanks to simplified diffusion and automatic processing of professionnals documents.



ViaXeo Accounting

For 5 years, Vixsoft has introduced a new service to reduce and automate accounting tasks and most especially designed for travel agencies and Tour Operators (TO).

This service allows to check who didn't pay, customers debts and to prepare customer reminders.

Today, the company hopes to progressively develop a new mobile application which will be available on iOS and Android for its travel agencies and Tour Operators (TO).

The application could be rented individually and duplicated for each agencies customers of Vixoft.

The goal is to identify the best way to retain its customers and to get new ones by loyalty programs and partnerships.

I - 1-1 Main principle

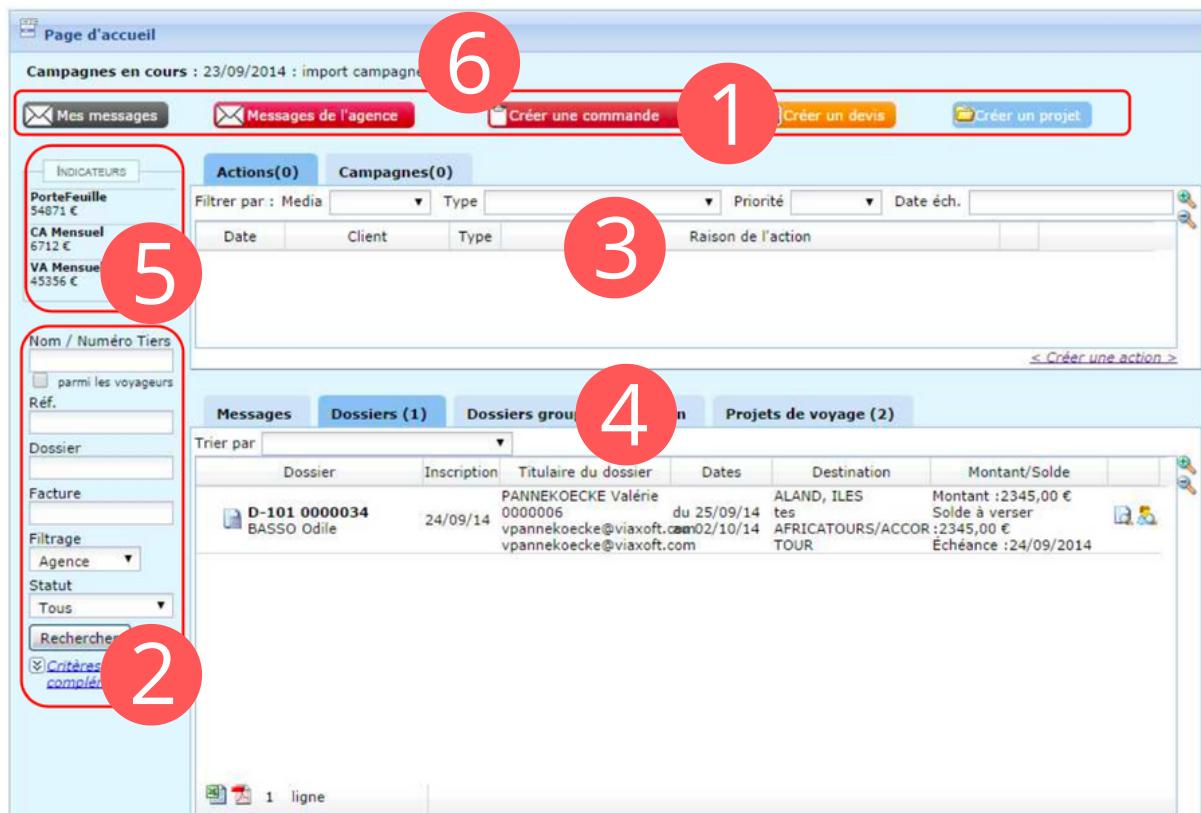


Figure 1: Main view

1 - This is the first thing you see when ViaXeo is open. At the top, the main panel suggests to see messages sent by the current agent or all messages sent by agents. When an user clicks to create an order, a new page will open and he will see all the details and necessary data before the creation. Same thing if he wants to create a quote (it's possible to create an order from a quote). The objective of creating a project, is to archive all the ideas of the customers and save it until they create a quote (*cf page x*) or an order. For each order a new project must be created.

2 - The second part allows to make a quick research in the database.

It's possible to find a customer by his name, his travel number, his folder/bill number, etc.

3 - The third part displays important upcoming and current information.

4 - The fourth part allows to display the result of the previous research.

The user can double-clicks on the line to display all the details.

5 - This part allows to compare the total of the revenues and the objectives.

6 - The sixth and last part allows to display the current campaigns.

I - 1-2 Create a quote



Figure 2: from the Main view click on "Créer un devis"

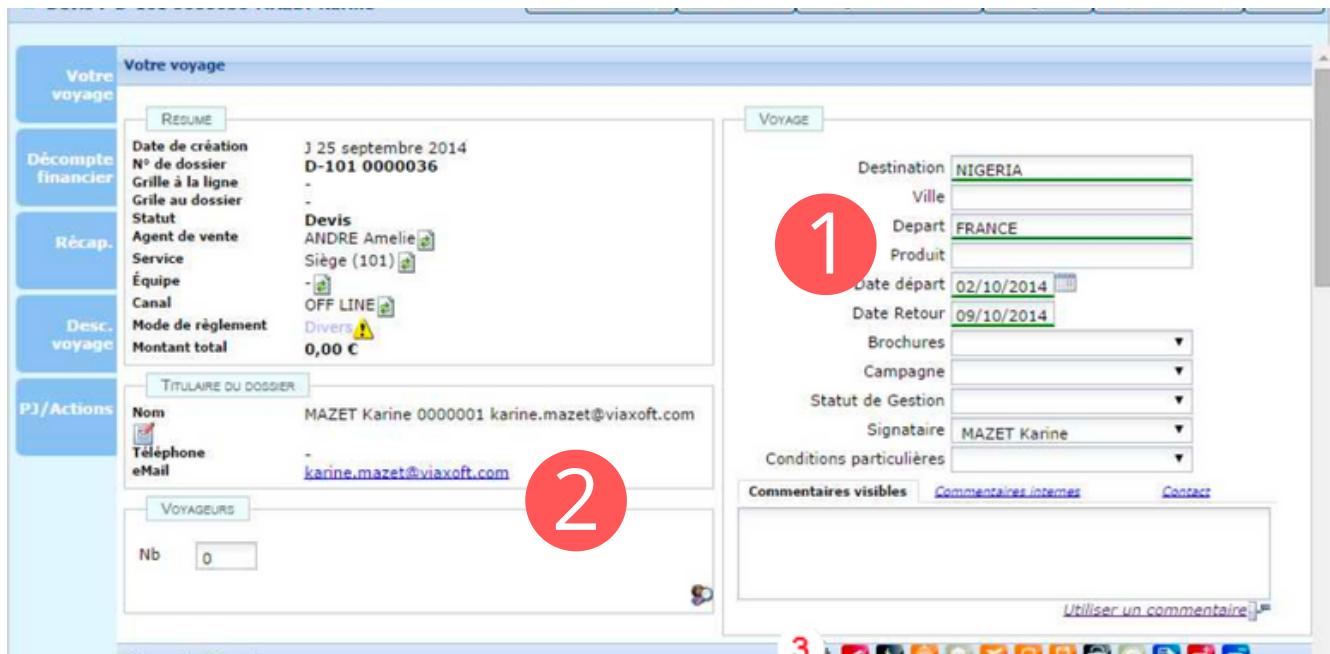


Figure 3: click on "Créer un devis"
For each new quote, a new project is created automatically.

1 - This view is available if the customer doesn't exist.
The user has to fill all fields like destination, the city, which kind of travel, the date of the trip, campaign...

2 - It's possible to fill the name of the passengers or fill how many passengers will travel for a same order.

3 - This part allows to fill service rates of this quote.

I - 1-3 Create a new customer

The screenshot shows a web-based customer creation form. The top section (Step 1) contains fields for personal details: 'Client individuel' (radio button), 'Client société' (radio button), 'Civilité/Statut' (dropdown: Monsieur), 'Famille' (dropdown: Individuel), 'Compte client/Nom' (text input: COUPONS), 'Prénom' (text input: André), 'Mail' (text input), and 'Ajouter' (button). Below this, 'Accès B2C' is set to 'Non'. To the right, there are checkboxes for 'Accepte d'être contacté' and 'Inscription Newsletter', and fields for 'Téléphone domicile', 'Téléphone mobile', 'Téléphone professionnel', 'Fax', and 'Devise du compte' (EUR). Step 2 (Address) includes 'Adresse principale' (dropdown: Facturation, Livraison), 'N° et libellé de voie' (text input: rue de la Paix), 'Immeuble - Résidence' (text input), 'Lieu Dit ou BP' (text input), and 'CP/Ville' (text input: 42300 MABLY, ROANNE, VILLEREST, FRANCE). Step 3 (Validation) at the bottom features 'Derniers Dossiers' (button), 'Valider' (green button with red arrow), 'Annuler' (button), and 'Réinitialiser' (button).

Figure 4: click on "Créer un client"
For each new project, if a customer does not exist, the user must create a new one.

Info - This section is mandatory if you want to create a quote or a folder.

If the user create a new customer from a quote, the user must refill the first and last name, mail and phone number.

1 - This view allows to create a new customer.

To do that, it's required and recommended to fill a maximum of informations from the customer.

Here, the user needs to choose if it's an individual or business customer, his address, his first and last name, his mail address and location.

2 - The user can create a new customer if he clicks on "Valider".

2 - Back to home if he clicks on "Annuler"

3 - Reset the fill to click on "Réinitialiser"

I - 1-4 Create a new project

Détail projet

Annuler le projet Enregistrer et fermer Enregistrer Annuler

Résumé

Référence projet I-001 0000059
Créé par Pannekoecke
Créé le 30/09/2014
Statut Projet
Canal ▾

TITULAIRE

PANNEKOECKE Valérie

VOYAGE

Intitulé Voyage d'exploration
Motif Grand voyage ▾
Type de voyageur Famille ▾
Départ du: 03/11/2014
au: 28/11/2014
Budget 5 000,00
Nombre d'adultes 2
Nombre d'enfants 2
Nombre de bébés

Idées de voyages

Nouvelle Idée

Idee 1

Destination BOLIVIE
Salar d'Uyuni, Sud Lipez, la ville de Potosi
Commentaire

Idee 2

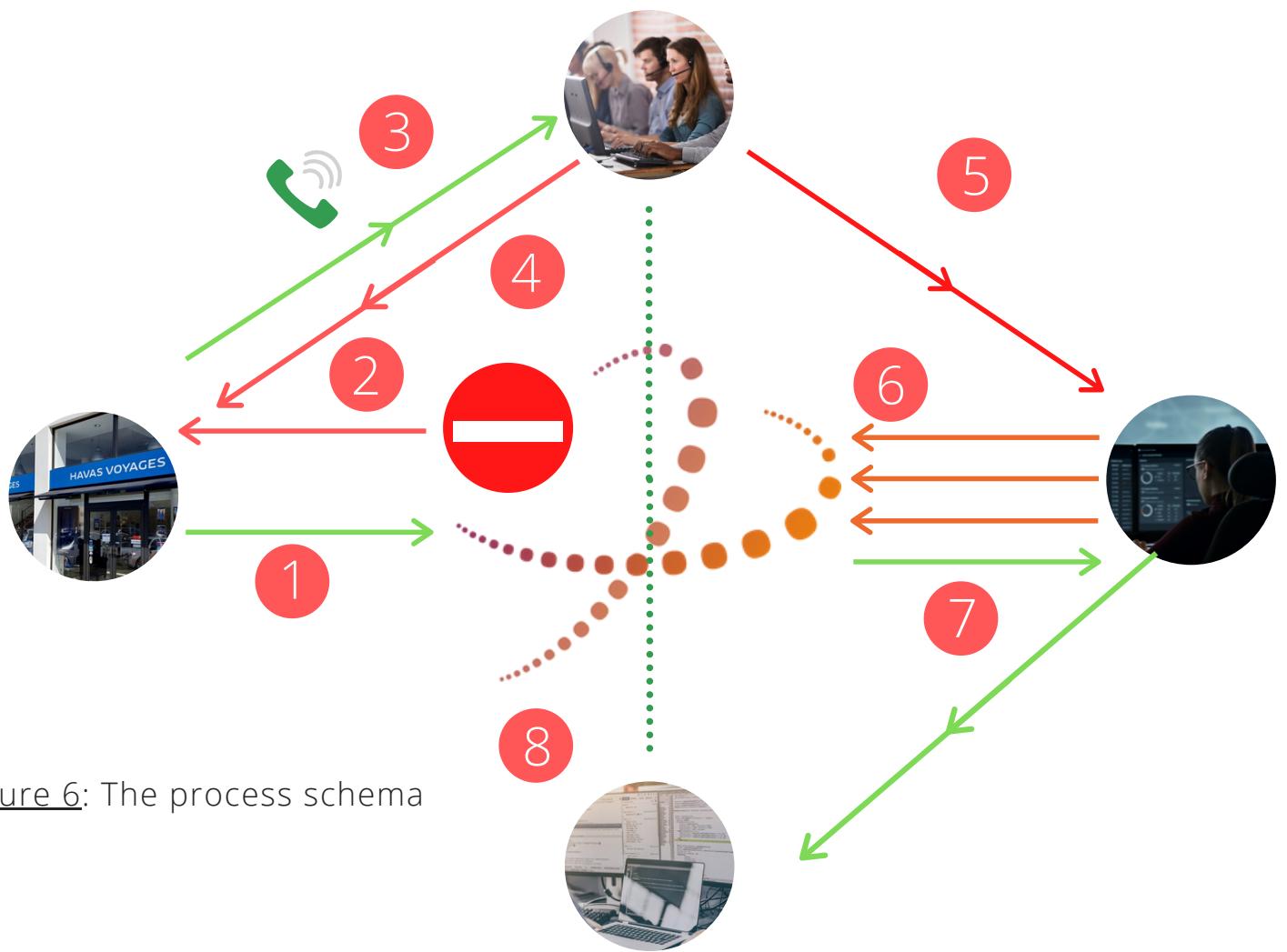
Destination ARGENTINE
Ushuaia, El Calafate & le Perito Moreno
Commentaire Supprimer

COMMENTAIRE

Figure 5: click on "Créer un projet".

This view is available once the user chose which customer will be assigned to the project.

I - 1-5 The process



- 1 - Travel agency try to do something on the sofware
- 2 - ViaXeo displays an error or bad result
- 3 - The travel agency calls Customers Service
- 4 - The Customers Service can't help the customer if it's a technical error
- 5 - The Customers Service warns the Selenium tests developers
- 6 - The Selenium tests developers try to create many requests to identity the problem and understand why it doesn't work
- 7 - The Selenium tests developers find the error(s) and warn the software developers
- 8 - The software developers Team resolves the problem and warns the Customers Service

I - 1-6 Automated Tests

When a developer works on a feature, it's important to test it in order to integrate it into the final version of the software. The best way to check if a feature works correctly is to test it with automated tests.

The objective is to simulate human actions and tasks on a software, and check if the result is the same we expected. These solutions are used to avoid errors when a real/final user (travel agency) use Viaxeo with their customers. Thanks to functional test tools, it's possible to manage the most complexes scenarios made by the user in the application and save them to know which values has been tested and which one failed.

This kind of tests allow to scroll, click and write on a keyboard. If a sofware detects an incident or a bad value, it's necessary to warn a developer to fix it.

2 - Mobile Application

Actually, the company hopes to progressively develop a new mobile application which will be available on iOS and Android for its travel agencies and Tour Operators (TO).

The application could be rented individually and duplicated for each Viasoft's agencies customers.

The goal is to identify the best way to retain its customers and to get a new one by loyalty programs and partnerships.

II - 2-1 Main principle

Viaxoft wants to create a mobile application iOS/Android to create partnership programs and to retain the customers of travel agencies.

Each travel agency may create its own loyalty card and manage them based their own criteria.

The company understood that each travel agencies work differently with common objectives.

Selling travels and improving customers experience before and during the travel.

To meet these objectives, the company has chosen to develop and launch several new features aimed at improving the user experience and allows to increase its business reputation and achieve a good visibility.

This tool will allows to help and make easier the traveller decisions depending on their budget, the travel options (for the Tour Operators), consult the travels availabilities and travel conditions.

With this solution, the user data are secured and saved to know their user habits.

When the user is logged into the app, he can see his personal data, modify/delete them and see which travels are available. With a search bar, the user can manage his search criteria and filter by categories, continents, styles of travel.

Once chosen, the user can select the date, see all the details of the travel.

The pricing will depends of the user points and his purchase history.

II - 2-2 Admin Dashboard

The image shows a smartphone displaying the Selectour Admin Dashboard. The screen features a dark header bar with the Selectour logo and a navigation menu below it. The menu items are listed with icons and red circular callouts containing numbers 1 through 7. At the bottom of the screen is a large red button labeled "Déconnexion".

- 1 >
- 2 >
- 3 >
- 4 >
- 5 >
- 6 >
- 7 >

Déconnexion

Figure 7: The dashboard of a travel agency

- 1 - Button to see/modify profile information of the travel agency
(All fields are public for the customers)
- 2 - Button to see/edit all/new loyalty card
- 3 - Button to see/edit lowcost travel
- 4 - Button to see/create all/new customer
- 5 - Button to see/create all/new travel
- 5 - Button to see all reservation tickets and quotes
- 6 - Button to see the personal data

II - 2-3 Loyalty cards

The image shows a smartphone displaying a mobile application interface. The screen title is "Programmes de fidélités". Below the title are five menu items, each with a right-pointing arrow: "Editer programme de fidélité au nombre de visites", "Editer programme de fidélité au montant dépensé", "Editer programme de fidélité par points client acquis", "Editer programme de fidélité par quantité achetés", and "Editer programme de fidélité par parrainage client". To the right of these menu items are six red circles numbered 1 through 6, corresponding to the steps in the adjacent diagram. At the bottom of the screen are three navigation icons: "Reservations" (clip icon), "Ajouter" (plus icon), and "Mon compte" (person icon).

- 1 Editer programme de fidélité au nombre de visites
- 2 Editer programme de fidélité au montant dépensé
- 3 Editer programme de fidélité par points client acquis
- 4 Editer programme de fidélité par quantité achetés
- 5 Editer programme de fidélité par parrainage client
- 6

Reservations Ajouter Mon compte

PAGE 24

Figure 8: The loyalty programs

- 1 - Button to edit a loyalty program by number of visits
- 2 - Button to edit a loyalty program by amount spent
- 3 - Button to edit a loyalty program by customers points
- 4 - Button to edit a loyalty program by travels bought
- 5 - Button to edit a loyalty program by customer sponsorship
- 6 - Navigation bar
 - Reservations
 - Add a new project for a customer or create new travel
 - See the personal account and the public page

II - 2-4 Create and sell travel

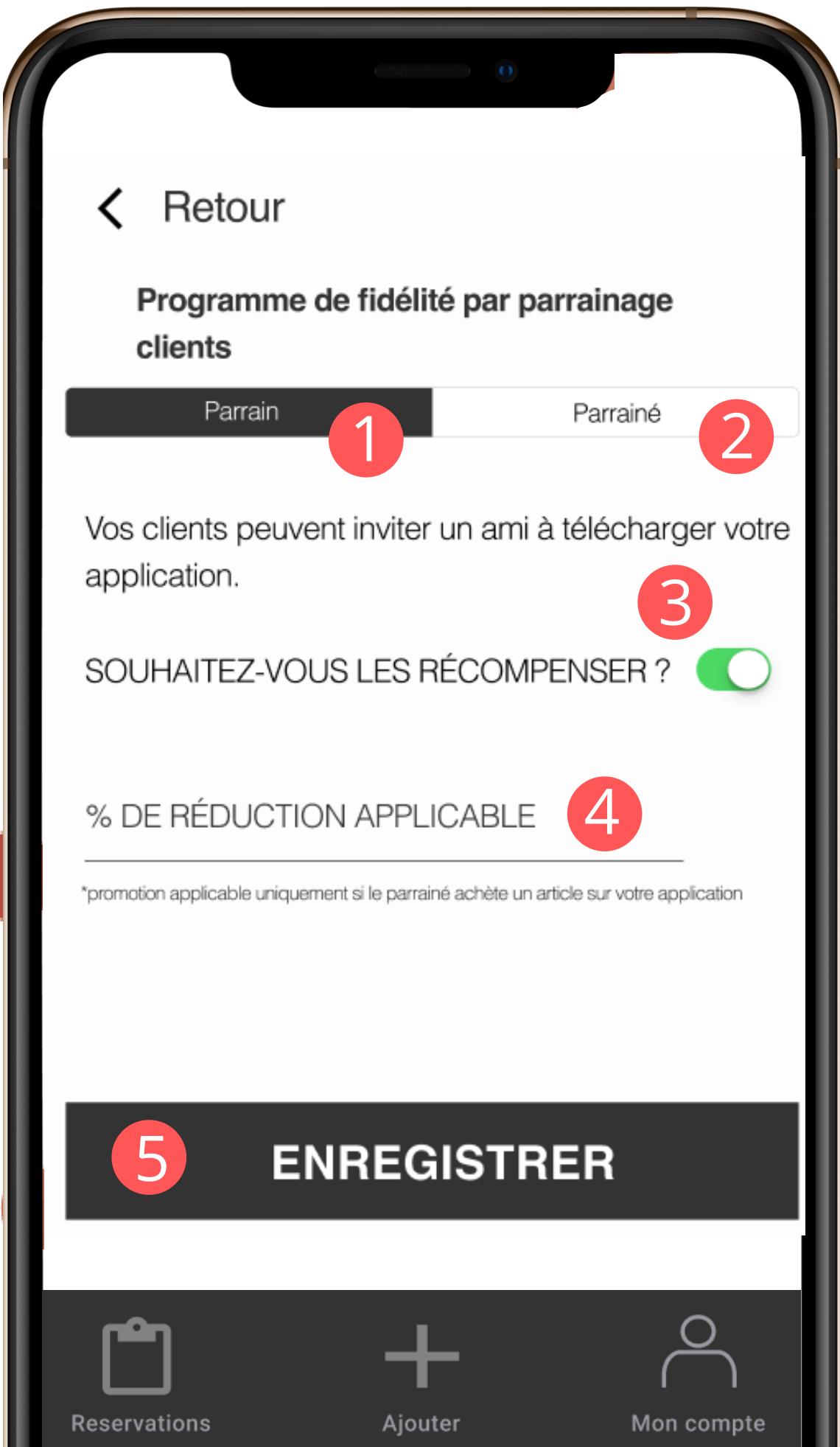


Figure 9: The sponsoring panel

1 - Button to select the sponsor

2 - Button to select the sponsored

3 - Toggle to allows reward the sponsored or the sponsor or both

4 - Input text to edit/determine a discount percentage rate

5 - Button to save the change

II - 2-5 Edit categories

Types de voyages
TOUT LES TYPES

SAFARIS
12 travels

1

2

ILES
23 travels

1

2

LUXURY RENTALS
8 travels

1

2

VOIR 3

MODIFIER 4

+

PAGE 28

Figure 10: The categories panel

- 1 - Button to delete a category and associated travels
- 2 - Button to see all associated travels from the category
- 3 - Button to see all categories (same view than a customer)
- 4 - Button to get an edited view

3

Working methods and personnel tools

III - 1 Personnel and management tools

Since the beginning of the mobile application project, it is important to organize the work and most especially when it is an independent work.

For an alone work, the company adopted and followed Japanese method of work.

The Kanban method is an Agile method that someone can use if he works alone.

This method is based on continual improvement.

The Kanban method uses different principles than Scrum method.

Rather than define in advance the different tasks to be performed, they will arrive everyday.

It depends of the previously finished task.

The goal is to define new objectives each time a task is finished.

It is necessary to know what is the most important thing to do at the beginning and follow a logic thought schema.

The flow will be documented by a Kanban dashboard, divided into several columns representing the follow-up workflow of realisation of a task.

The best way to apply this rule is to define a "todo" list with four columns.

The first column "todo", the second "in progress", the third "to test" and the last and fourth "to deliver".

3 - 3 - 1 Gitlab

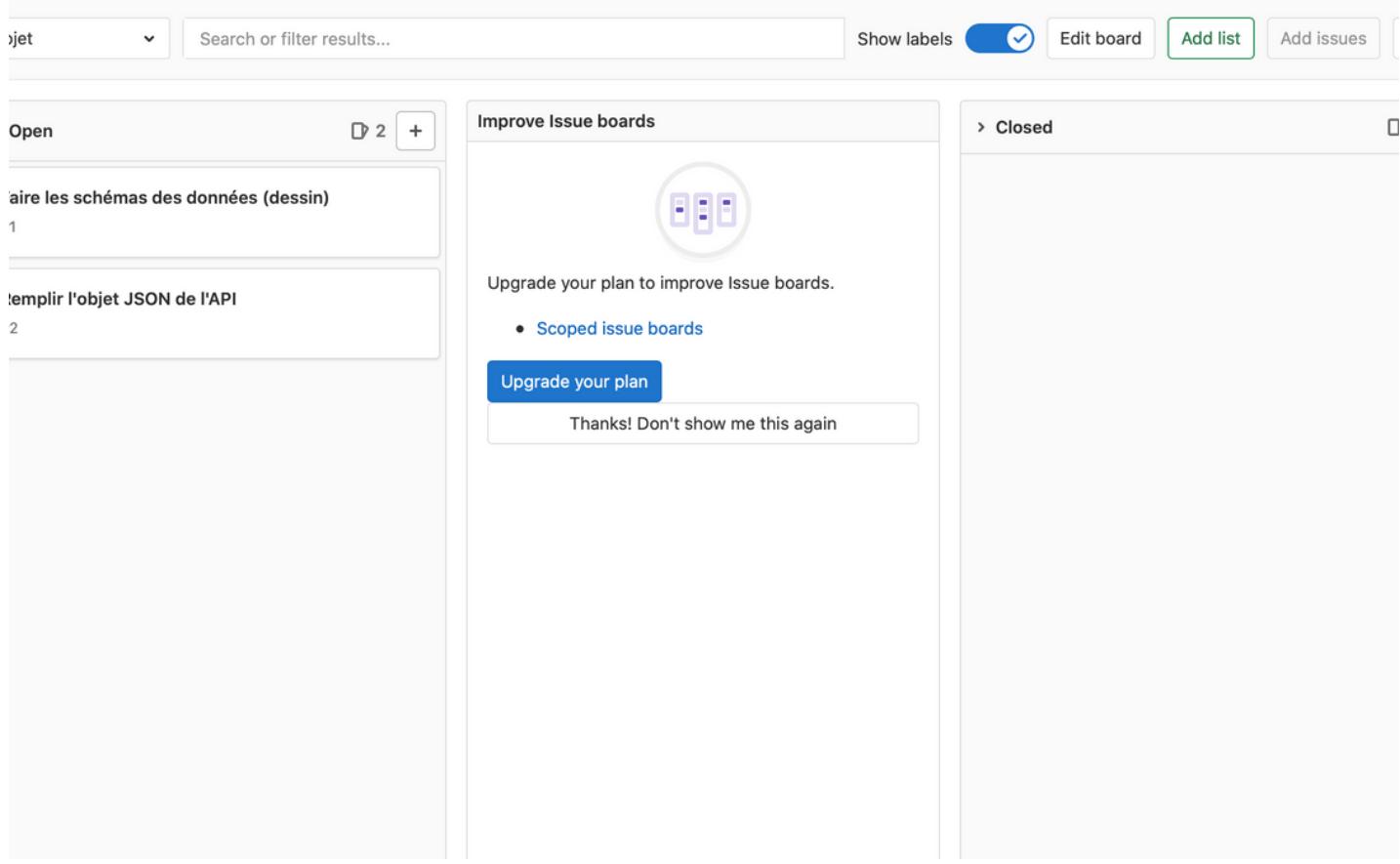


Figure 11: Screen of Gitlab's tasks

Gitlab is the most complete management tool to edit tasks and use Kanban method.

With this tool, it is very simple to follow and update if a task is done, todo, in progress task or to test status.

A feature is composed by a serie of tasks and each one of them must pass successfully the tests.

If there are errors, the tasks become a "to review" card.

III - 2 Collective and management tools

Since 2016, Viaxoft has adopted Agile method.

The development team has followed a Scrum method.

Rather than other traditional method, this one is based on the human.

The objective is to group the network support division, the developers and customers service to achieve common goals.

Each part of ViaXeo are separated, divided and carried out during short development phases called "sprints".

During the week, each day begins to a quick and short meeting for a duration of 15 minutes, where each employee must have a rugby ball to speak.

It is the moment to talk about what he did yesterday, and reminding his actual tasks.

It is important to explain which problem he had, which problem he solved and how.

Each tasks must to be short to work with the other employees.

The product owner (PO) is here to explain the vision, the final version of a feature and follow the work of each employee.

At the end of the morning/afternoon it is necessary to explain if the daily goals are achieved or not.

3 - 3 - 2 Ora

The screenshot shows the Ora interface with four boards:

- Step 2 DEADLINE 05/20**: Contains 11 tasks:
 - Step 2 - Mockups
 - Creating a final version of the dashboard
 - Creating a final version of the register_page
 - Creating a final version of the connexion_page
 - Creating a final version of the find_product_page
 - Creating a final version of the detail_travel_page
 - Creating a final version of the payment_page
 - Creating a final version of the customers_page
 - Creating a final version of the
- NOTHING (2days)**: Contains 1 task: REVIEW OF THE STEP2
- Step 3 DEADLINE 06/02**: Contains 3 tasks:
 - Defining UML schema
 - Defining all API's
 - Defining all services
- NOTHING (2days)**: Contains 1 task: REVIEW OF THE STEP3

A permission dialog at the bottom says: "Ora needs your permission to enable desktop notifications. Never show this again. X".

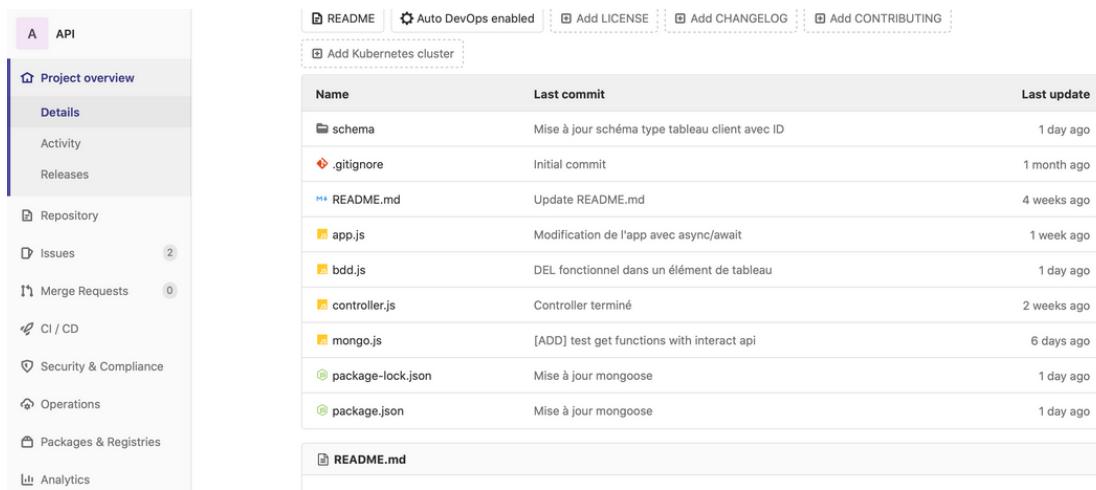
Ora is a project management tool adapted to Agile methods. It allows to manage different tasks and share them to other employees. This tool allows to follow a team, see what they did, assign tasks and define a deadline. Like Gitlab, it is possible to create different cards like todo/done/to review, etc. This tool is more adapted to use Agile and Scrum methods than Gitlab. The tasks are listed in order of priority and chronological order. Each member of the team have to be assigned to a task or group of tasks.

This is very simple to check what we already did during the previous Sprint.

A sprint is defined by a deadline, features and group of tasks. The goal is to complete the current tasks.

III - 3 Technical tools

3 - 3 - 3 Gitlab



The screenshot shows the Gitlab Project overview page. On the left, there's a sidebar with navigation links: API, Project overview (selected), Details, Activity, Releases, Repository, Issues (2), Merge Requests (0), CI / CD, Security & Compliance, Operations, Packages & Registries, and Analytics. At the top right, there are several buttons: README, Auto DevOps enabled, Add LICENSE, Add CHANGELOG, Add CONTRIBUTING, and Add Kubernetes cluster. Below these buttons is a table showing the repository's commit history:

Name	Last commit	Last update
schema	Mise à jour schéma type tableau client avec ID	1 day ago
.gitignore	Initial commit	1 month ago
README.md	Update README.md	4 weeks ago
app.js	Modification de l'app avec async/await	1 week ago
bdd.js	DEL fonctionnel dans un élément de tableau	1 day ago
controller.js	Controller terminé	2 weeks ago
mongo.js	[ADD] test get functions with interact api	6 days ago
package-lock.json	Mise à jour mongoose	1 day ago
package.json	Mise à jour mongoose	1 day ago
README.md		

As a complete management tool, Gitlab is a perfect technical tool (software development management service) to share a work and most especially a code thanks to Git.

Gitlab was designed to manage different parts of a code. Thanks to it, it is possible to work on a same code, same file and create different versions of the code.

It helps avoid wasting time during the development phase.

Viaxoft uses Git integration system, a way to manage different versions of the software.

The "master" branch is the production version and each feature must work without errors.

The company uses different branch.

Most of the time, a part of the project is divided by groups. One feature per group and one branch per feature.

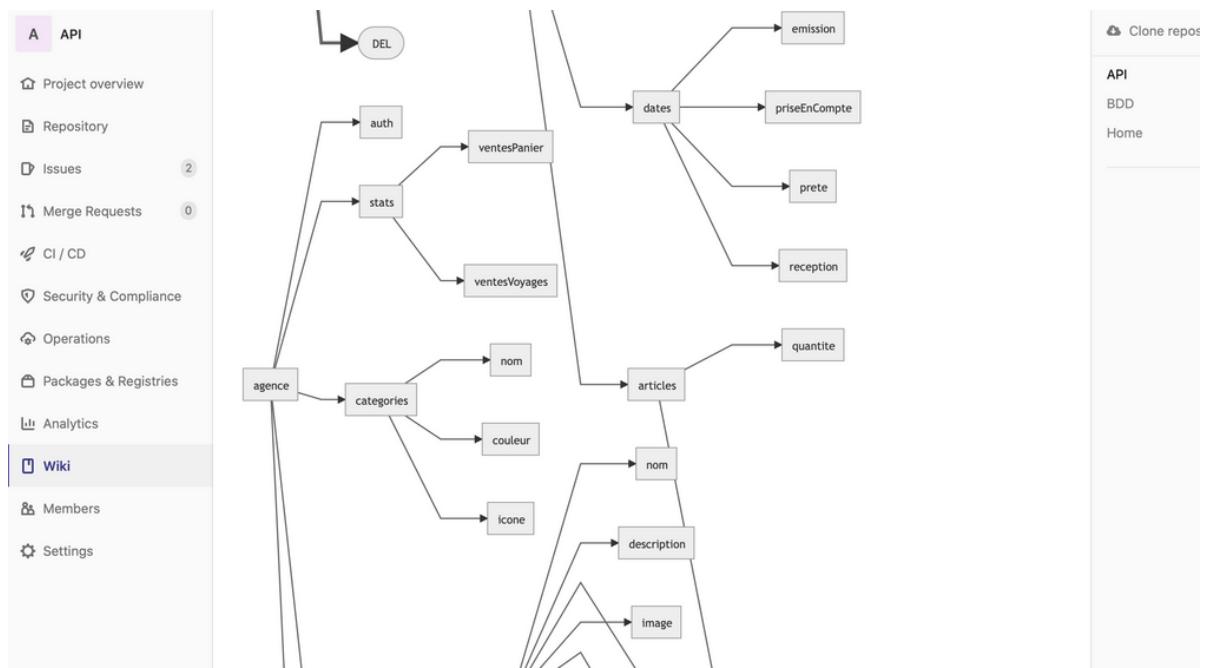
Once a feature is done, the feature have to be saved on a "preproduction" branch to test it and check if it succeeds or fails tests. If it succeeds the feature of "preproduction" branch become incorporated on the "master" branch (production and official version). In contrast, if the test fails the feature must send on the "tocorrect" branch.

3 - 3 - 4 MongoDB Compass

The screenshot shows the MongoDB Compass interface. On the left, there's a sidebar with 'HOST' set to 'viaxsoft-api.fr:27017', 'CLUSTER' set to 'Standalone', and 'EDITION' set to 'MongoDB 4.2.7 Community'. Below these are database names: 'admin', 'config', 'local', 'test', and '...', each preceded by a small blue bar icon. The main area has tabs at the top: 'Documents' (which is selected), 'Aggregations', 'Schema', 'Explain Plan', 'Indexes', and 'Validation'. Below the tabs is a toolbar with icons for 'ADD DATA', 'VIEW', and other options. A search bar says 'Filter your data'. The main content area displays a list of documents with their JSON structure. The first document is expanded, showing fields like 'limit: 30', '_unique: true', 'paliers: Array', 'mbArticles: Object', 'actif: false', 'offert: false', 'typePourcent: false', and 'nouveau: Object'. The second document is collapsed. At the bottom right, it says 'Displaying documents 1 - 2 of 2'.

For the mobile application, it's important to use fast, modulable and graphical tool.
MongoDB manage the databases.
This software is free to download and works with MacOS, Linux or Windows.

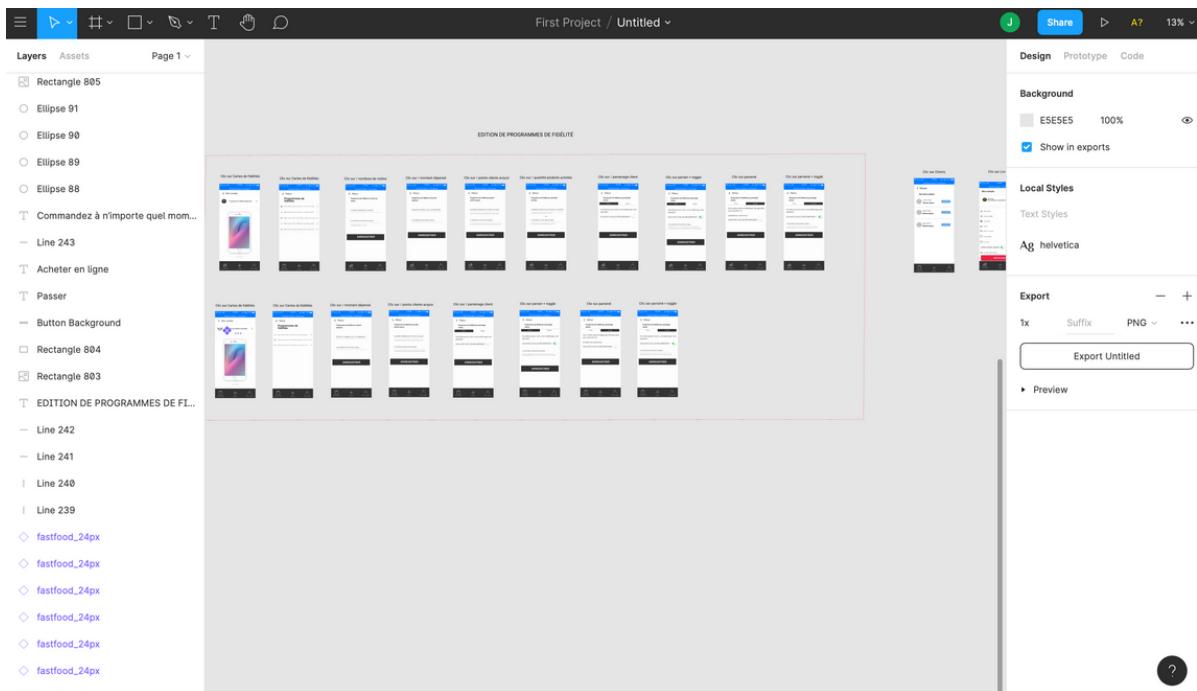
3 - 3 - 5 The Wiki by Gitlab



The wiki is one of the most important things to use.
It allows to a new developer to understand the code.
The mobile application uses different kinds of schemas.

III - 4 Graphical tools

3 - 4 - 1 Figma



After defining all the features, schemas and the architecture of the code it is advised to start the design of all pages. In the figma file, it's designed the authentication page, the admin dashboard, customer panel, all categories and associated travels. The purpose of this website is to design the most realist and final version of the mobile application.

Part II - Motivation letter

Dear Sir,

Entering the final straight of my internship at Viaxoft,

I am hoping to develop and implement my knowledge in software and mobile development that I acquired during this period in your company.

From the day I started to developed for these projects, I've work with passion and have had the opportunity to develop my skills in various technologies that I didn't manage.

My young experience in your company has led me to believe that smart organizational culture through the "RAD" method and the scrum techniques, essential to the accomplishment of my projects.

Working alone during this ambitious mobile application project also significantly helped me coping with responsibilities pushing me into the limits I didn't know I had and developing my creativity in an innovative environment.

This high standard I'm imposing to myself allowed me to manage my time and to be more efficient than never.

Also, I learnt from my mistakes, this experience taught me that it was important to make a technological intelligence and to be more rigorous when I choose a technology to develop a new project.

I thank you for the attention you have bring to my work and you will bring to this application, and grateful to your help and advices during this internship.

I am looking forward to hearing/reading from you.

Sincerely,

Julien Ferrier,
Student at Epitech Toulouse,
Class of 2022.
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