Nathan Delavictoire — Mai 2020

19 Months

Stories of projects between may 2018 and december 2019

I visited last year the Preak Khan Temple in Angkor and took this photo of a mysterious path on the side. I like how uncertain paths are often the one that are the most attractive ones.

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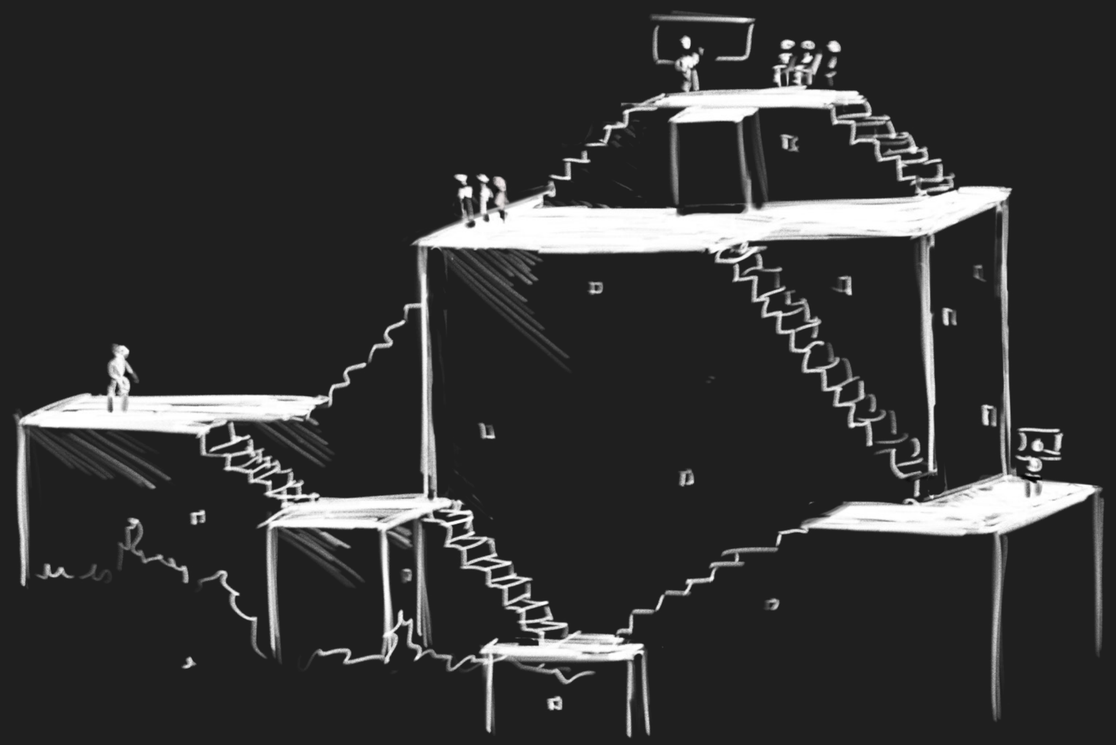
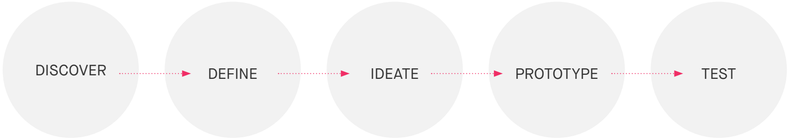


Introduction

In this portfolio I'll tell the story of projects. They spread over 15 months, between May 2018 and August 2019.

The aim is to show the diversity of challenges I've been facing as well as the different typologies of projects that took shape through collaboration and framing.

Each chapter correspond to a focus on one project. I've selected four of them that I found the most relevant ones. To describe them visually I will use the classic discover, define, ideate, prototype and test design framework. This should create interesting and various patterns. I can already say that you will never see a straight line as sadly the following never happened yet for me :



This document will attempt to describe the design process and the thinking that was involved through it. I may for this purpose though speak about topics and matters that are specific to the company where I conducted these project : Air Liquide. I'll be overall little specific about the topic at hand for NDA purposes.

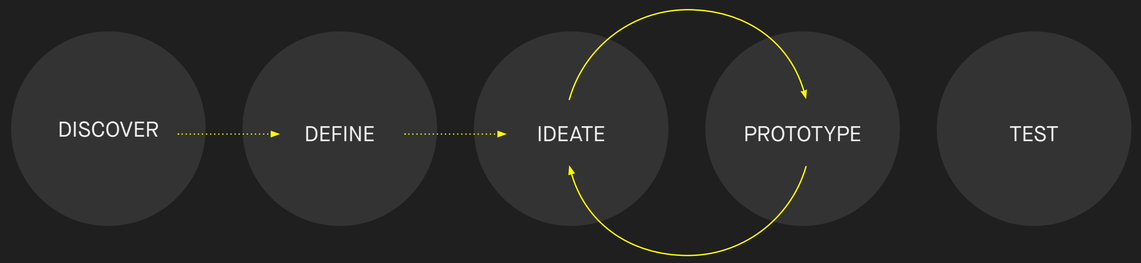
> **A few words about Air Liquide and my presence in it :** It is a Industrial gas company, providing Infrastructure, products and services for various type of customers : from huge oil companies to patients with breathing deceases. I was hired two years ago within the digital department of the group in Paris called La Factory.

The first chapter shoes how data science and design can slightly mingle together to produce unexpected outcomes. The second chapter rolls out a project that unraveled the need for organizational change. The third chapter describe a project that was an attempt to shift the focus from applications to services. And the last chapter relates my attempt to implement design within an old fashioned IT environment.

CHAPTER 1

A Data Fueled Design

| May 2018 — July 2018



Design for experiments

At the end of April 2018 one of my colleague suggested I collaborate on a data-science project so I can help with the design of data-visualizations. The whole project was an experiment trying to build a business case. My involvement's aim was to help with the understanding of the complexity of these new concepts.

Thus the goal of the project was to build an interactive data visualization that helps understanding better the behaviors of the temperature of installations providing gas. The main focus was to predict cold events that would represent high risks for the installations.

The first part of the project was dedicated to design and build a representation of the current existing data.

First concepts

I started working with a simple brief. The operations want to see a Pressure/Temperature graph with all the registered data points altogether. I soon started to understand what it would look like.

We needed to be able to explore the data on the time axis as well. This explains the time selector component. We needed to be able to explore the data for different clients as well. Finally we needed to be able to set temperature areas to focus and see what point are located within these customized boundaries. What you see below is the result of these first explorations. (Figure 1.1)

After a few hours of work on this mock up I started very rapidly prototyping with code. The main question that needed to be answered then being the feasibility and the rendering with actual data. (Figure 1.2)

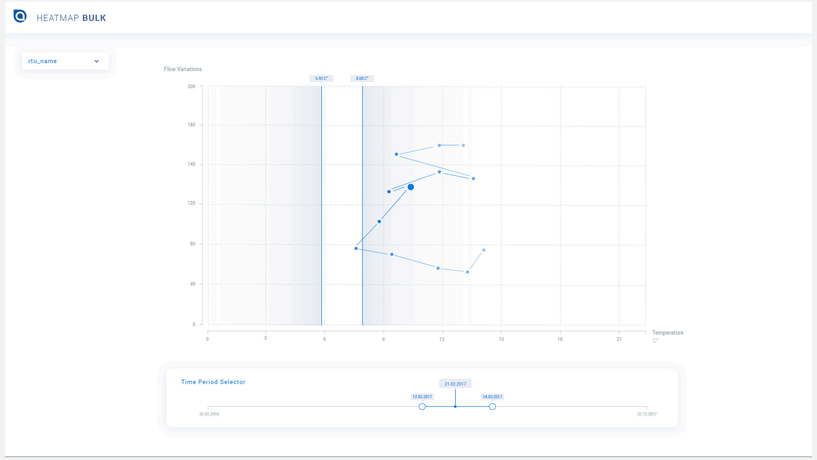


Figure 1.1 : First mock-up tring to depict what the first version of the data-visualisation will be.

Figure 1.2 : First developed prototype, showing that realitie of course is not as nice as mock-ups.

First developed prototype

The team I'm working with made the suggestion to test now a few parallel views. One view is a temperature/time graph and the other is a pressure/temperature. I introduced a time selector that was directly placed above the temperature/time graph. (figure 1.3)

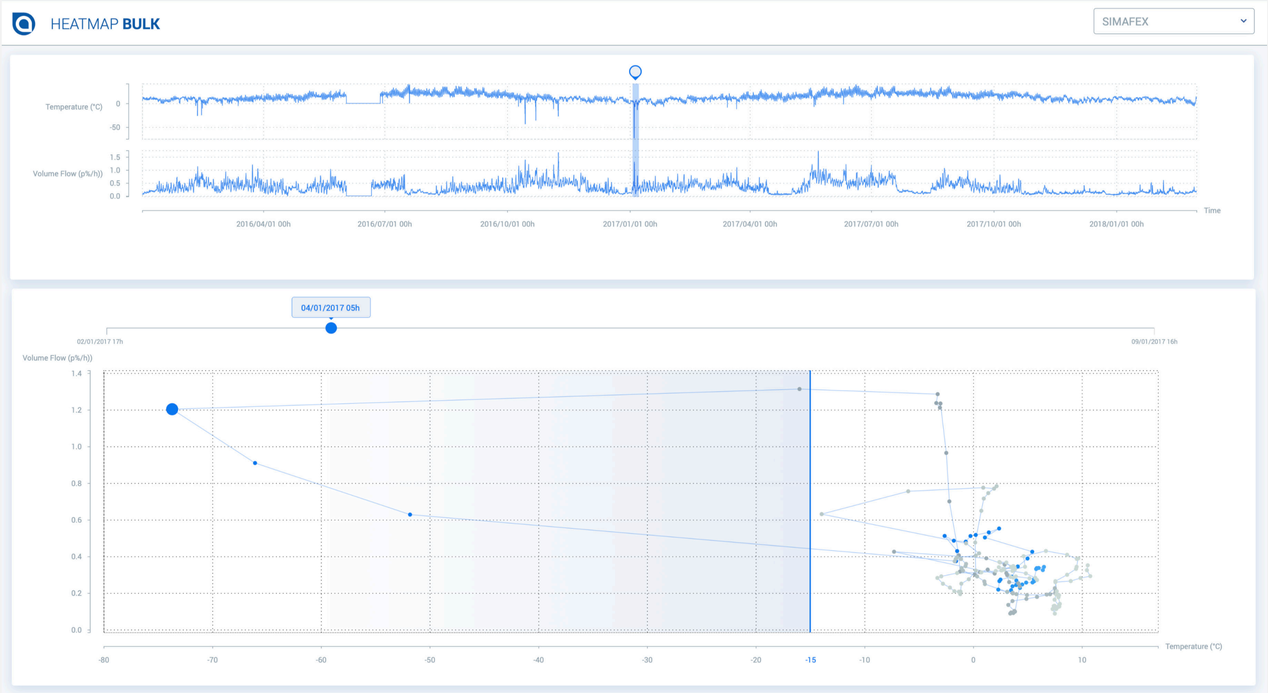


Figure 1.3 : More advanced developed prototype with Angular and D3.

Show the Data science outcomes

The second phase of the project was dedicated to represent the outcomes produced by data scientists on the project. Their goal was to strengthen a prediction model.

I started to work then on a second more advanced mock-up that would integrate this additional layer of data. I was designing for specialists and for data scientists that wanted to demonstrate their work to the business. Thus I didn't want to oversimplify what the interface delivers but channel it onto different steps of analysis (Figure 1.4). With the second mock-up I quickly got back to front-end development.

Second and last prototype of the project

The second prototype is reproducing with quite high fidelity the second concept. Some improvements where made during the development process. Some other elements where simplified or deleted to reduce development complexity. The main addition here is the color gradient representing the evaluated risk period by the prediction algorithm. (Next page : Figure 1.5)

Figure 1.4 : Second mock-up integrated more views and variations for extended possiblities of analysis

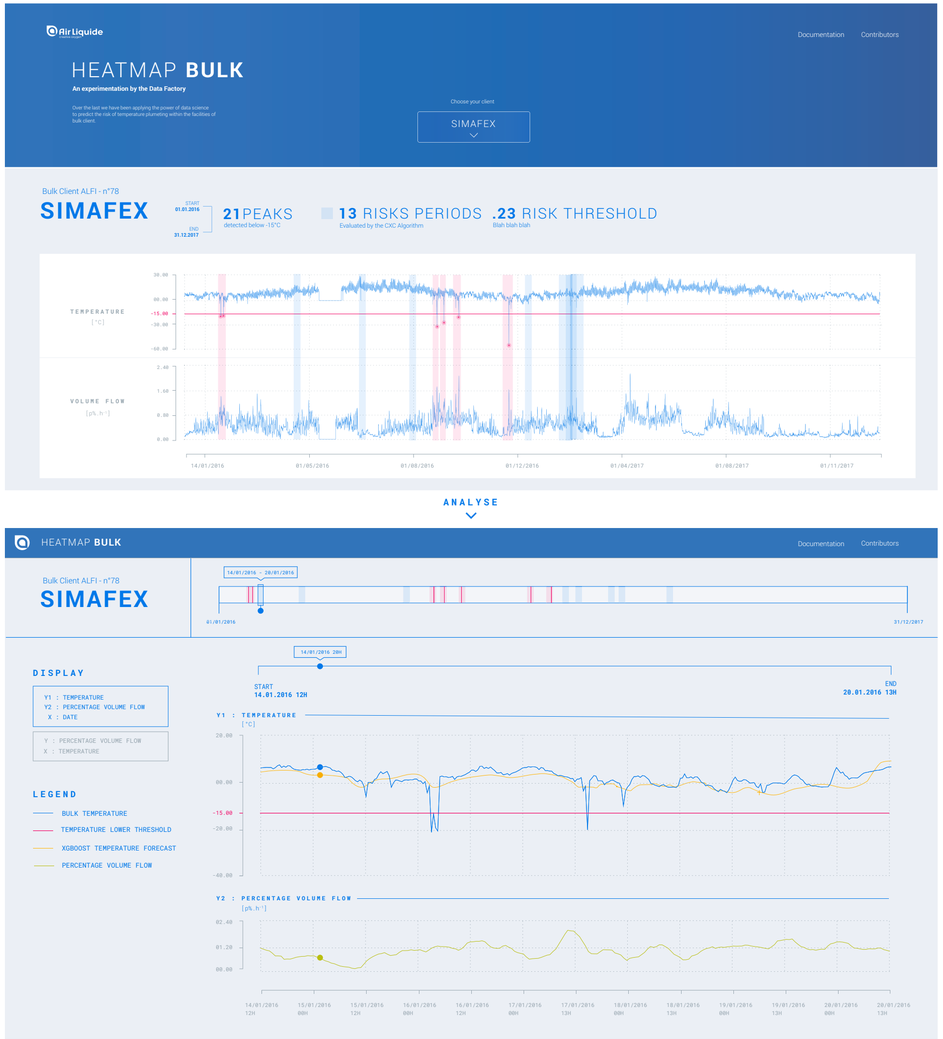


Figure 1.5 : Second and final delivery of developed prototype

Lessons learned

Designing for data makes it hard to stay at a level of low fidelity mock-up. You need to have a prototype that ingest real data to be able to make effective tests.

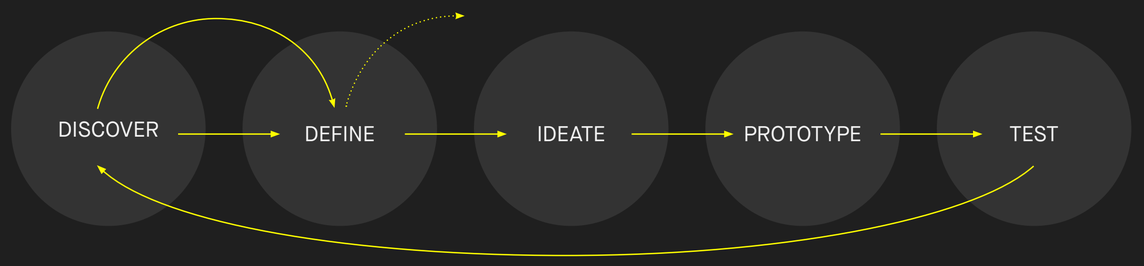
This project involved design as a lever to demonstrate the value produced by data scientists to the business. But the major challenges lied onto the feasibility of such visualizations. This implied quite a lot of front-end development with its own challenges. I think this project is a good example of how a cycle of ideation, prototype and test can be conducted. For this project discovery and definition didn't require much effort even if a lot of work has to be done on this side. But it was outside of the project scope.

Front-end development is highly time consuming and my intuition was that it shouldn't be anymore my focus. Later I'll take the decision to stop being involved with development so that I can focus on design. In March 2019 after completing a training in Node.js I stopped learning and spending more time coding whether it is for front-end development or back-end development.

CHAPTER 2

A new tool means a new organisation

| Late August 2018 — December 2018



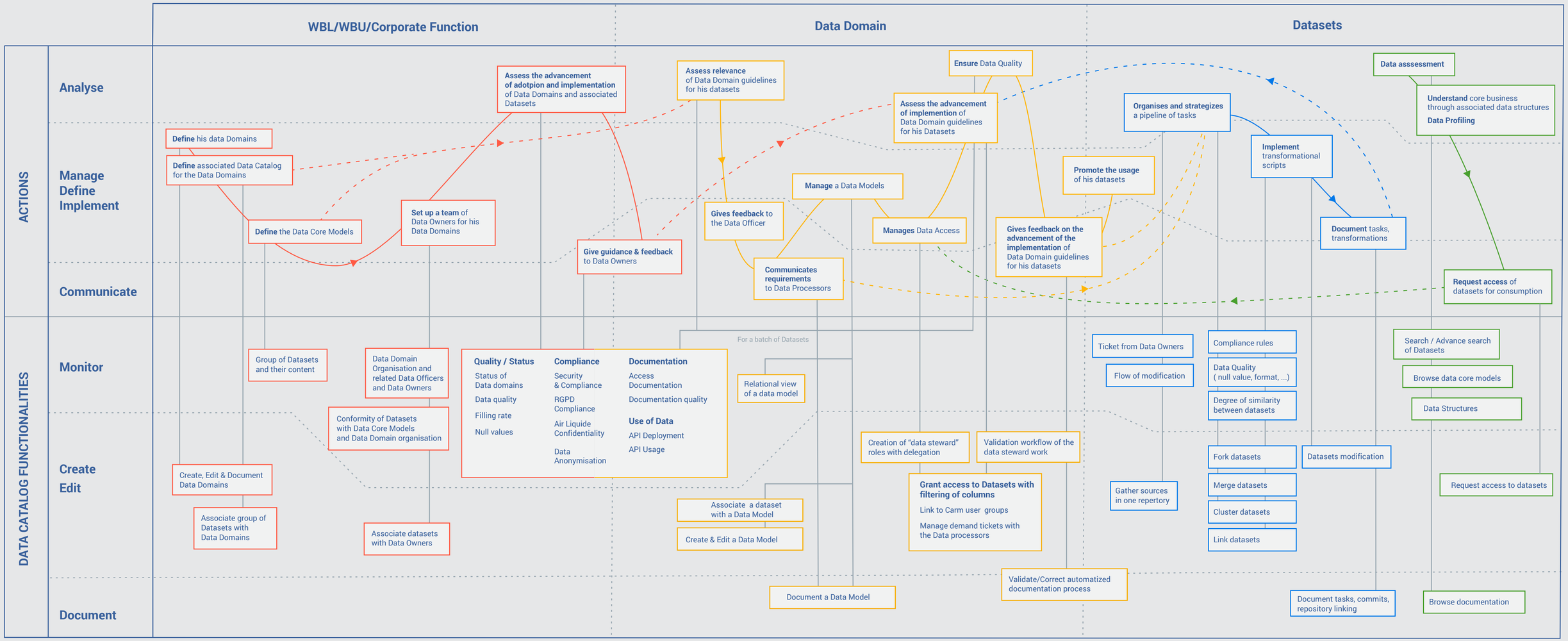
At the end of August 2018 I was involved on a project to build a data catalogue. It was the very start of the project and only a few conversations occurred around the subject before I started working on it.

First vision

My first focus was to do research and understand as thoroughly as possible the context of this catalogue. I interviewed a couple of different stakeholders. Everybody spoke about solutions while almost nobody spoke about problems and needs. I then deconstructed all the inputs I got so I can reassemble them onto some kind of a mapping. This mapping helped understanding the link between profiles's jobs to be done and associated functionalities (Figure 2.1)

Figure 2.1 : Actions and Functionalities mapping of the Data Catalog

Actions & Functionalities Maping



This mapping helped defining a first range of challenges and helped us focus our efforts for what followed. Me and my project manager defined a few functionalities that we wanted to prototype. This led to user-flows and a first mock-up. (Figure 2.2 and 2.3)

We used these mock-ups for the next phase : user research. This phase was led by a user researcher that I accompanied. After a while I led some of the interviews as well.

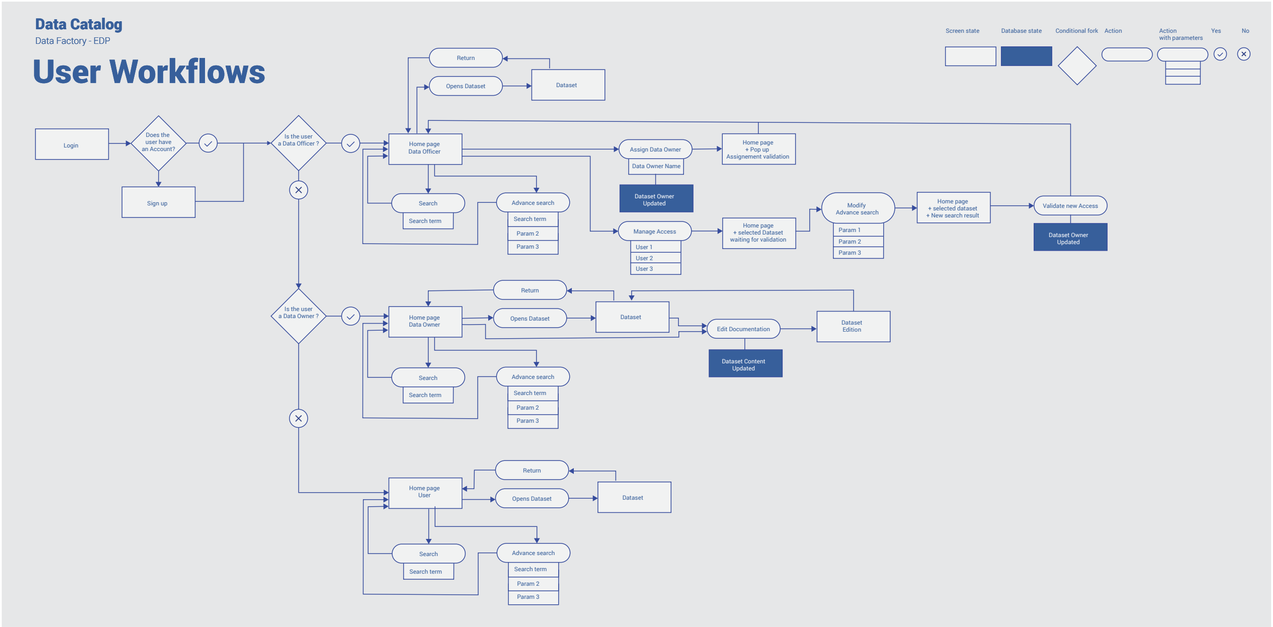
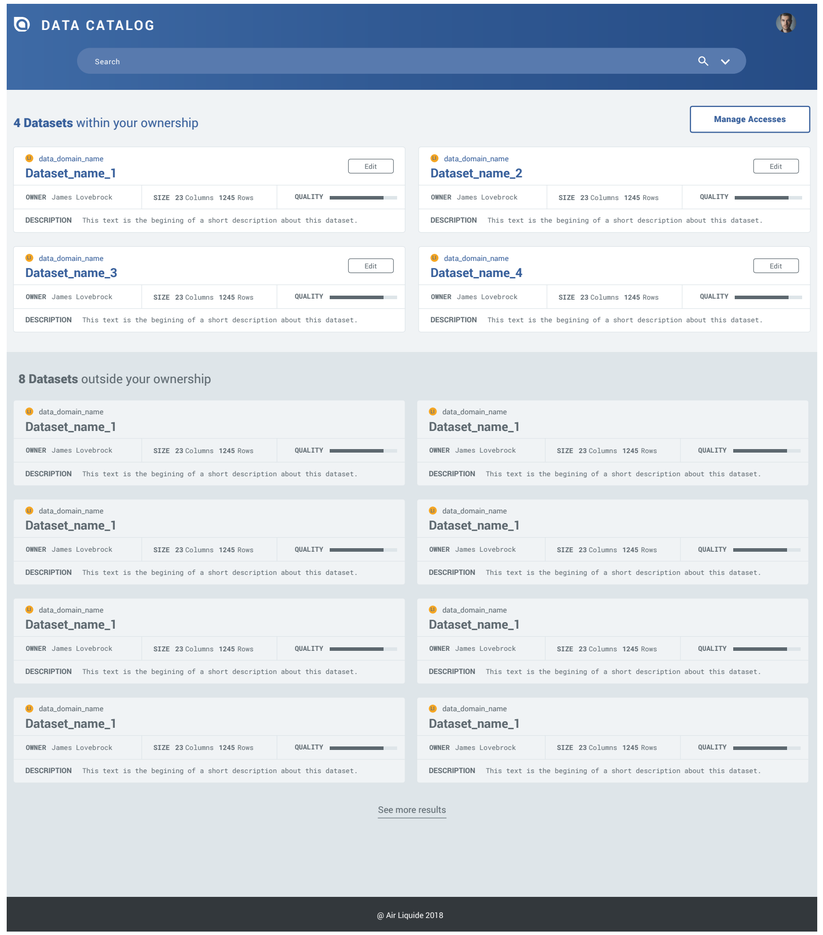


Figure 2.2 : User flows



4 Datasets within your ownership

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DESCRIPTION This text is the begining of a short description about this dataset.

data_domain_name
Dataset_name_2
OWNER James Lovebrock **SIZE** 23 Columns 1245 Rows **QUALITY**
DESCRIPTION This text is the begining of a short description about this dataset.

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8 Datasets outside your ownership

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@ Air Liquide 2018

Figure 2.3 : Home page screen of the prototype presenting results.

User research

Different profiles where identified as key users of the catalog. The main challenge was that these profiles where not really existing yet. We where designing for roles to become rather than existing ones. We where designing for actions and needs that where still burgeoning within the organisation.

The user research interviews helped us understand even better the contrast of needs and thus functionalities required for the various users of the catalog. This offered a global picture that help assessing different directions for the future of the project. It also revealed the necessity for a plan to ignite a virtuous process. Data users must document along the way the data they harvest, transform and produce and thus produce more data (meta-data). Thus making more relevant the catalogue that will be used to conduct new projects that will produce themselves new meta-data as well.

Organisational challenges

Such a catalogue implies some sort of central data policies and governance. Such centralisation is constrained by the decentralised nature of the organisation I'm working for. I discovered with this project how the organisation is impacting the conception and the implementation of new tools. Tools (here it is a product directed inward the organisation) and products can only reflects the organisation where they are used, built and created.

A very small prototype

We built thanks to google script a very small data catalog that could be consulted on drive. The code was transforming CSV raw data document into enriched spreadsheets that presents the meta-data. This prototype represented more of a challenge for the data engineer than for me. I hated working with google script but it was a good idea. This led to a very sketchy result but not a time costing one. Me and the project team managed to put up very quickly a small running prototype with a small scope of documented datasets that we could show to demonstrate the feasibility and the viability of such a tool.

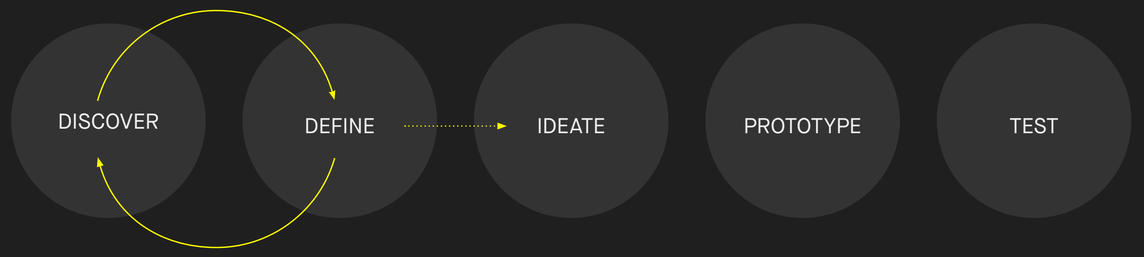
Next steps

My last involvement on the project was to help IT have all the elements on the table so that a decision between buying a solution or making a solution can be made. I rolled out a rough scenario for the making option. The decision got then postponed and the next chapters of this project are moving forward without my help at the moment.

CHAPTER 3

A platform to rule them all

| April 2019 — May 2019



The start

The effort to build a data platform that centralises all kinds of services to ingest, clean, organise and document the data from the group largely grew during the end of 2018 and beginning of 2019. There was rapidly a growing need for interfaces and thus services orbiting around the platform.

My colleagues wanted help to build a UI around the platform. My first effort where directed onto framing the challenges. Before jumping on to designing specific tools we had to design an ecosystem of services around the platform. To do so we needed to understand the different stakeholders. This led me to embark on a research project for several weeks.

Stakeholders around the platform

I spent weeks preparing, conducting and digesting interviews with various stakeholders. I meet three different circle of stakeholders during these weeks. The first one was the project circle: the engineers and project managers working on the platform project. The second one was the digital team encompassing the team of the platform : IT managers, IT governance expert and the head of digital. My research with the third circle was brief. I met with one

person outside digital who is part of the group data governance with a background with operations and business. Inputs where broad and very insightful. After these interviews I had more information that I can digest and I started re-framing my scope of work.

Service mapping

Challenges where identified, the main one being adoption. The goal now was to connect the dots and have a storytelling to do so. A first exercise was to prepare with my team a presentation deck of the platform for the business. This asked us to simplify and organise our rhetoric. Articulate it around a key stakeholder that would benefit greatly from such platform. It was a big shift from the existing demo that was only focusing on the performances rather than on the affordances.

My whole focus that followed was to strengthen the relation of affordance between the platform and its users : A place where I can store and secure it, a place where I can cross analyse various sources of data, a place where I can extract with ease these various sources as well ...

After some interactions all this translated into the following journey. A first step that is still incomplete.

It attempted to coagulate the needs of these different stakeholders onto a set of solutions. My whole goal at the time was to reach a point where I could start to work on one of these solutions and engage with a user experience work then.

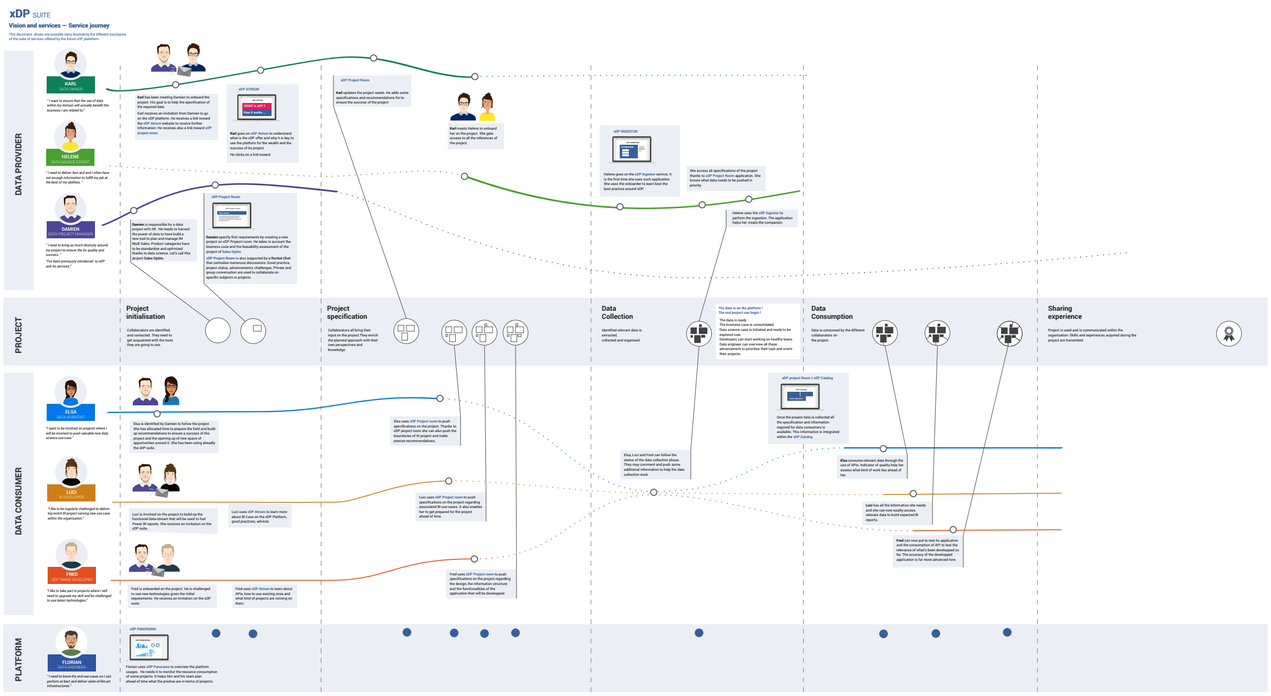


Figure 2.1 : Service journey around the platform.

Data cities

As a final step for this spring part of the project and before my going away for a mission to Singapore I wanted to inspire and bring appeal for a desirable future around the platform. After a few sketches this idea of a visualisation emerged. I call it data cities.

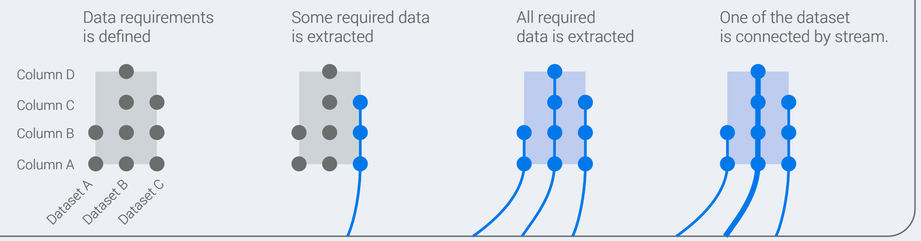
Figure 2.2 : Data cities, how data is fueling projects

xDP SUITE

UI Exploration - DATA CITIES

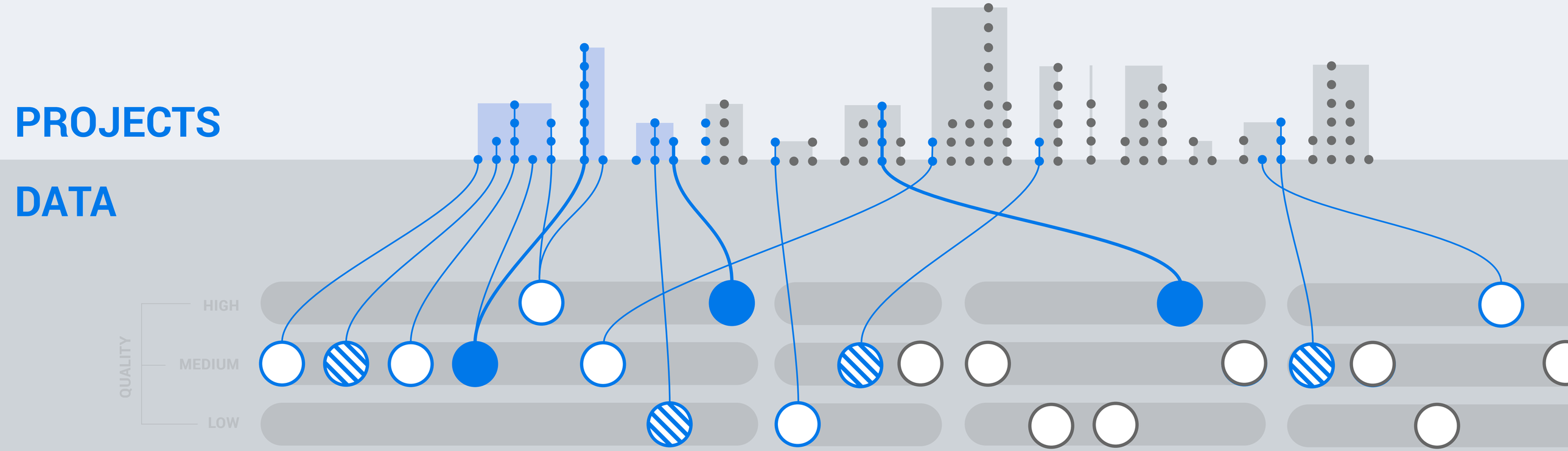
This document shoes visual possibility that may be included in the interface of future application within the xDP suite.

DATA USAGE PROJECT STATUS



PROJECTS

DATA



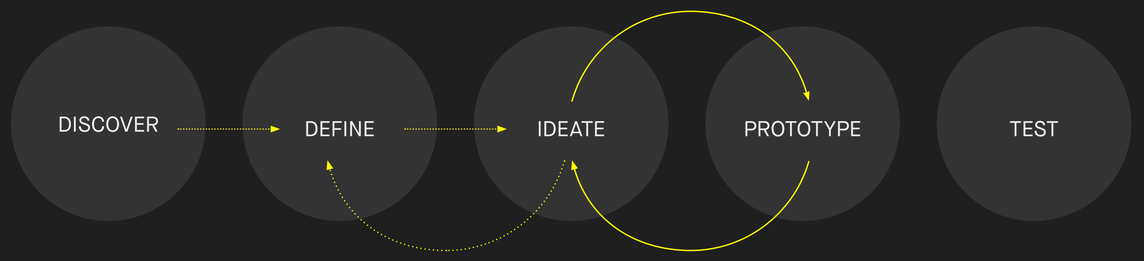
DATASET USAGE STATUS

- Unused dataset
- Scarcely used dataset
- Used dataset (batch connection)
- Used dataset (stream connection)

CHAPTER 4

The “UI before UX” trap

| June 2019 — Decembre 2019



A new context

At the end of 2018 I took the initiative to request to go on a short time mission aboard and offer design capabilites for teams eager to move forward their digital agenda abroad. Thus in June 2019 I was lucky to join an IT team located in Singapore within Air Liquide Asian hub located there. The defined project I embarked on was requesting help on the merging of three existing tool to shape a new CRM platform. After my return in Paris in October I continued the work until the end of 2019.

First steps

While arriving I rapidly understood that the size of the project given to me was largely oversized for my initialy framed three-month mission.

My first framing was attempting to push the perfect design project where we go and meet users, shape personas, roll out user scenarios and transform them onto low-fidelity mock-ups. Such framing wasn’t taking in account the organisation I’m working for. There was very short deadlines and they needed to start developing new components very fast. After a while I shifted my framing so that I can rapidly converge onto building mock-ups

During the first week I conducted a swift user-research and started to sketch userflows and rapildy test ideas with the team responsible for the developement of the platform. These team were little accustom to design methodologies and design deliverables (Figure 4.1) thus this was also an opportunity to ajust my approach.

I needed to rapidly articulate my work on core challenges. The first one was to converge and have a unique acces point for the available information. In other words, we needed to force a single userflow to access a specific information. This challenges implied a rethink a new search engine as well as a new information architecture. (Figure 4.2)

The second challenge was to link different functions to accompany the user in their daily tasks. In regard to the complexity of the first challenge this second challenge became secondary.

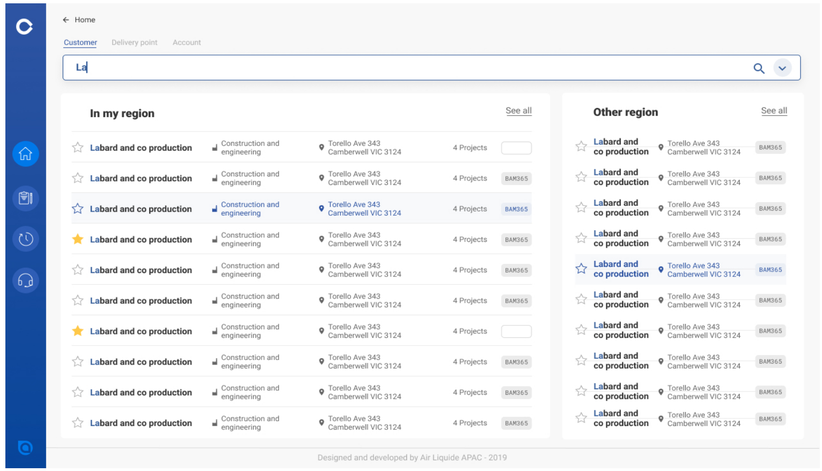


Figure 4.1 : First proposition for a dynamic search engine.

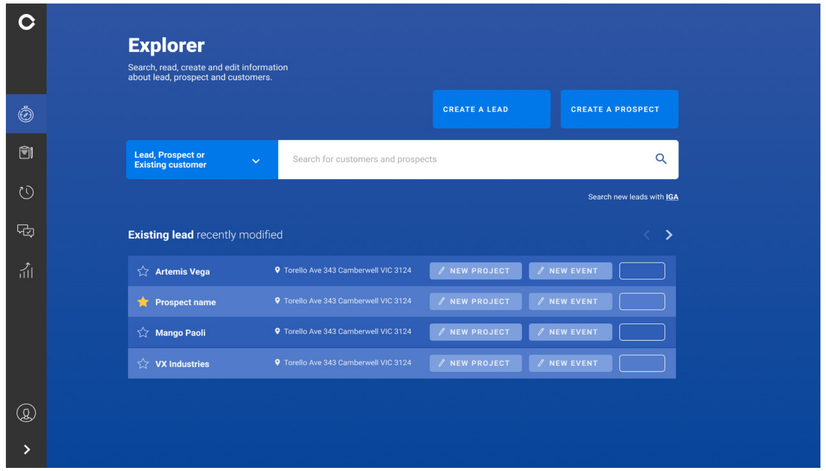


Figure 4.2 : Final version of the home page that is the entry point for the lead, prospect and customer search.

Manage complexity

Understanding the existing information architecture and propose new one took time. After several weeks of work and different unsuccessful attempts to suggest a new information architecture. I made a proposition which generated a lot of feedback from the developper of the solution. These developers where also taking part in the product ownership and where key levers to move forward the product (Figure 4.3)

According to them I had simplified too much and my prioritization was not suiting identified requirements. I suggested then that we work on a spreadsheet to decipher correctly the information architecture.

My depart from Singapour approached fast and I saw at this point of the project that I coulnd't detail in depth a solution given the required complexity of the new system.

Aside from this core work I make several UI suggestion to illustrate a set of new functionalities that could be encompassed by the new platform. (Figure 4.5, 4.6, 4.7, 4.8)

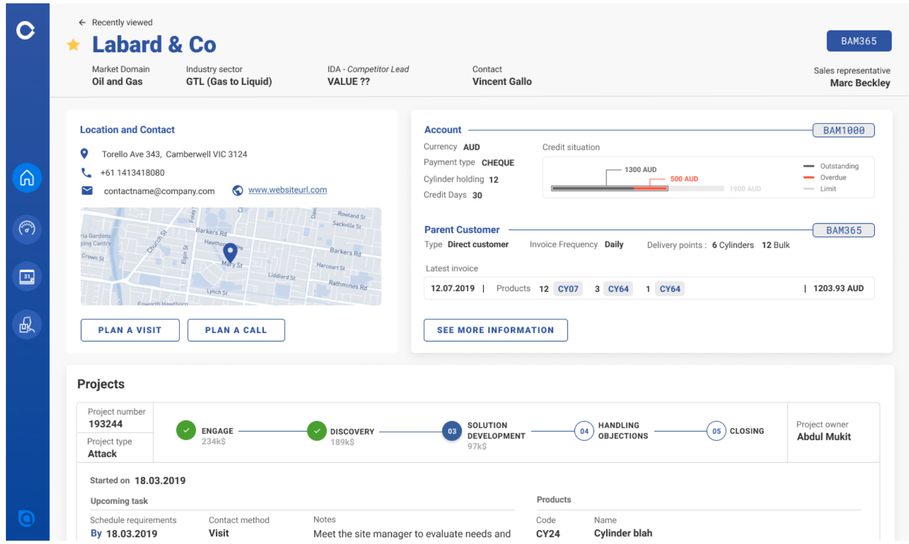
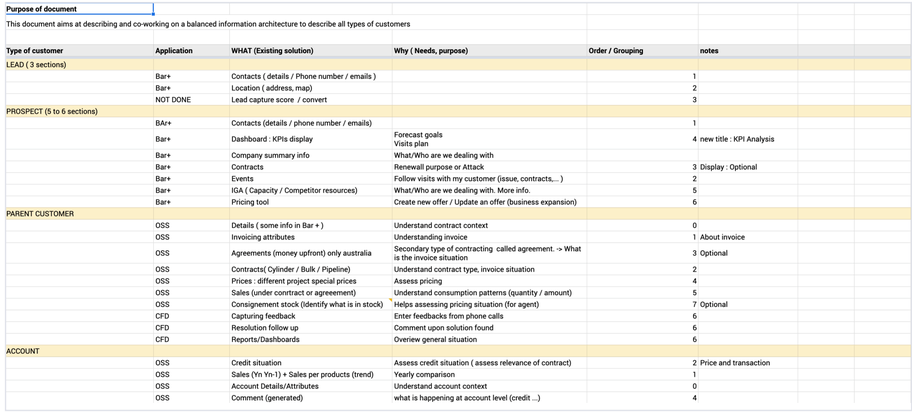


Figure 4.3 : An unsucessfull attempt to simplify the information architecture and functionalities that was a pivot in my way to approach the design challenge.

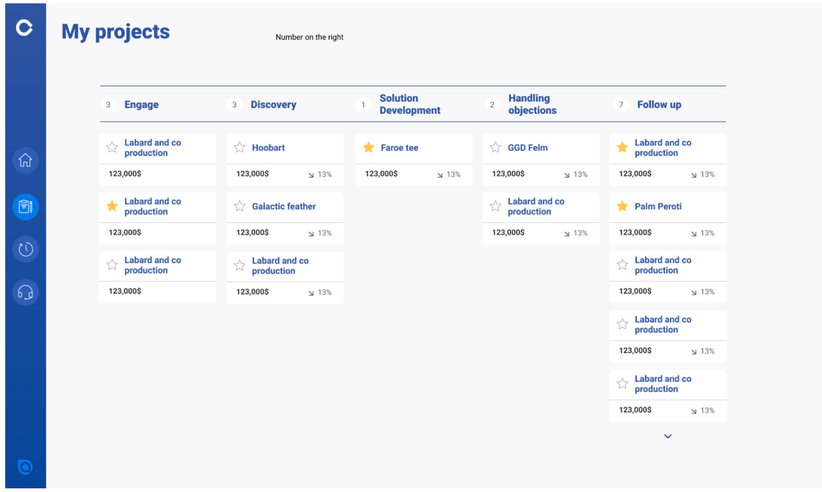


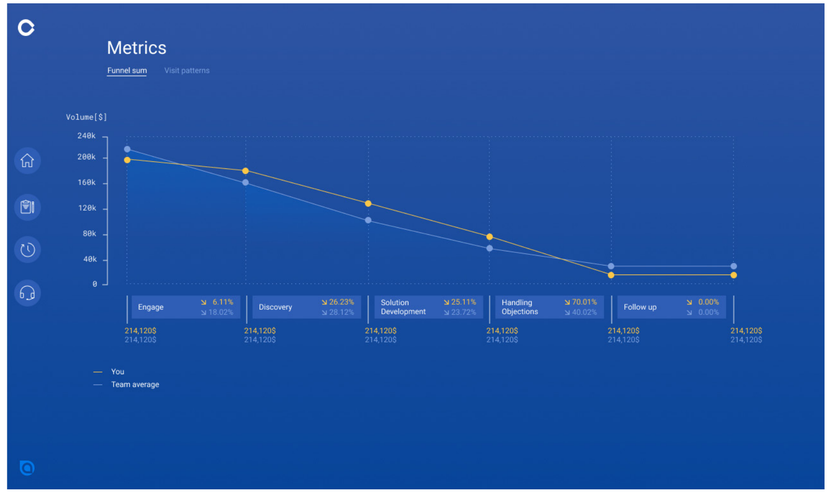
Purpose of document

This document aims at describing and co-working on a balanced information architecture to describe all types of customers

Type of customer	Application	WHAT (Existing solution)	Why (Needs, purpose)	Order / Grouping	notes
LEAD (3 sections)					
	Bar+	Contacts (details / Phone number / emails)			1
	Bar+	Location (address, map)			2
	NOT DONE	Lead capture score / convert			3
PROSPECT (5 to 6 sections)					
	BAr+	Contacts (details / phone number / emails)			1
	Bar+	Dashboard : KPIs display	Forecast goals Visits plan		4 new title : KPI Analysis
	Bar+	Company summary info	What/Who are we dealing with		
	Bar+	Contracts	Renewall purpose or Attack		3 Display : Optional
	Bar+	Events	Follow visits with my customer (issue, contracts,...)		2
	Bar+	IGA (Capacity / Competitor resources)	What/Who are we dealing with. More info.		5
	Bar+	Pricing tool	Create new offer / Update an offer (business expansion)		6
PARENT CUSTOMER					
	OSS	Details (some info in Bar +)	Understand contract context		0
	OSS	Invoicing attributes	Understanding invoice		1 About invoice
	OSS	Agreements (money upfront) only australia	Secondary type of contracting called agreement. -> What is the invoice situation		3 Optional
	OSS	Contracts(Cylinder / Bulk / Pipeline)	Understand contract type, invoice situation		2
	OSS	Prices : different project special prices	Assess pricing		4
	OSS	Sales (under conrtract or agreeement)	Understand consumption patterns (quantity / amount)		5
	OSS	Consignement stock (Identify what is in stock)	Helps assessing pricing situation (for agent)		7 Optional
	CFD	Capturing feedback	Enter feedbacks from phone calls		6
	CFD	Resolution follow up	Comment upon solution found		6
	CFD	Reports/Dashboards	Overiew general situation		6
ACCOUNT					
	OSS	Credit situation	Assess credit situation (assess relevance of contract)		2 Price and transaction
	OSS	Sales (Yn Yn-1) + Sales per products (trend)	Yearly comparison		1
	OSS	Account Details/Attributes	Understand account context		0
	OSS	Comment (generated)	what is happening at account level (credit ...)		4

Figure 4.4 : A spreadsheet collecting the characteristics of different information from the existing systems.





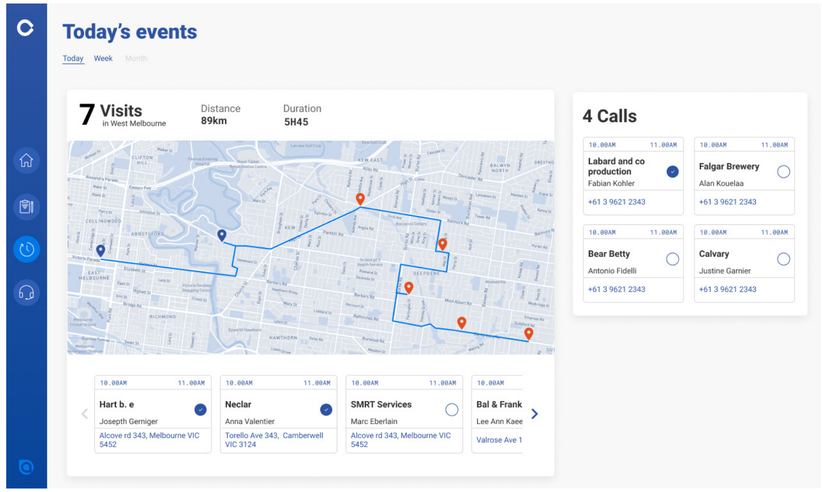


Figure 4.5

Distribution of project following the selling funnel.

Figure 4.6

A page helping with the mangement of customer prospect or customer visits and calls.

Figure 4.7

Chart comparing the result of the user and its team accross the different steps of the selling funnel.

Figure 4.8

A page showing the monthly visit intensity throughout all the days of the month for an entire team.

A solid base

Later in October when I was back in France, while collaborating with a Chinese colleague who helped me a lot I suggested the following new architecture. (figure 4.9)

This new information architecture enable a clear and clean navigation throughout the contents and their pages.

A new navigation principle

Thanks to this new information architecture I managed to elaborate a new organisation of the tool and reassess its navigation principles. (Figure 4.11)

I had to rework then some userflows using this new base. The figure 4.10 is an example of this rework which illustrates how we can create a prospect customer.

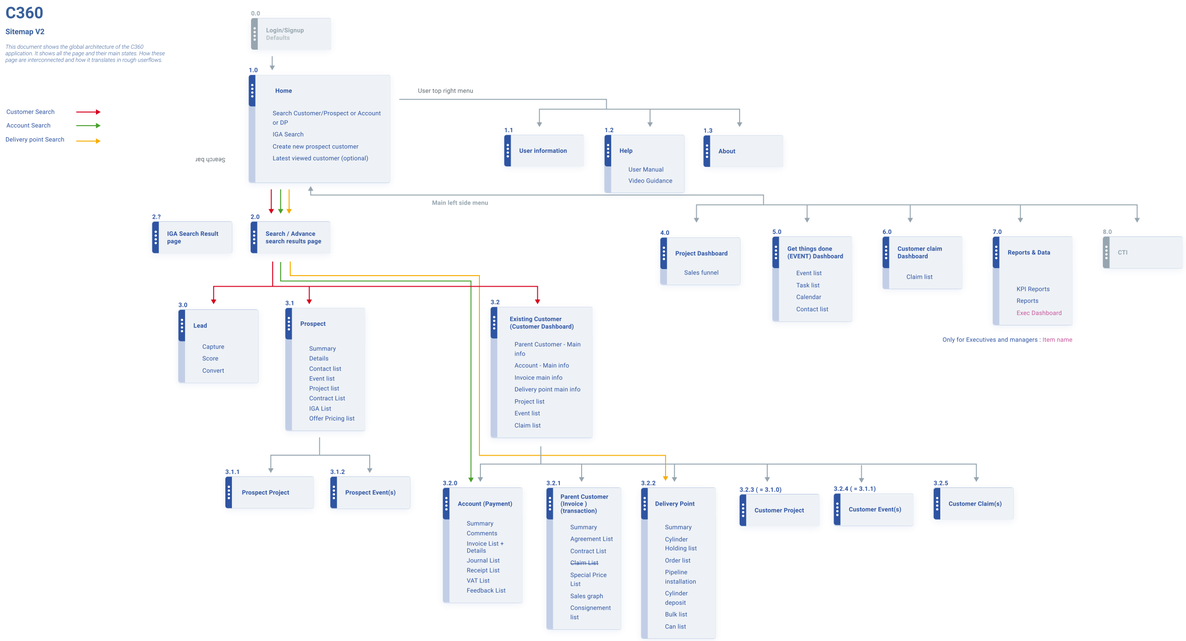


Figure 4.9 : The new information architecture illustrate how the former searches still needed in the new system are pointing at various depth in the new tree of information.

Results of my work

Thanks to my work, the teams in Singapour have been able to build their new CRM on a new base. My work resulted in :

- A new information architecture

- Revisited navigation principle

- A new visual design enabling that could be reused for many use-cases though it wasn't a design system work.

- IT teams who participated a lot more in the design process of a new application. These teams now see the importance of involving designers upfront when they want to build or improve a tool they are owning.

Indeed a new designer was involved to follow up this project in 2020 to pursue the work I've been doing. Test were conducted with users in Australia and where successfull according to my former manager.

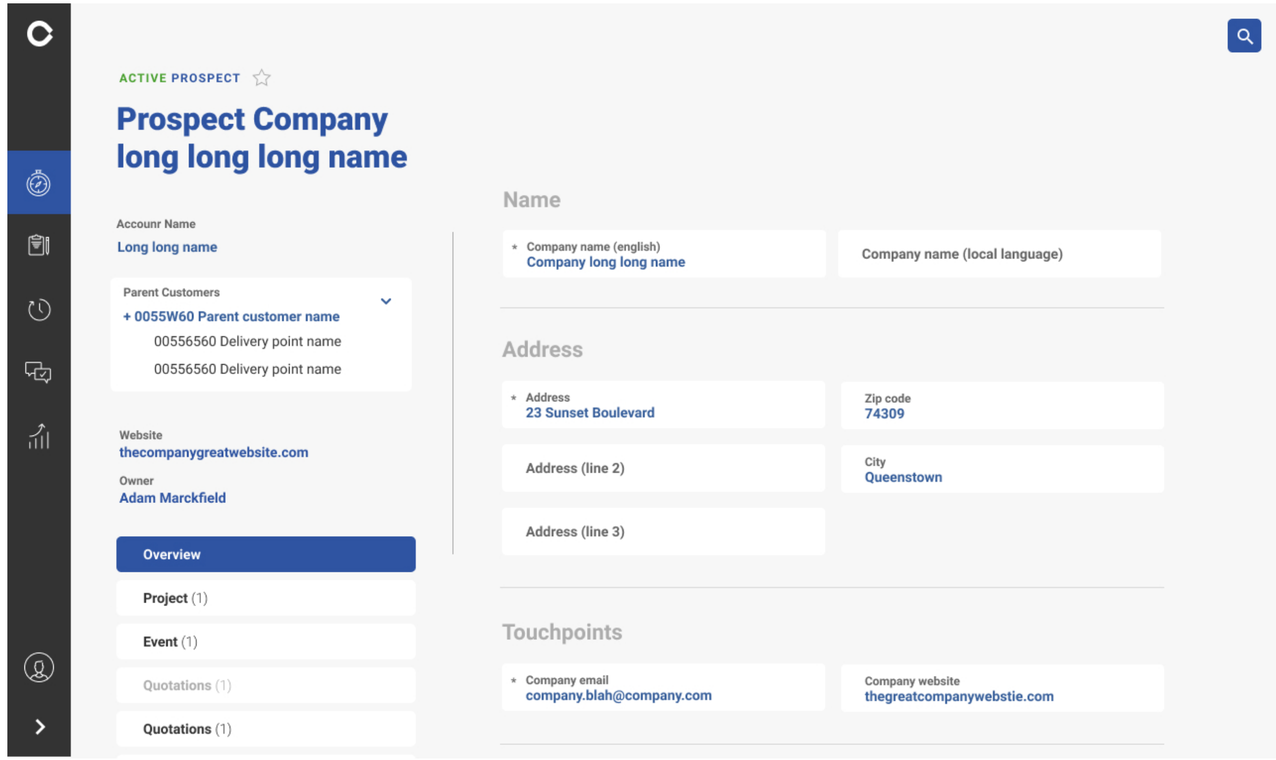


Figure 4.10 : The prospect customer page. Its structure, menus, visual elements and functionalities are similar in all the other pages.

Conclusion

These four projects are showing various form of involvement that I adopted for my company. I didn’t speak about other smaller involvements. One for example led me to organise quite a massive workshop with 40 stakeholders around the subject of pricing. My overall feeling is that my focus is often dislocated onto too many different projects and sometimes it feels I’m not building a strong expertise. Despite these contrasts, I more and more connect the dots and understand how everything could fit together. I know want to collaborate more with other peer designers and continue my effort on this path to design better products and services.