

Internship report

Full Stack Developer



HUMAN
POWERED
COMMERCE

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Third year student at Epitech Lille – 2022/2023



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Glossary

- 1- Bot: autonomous program on the internet or another network that can interact with systems or users
- 2- AI: Artificial Intelligence
- 3- Omnichannel: a way of selling products that is the same and equally good for the customer whether they are buying from a computer, a mobile phone app, etc., or in a physical shop
- 4- C2C commerce: Consumer to Consumer commerce, business model whereby customers can trade with each other
- 5- Gamification: practice of making activities more like games in order to make them more interesting or enjoyable
- 6- SAS: simplified joint-stock company, a company whose capital is divided into shares, distributed among the various shareholders
- 7- Agile method: a framework or project management framework that divides projects into several dynamic phases, commonly called "sprints" ; it's objective is to continuously distribute operational software created on the basis of rapid iterations
- 8- Git: it is a distributed version control system that tracks changes in any set of computer files, usually used for coordinating work among programmers collaboratively developing source code during software development ; its goals include speed, data integrity, and support for distributed, non-linear workflows (thousands of parallel branches running on different computers)
- 9- Pull request: it is an event that takes place in software development when a contributor/developer is ready to begin the process of merging new code changes with the main project repository
- 10- API: Application Programming Interface, it is a way for two or more computer programs to communicate with each other ; it is a type of software interface, offering a service to other pieces of software



- 11- API call: it is the process of a client application submitting a request to an API and that API retrieving the requested data from the external server or program and delivering it back to the client
- 12- SSH: Secure SHell is a network communication protocol that enables two computers to communicate and share data
- 13- Logs: files created by operating systems and servers ; they are used for analytical purposes and provide effective assistance in troubleshooting and improving the system
- 14- UX/UI: UX (User eXperience) design focuses on creating a seamless and meaningful user experience by understanding user needs, conducting research, and designing intuitive interfaces / UI (User Interface) design focuses on the visual, interactive elements of a product to create aesthetically-pleasing interfaces.
- 15- Front end: graphical user interface of a website, so that users can view and interact with that website
- 16- Back end: server-side software, which focuses on everything you can't see on a website

Acknowledgements

First of all, I would like to thank all the Popsell and Thom Group employees that I had the opportunity to meet, for their welcome, their kindness, their help and all their valuable advice.

I especially thank Mr. François Vandeplanque, CEO/CTO of Popsell and master of my internship for trusting me, for believing in me and for integrating me into the Popsell team.

I would also like to thank Mr. Mickaël Dhainaut, Full Stack trainer and developer, for following me throughout my internship. Thanks to him I was able to discover and deepen web development, and greatly improve my technical skills. His advices and training have been very helpful to progress and allowed me to be useful to the company.

Moreover, I would like to thank Mrs. Clémence Berthomieu and Mr. Maxime Louchard, respectively Community Success Manager & Project Manager and Full Stack developer, for taking the time to integrate me so well and explain me how Popsell works, its history, its origins...

Finally, I particularly associate my thanks to all the employees, for their good humor, their welcome, their knowledge and for all the wonderful moments I spent. Each of them allowed me to fully integrate myself into the company, gave me confidence and helped me to become a better developer by working on many skills required in the professional world.



Context

1. History of Popsell

Welcome to Popsell, we are very happy that you are part of the team now ! First of all, I think a little lesson on the Popsell history would be perfect.

Popsell is a startup company based in Lille and created in 2013 by two people named Alric Nicol and François Vandeplanque. Its goal is to promote and integrate social commerce, it means that commerce must be powered by humans, and not by *bots* (1) or *AI* (2).

Convinced that people are the engine of tomorrow's commerce, Popsell offers a Social Commerce platform to place sales advisers at the heart of a privileged customer relationship, on all communication and sales channels. The advisor's role becomes *omnichannel* (3): it is extended from the store to e-commerce and vice versa. Our platform increases customer and advisor engagement, and that significantly improves conversion rates and loyalty.

The solution is intended for brands, e-merchants, retailers and direct sales who want to boost their sales thanks to their employees and their customers. Popsell focuses on three areas of expertise:

- Retail: in-store sales advisers become 'omnichannel' by responding to e-commerce visitors and continuing the store relationship on the web.
- *C2C commerce* (4): employees and customers are at the center of a new sales model where everyone has their own digital store to sell the brand's products to their network; the brand takes advantage of this to develop its notoriety and its digital visibility
- Direct sales: sales advisers have a personal eshop and can extend their sales to digital. Their activity and turnover are boosted thanks to *gamification* (5).

Popsell allows a brand to achieve engagement rates 2 to 10 times higher than commonly seen methods such as newsletters and social media community management. Thanks to the digital realm, Popsell has been able to improve sales across various channels and has also transformed direct selling; by leveraging the web and mobile applications, it facilitates in-person interactions at retail stores or at clients homes. Indeed, Popsell's clients are active participants in e-commerce, retail and direct sellin. All these businesses aim to increase their sales by using their employees and/or their top customers to amplify brand visibility, create excitement, and forge strong customer loyalty.

2. Popsell today

Popsell is a SAS (6) with a capital of €24,580, and has about ten employees (I cannot provide an exact number of employees because this number varies a lot as Popsell regularly takes on several interns).



Popsell team in Paris, in front of Thom Group head office

Since 2021, our enterprise is owned by Thom Group, the european leader in affordable jewellery. That means that Popsell now work on bigger new projects for an enterprise who also belongs to this group: Histoire d’Or. It is a multi-brand jewelry and watchmaking chain established mainly in shopping centres. It offers a wide range of jewelry (necklaces, bracelets, rings, etc.) and watches for men, women and children. Especially for Histoire d’Or, Popsell launched a new project based on the creation of a widget that is displayed over the client's e-commerce site. Today, Histoire d’Or is the only customer benefiting from this service, because it is very recent.

For Histoire d’Or, this social commerce service is called “Ambassad’Or”, but for coming years Popsell aims to globalize this service to all the customers who are asking for it. The solution relies on in-store employees who become true digital ambassadors of the brand and extend their profession on the web.

This project is the realization of the original ideas of Popsell: humanize e-commerce and achieve results close to those of the stores ; and it worked ! Only the second year after this project was released, the turnover generated by “Ambassad’Or” has reached an amount equivalent to the turnover of a regular physical Histoire d’Or store.

In addition to Histoire d’Or, Popsell now has many customers like Guy Demarle (leader in direct sales of kitchen equipment since 25 years), BA111OD (Swiss startup that was founded in 2019 with the aim of reimagining the conventional distribution business model), Oika Oika (leader in home sales of Games and Creative Leisure, present in France and Belgium) and others.

Popsell is located in the center of Lille, in France. Its head office is part of a open space coworking place, called Garage by Becoming. Becoming is a new generation group, hybrid platform and successful marriage of entrepreneurship, innovation / tech and communication. It was the first society to invest and take part in the Popsell project, so Popsell head office stayed at Garage premises.



Garage by Becoming head office, where Popsell team works



Organization

1. Organizational structure

Now, I think it's time to talk about Popsell organization, who does what, and who is the head of the company. As I mentioned before, the CEO/CTO of Popsell is Mr. François Vandeplanque, one of the two co-founders. The other co-founder, Mr. Alric Nicol, left the entreprise one year ago, so for now François is the boss. He takes all the decisions, and he is the direct link with Thom Group.

Globally, Popsell is divided into three sections, the sales department division, the customer follow-up division and the development division.

- Sales department: its role is to promote the Popsell solution, to sell it and to find new clients
- Customer follow-up: its role is to receive customer feedback, to test the platform, to raise bugs, and when customers ask for, to publish new content on their platforms to fidelize their communities
- Development: its role is to develop the platform by listening to the customer requests, to fix bugs, to publish regular updates and to stay up to date

The sales department division is represented by Mr. François Vandeplanque (CEO/CTO) and Mrs. Emmanuelle Mothiron (Business Development Manager). They regularly go to meetings, to conferences with the aim to promote and talk about Popsell everywhere. They are the face of Popsell, they represent the brand in front of investors, clients...

The customer follow-up division is represented by Mrs. Clémence Berthomieu, (Community Success Manager & Project Manager). She is the link with the customers, she talks with them to discuss about their waits and their needs. She is the one who gives work to developers, and who create post for client's communities if they want, she is very multitalented and has a lot of work to do, she is sometimes helped by Mr. François Vandeplanque.

Finally, the development team is composed of Mr. Maxime Louchard (Full Stack developer) , Mr. Mickaël Dhainaut (Full Stack trainer and developer), Mrs. Audrey Brun (Web developer), Mr. Kevin Detournay (Full Stack developer), and some interns, all from Epitech Lille ; Mr. Thomas Vandemeulebroucke (Full Stack developer), Mrs. Anne-Sophie Madelaine-Toublanc (Product Owner and Font End developer), Mr. Thibaud Fontaine (Full Stack developer), and me !



All developers in the development team are really multitasks, because everyone need to be ready in case of an emergency, a bug, a sickness of someone... Each of us knows exactly what others are doing. To ensure that these divisions work well together, meetings are regulary planned.

Every Monday we have a Weekly sprint point, during this meeting Mr. François Vandeplanque gives us an overall feedback on the progress of the sprint. It allows us to be aware if anything is going wrong, if we are late...

Every other day, we have a simple meeting in which we talk between us about our progress, if we have blockers, and if we need help on something. These meetings all take place at nine in the morning, and last between fifteen minutes and two hours. It depends if there is a lot of work to do, and if we are working from home or at the office.

At Popsell, we telework 3 days a week (Tuesday, Thursday and Friday), and we come at the office 2 days a week (Monday and Wednesday). This is imposed by Mr. Vandeplanque, but nothing will stop you from coming every day if you want. That is why meetings sometime last two hours, when we are at the office, and sometime last fifteen minutes, if we are at home.

Moreover, Popsell implemented the “Tech Friday” ; it is a day during which all developers can focus on their technical skills. During every friday, we are not supposed to be working on our tickets, we are encouraged to improve our knowledge, and stay updated on last tech news. I think this day is very important, because everyone is always aware of latest news on tech, and take the time to improve on his favorite programming language.

2. Popsell computer tools

To be able to work and be as efficient as possible, the Popsell team works with the *agile* (7) method. This method aims to regularly update all the projects, and to work with short term goals. One software was chosen to organize with the whole team: Jira. It is a bug tracking, issue management, and project management system developed by Atlassian and first released in 2002. It offers solutions for both developers and non-developer stakeholders.

The organization has been designed to be optimal and efficient. Indeed, thanks to Jira the team operates using a ticketing system. These tickets are typically created based on customer requests: bug fixes, modifications, or additions to elements or functionalities. The ticket explicitly presents the problem and the hypotheses and protocols to resolve it. Tickets can also be created independently of customer requests if needed ; for example, if a bug is discovered by one of the members of the Popsell team, or if a developer wants to create a ticket for himself to reformat some code and so on...

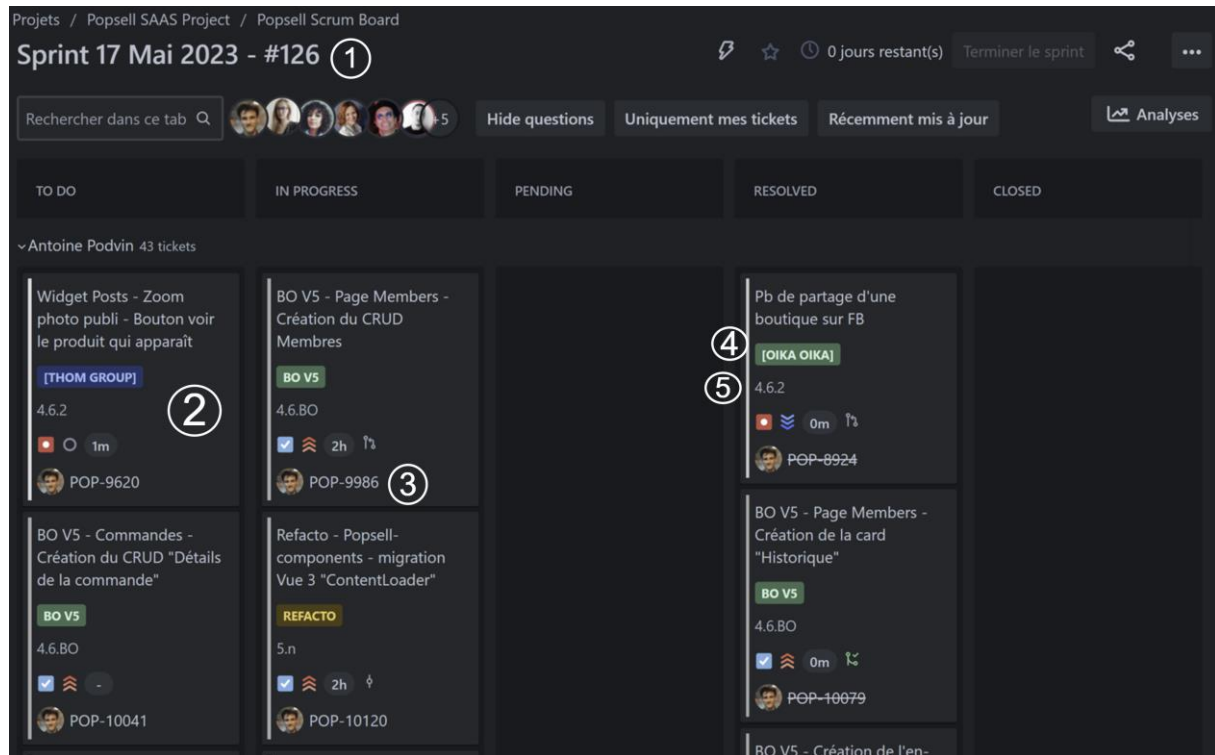
In Jira, tasks to do are separated into 5 different categories:

- TO DO: ticket not started yet
- IN PROGRESS: ticket is being realized
- PENDING: ticket is stopped because of an external reason, for example the developer is waiting for a customer response
- RESOLVED: ticket is finished, but awaiting validation
- CLOSED: ticket is fully completed and validated, can not be modified anymore

Each ticket is reported by the customer follow-up division, they create the ticket, write all needed details, they assign it a category (if it is global, for a customer, for us...), and a specific version in which the ticket will have to be finished. For example at the time I'm writing we are at the 4.6.2 version, to make it short, each version correspond to a sprint. A sprint lasts an average of six weeks, at the end of a sprint, a new version of each Popsell project is published.

In order to organize the code in all the different projects, we use Bitbucket. It is a web hosting and software development management service using *Git* (8) version control software ; it is developed by the same group as Jira, Atlassian, so they work perfectly together.

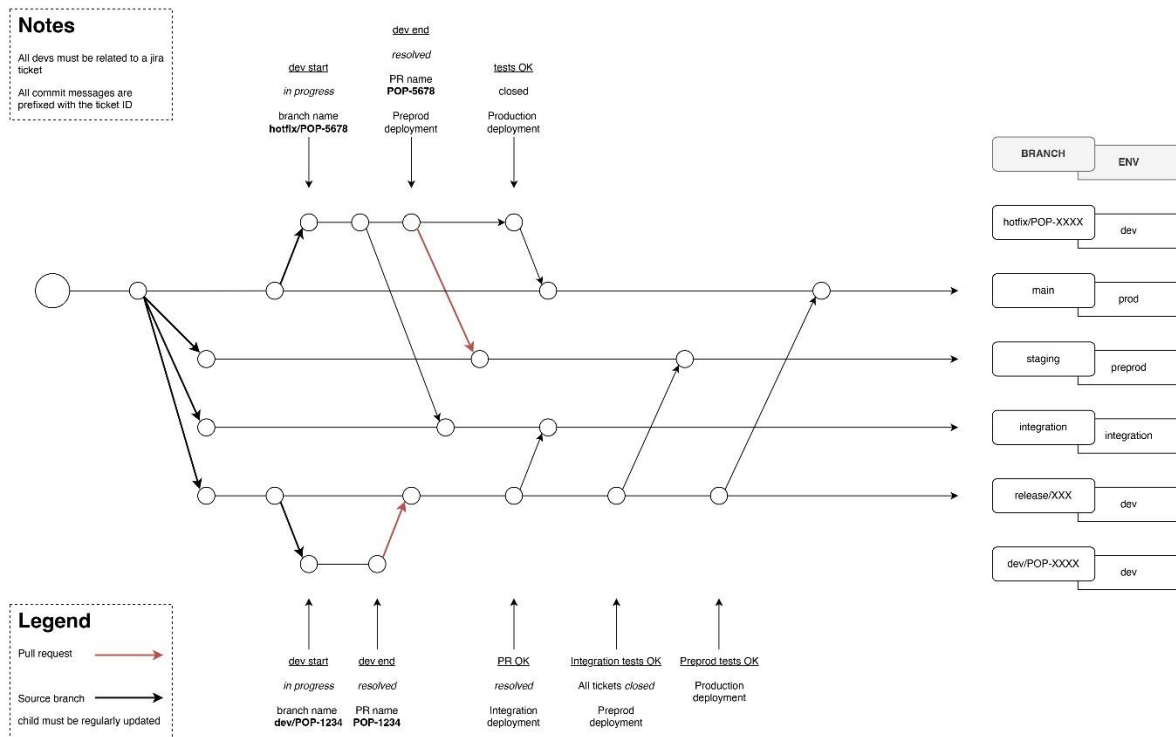
In Jira, every ticket created got an associated unique identifier, starting with “POP-XXXX” (XXXX being a growing number with each ticket). This identifier can be found everywhere in all Popsell computer tools, for example, when we start working on a new ticket, we have to create a new branch in Bitbucket. This branch needs to contain the ticket identifier ; that allows everyone to quickly access the ticket with the associated code.



My personal Jira homepage

- 1 - Sprint start date (17 Mai 2023) - sprint number (126)
- 2 – Example of a ticket
- 3 – Ticket number (POP-9986)
- 4 – Ticket category (here it is “Oika Oika”, because this ticket is specily for our client Oika Oika)
- 5 – Ticket version (here it its “4.6.2”, that means the ticket will be in production with all others 4.6.2 tickets, at the end of the sprint)

Moreover, in Bitbucket each branch name has a specific type, this type differs between “dev/”, for classical development branch, “release/” which will countains all merged “dev/” branches, and “hotfix/” for urgent bug fixes that can’t wait the end of a sprint to be fixed. Popsell established a complete git flow, that explains all possible scenarios.



Here is a list of all others softwares/services used at Popsell:





Figma: it is an application used to modelize and create design prototypes for website, components... every front end project is firstly prototyped with Figma



Postman: it is a service that allows us to send *API* (10) request to the server, thanks to it, we can test some *API calls* (11) before implementing them in projects, to be sure everything works fine



Microsoft SQL Server Management Studio : it is a software used to access, configure, manage and administer Popsell databases



PuTTY: it is an *SSH* (12) client, thanks to it we can connect to a remote machine in which all *logs* (13) are stored, it is very useful to debug and find origin of bugs

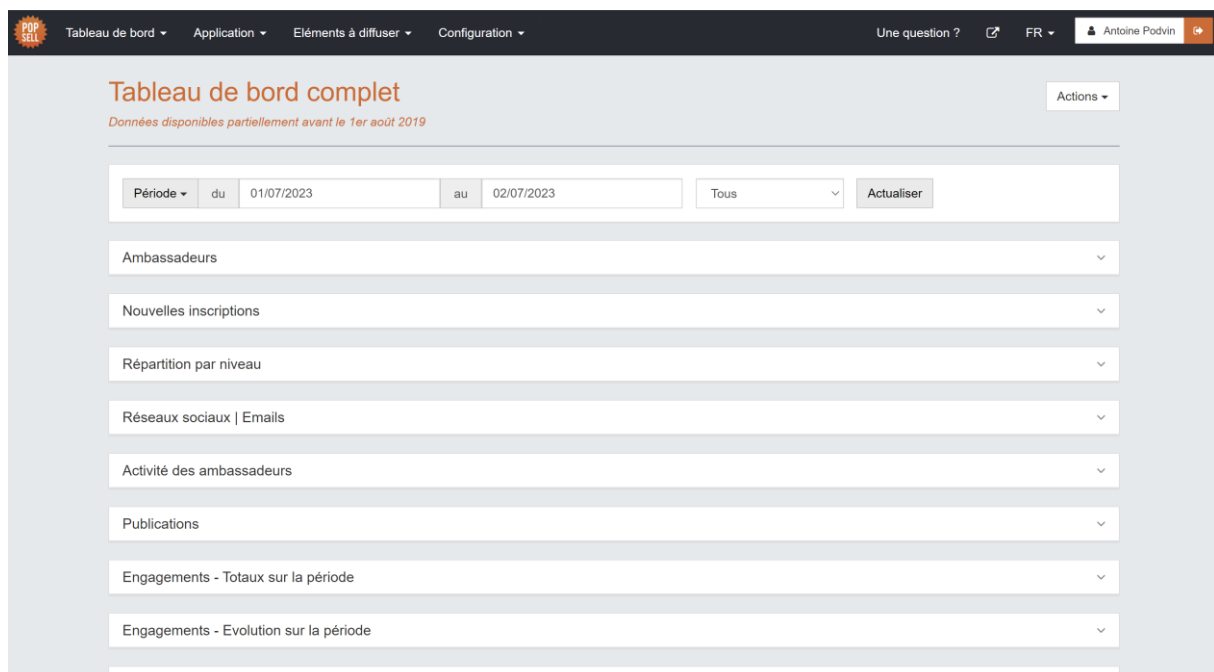


My work

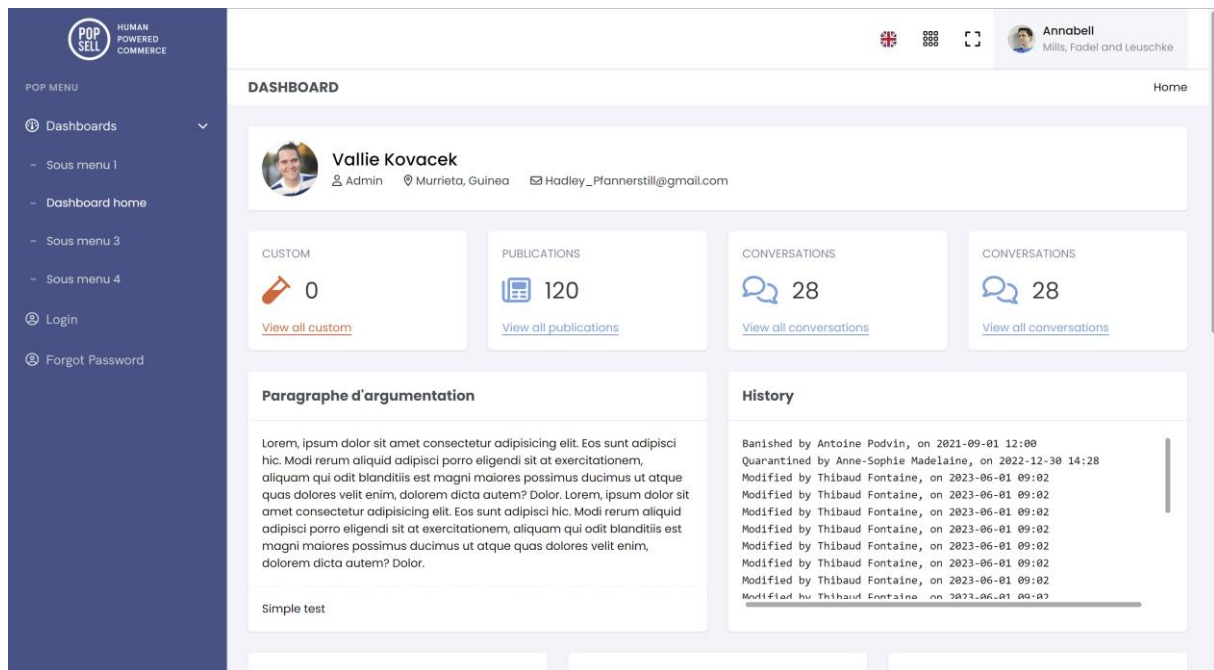
1. Project presentation

During my internship, I had the opportunity to work mainly on the new back office. This back office aims to configure all Popsell projects according to customer needs. Those configurations can be to set colors of the client brand, access the client want to give to their ambassadors, banned word in the platform, default welcome message... There is a lot of possibility of customization, so there is a lot of work to do.

For now, there is already a first version of the back office, but it is developed in PHP (for the front and the back), and it is very archaic and not really user friendly ; indeed clients can't access it. It is Mrs. Clémence Berthomieu that takes all customers requests and set the back office for them. But as I said before, Mrs. Berthomieu has a lot of work to do : the goal of this new back office is to make it user friendly, to better the *UX/UI* (14), and finally to give an access to all clients. That would be a big improvement, and a really big time saving for Mrs. Clémence Berthomieu.



Actual back office

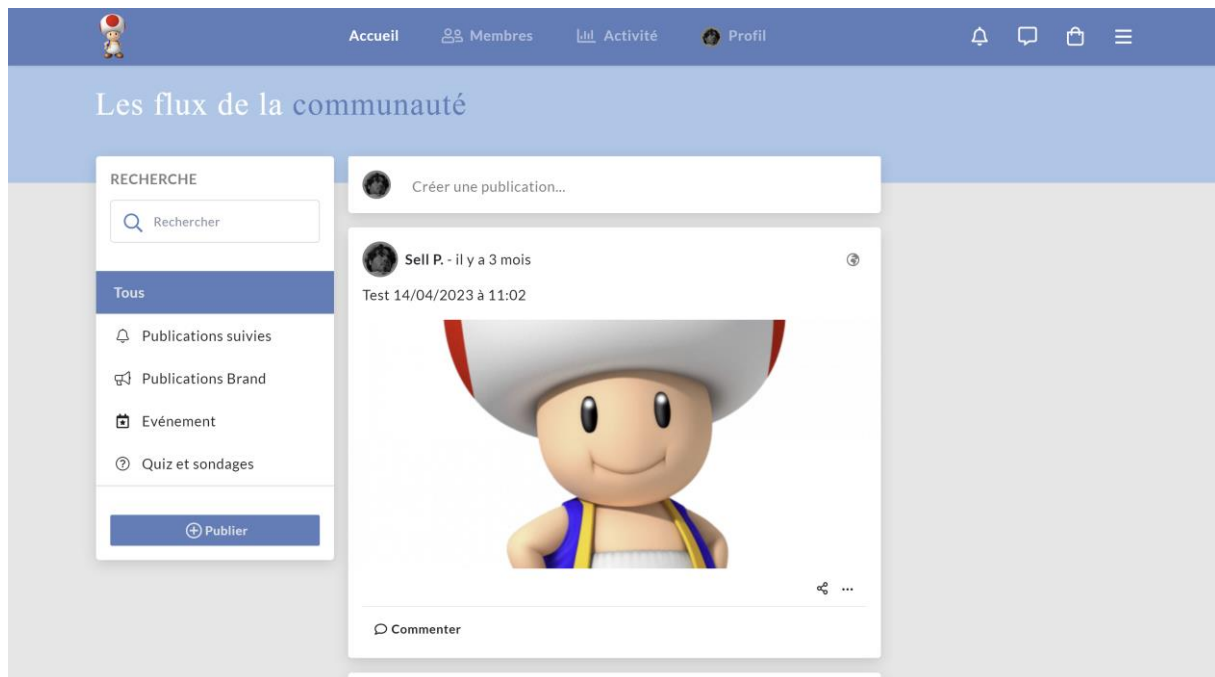


New back office (in development), on which I worked

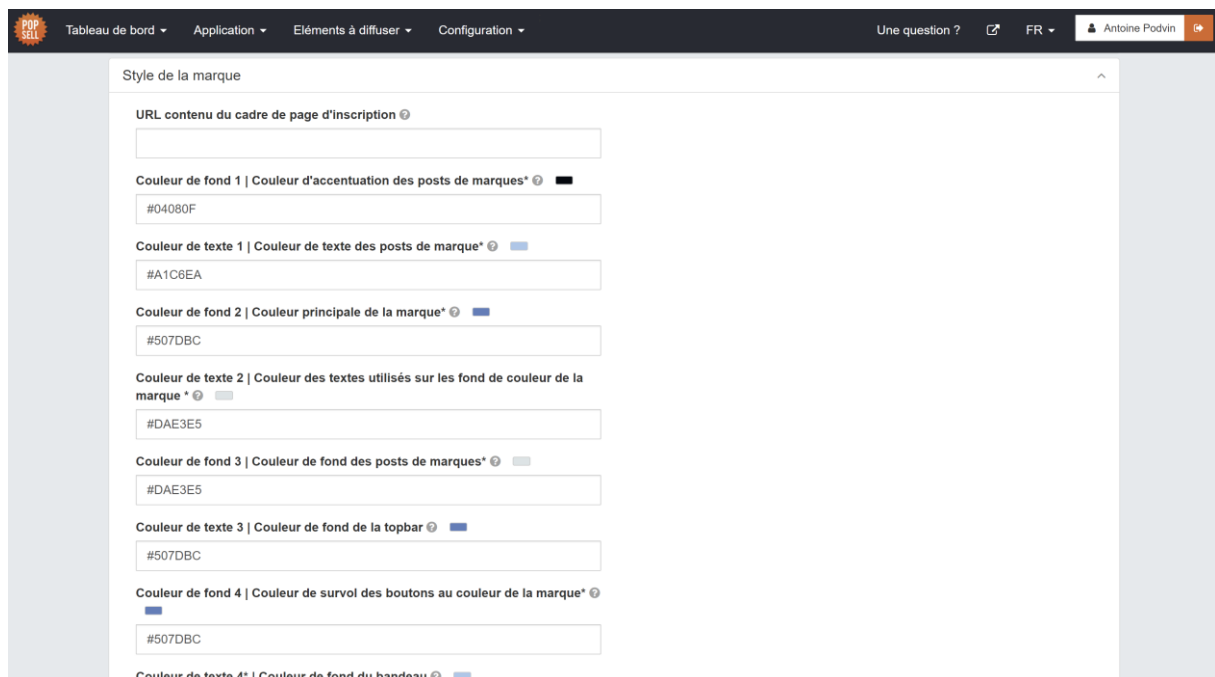
As you can see, there is a really big difference between them. The new back office is developed in Vue.js 3 and in TypeScript ; those are really new languages, and those are languages I didn't know before my internship. Popsell trusted me, and let me the time to learn them before I started to work on this project. This is a really big chance they gave me and I am very grateful to them.

To work with all the Popsell projects, those back offices need to be linked with an API server, for now the server is developed in PHP, with the Lumen framework. This is a very aging technology, so the server is also being updated to a newer technology: PHP Laravel. Both of new server and new back office will be deployed together, because they are optimized and made to work together.

There is a Popsell project example, to illustrate what the back office will be able to set. This project is an example of the platform V4 project, which is proposed to every client. It is a sort of social network, where "influencers" are fans of the brand, and can post recommendations, advices, and share their personal experiences with products. In the screenshots I will show you, it is my personal platform V4 project, with colors, logos, and ambassadors I set myself thanks to the actual back office (this is why there are pictures of Toad, as I am not a brand, I took them as an example).



This is the homepage of the platform V4, as you can see I configured the brand logo with a picture of Toad, and I chose to put blue colors for the whole website, all from the back office settings



And there is my back office settings, where you can see the colors I chose for my platform V4

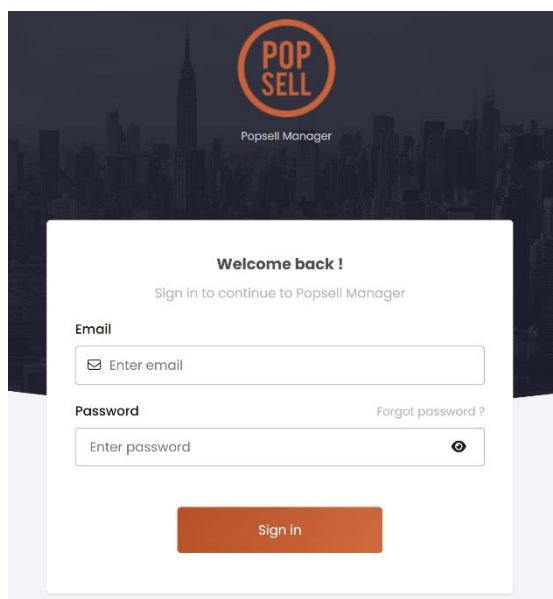
2. My contribution

I spent most of my time in developing the new back office, indeed it was the new big project of the moment and Popsell really needed me to help them doing it. As I mentioned before, this back office is realized in Vue.js 3, and this is what I did most of the time, and I loved it I am sure you will love it too ! Unfortunately, the new API server was not developed yet, so I could not link the new back office with the new server. Mr. Thibaud Fontaine and I did almost all what is present on this back office ! We are very proud of it, because we worked very quickly, and finished it before the server, the Popsell team didn't plan it.

So, after they saw that we were really fast, they found us a new mission: update the popsell-components project made in Vue.js 2, to Vue.js 3. That was a big challenge and a great opportunity for me, because I never used Vue.js 2 before, and it is very different from the version 3.

Popsell components project is a library which groups together a lot of small reusable components, used in a lot of different popsell projects. This is a very good idea from the developers to create this, because it saves a lot of time and it creates consistency between all the projects, which gives a good brand image. I can not really provide any screenshots to image what popsell components do, because this is mostly some code that is time saving, but I can still show you some things part of this project.

For example, in the new back office, all text inputs components come from popsell components :



This is the login page of the new back office, "Enter email" and "Enter password" come from the popsell components project !

Why I should work on the new Server

API

Good morning Mr. Vandeplanque ! I am glad that you took the time to talk with me today.

I asked to see you because I want to share with you my desire to work on the new Server API project. As my internship is coming to an end, I think it is the time to to embark on the conquest of a new mission to be useful to Popsell !

As you already know, I worked a lot on the new back office, and I really enjoyed doing it, it was a big challenge for me but I think I manage to do my best and to show you what I was capable of !

The new back office is a project I particularly like, it is the center of all Popsell projects because it allows to set all of them. This new server would be perfect to continue my formation to be a Full Stack developer, I worked mainly on *front end* (15) projects, and now I would like to assert my skills in *back end* (16) development. I already learned PHP Laravel during my previous part time internship in your enterprise, and I can tell you that I am ready to put my knowledge into practice.

Furthermore, as I worked on the front end part of the new back office, I think to participate on the back end part of this same project would be the natural sequel of my work. I already know the whys and wherefores of the new back office, and I know how everything should be implemented ; it will be much more easier for me to link this future server to the front end.

Moreover, I have a really good relationship with Mr. Kevin Detournay, who is the main back end developer of the company, and who will soon be on paternity leave. I would be the perfect substitute during his absence.

If you want to talk more about all of this, or if you have any questions, any comment to do on, I will be glad to answer you and to talk about it again.

Hoping I convinced you, I wish you a very nice day !

Conclusion

I would like to thank again every person I had the opportunity to meet during my internship, I spent wonderful moments with each of them that I will never forget. This internship made me grow, both personally and professionally, and was a huge step in my student life.

I learned new languages, improved my skills and my team work. I made every effort to secure the success of the project because I was highly devoted to finish it. I followed the necessary steps to complete it successfully, paying close attention to every little thing, and trying to submit work that is as polished and professional as I could. I am incredibly proud of this accomplishment and grateful that Mr. François Vandeplanque gave me the chance to work with such an amazing team.

Antoine Podvin

03/04/2023 → 28/07/2023

Third year student at Epitech Lille – 2022/2023