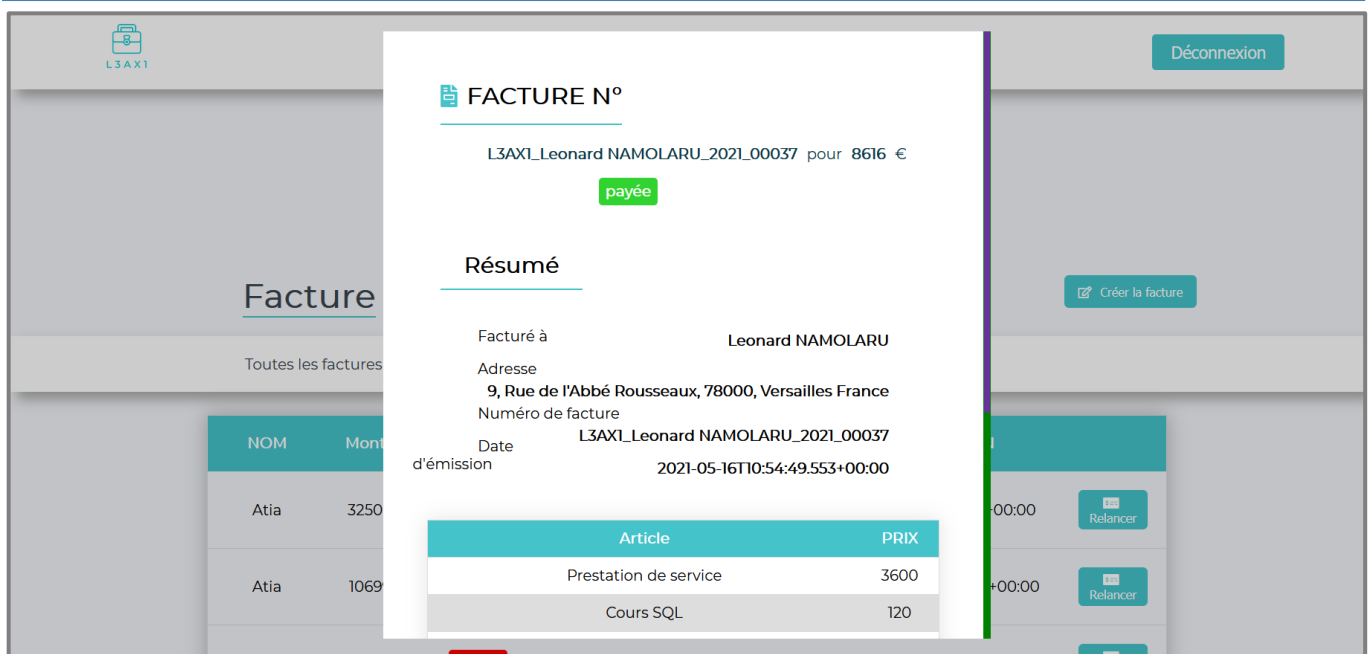


Group AX1 // Invoice management application

Project summary

Atia Salah Eddine Bouldja Lounis
Namolaru Leonard Saghrour Amos

Write one summary per group. They must be more than 800 words. Be sure to write the group name and member names on the first page.



Our project is a website that allows a business owner to manage his invoices. The site allows the creation of invoices, the creation of a customer list, a list of products and services, a list of contracts that have been signed with the customers, as well as the management of a list of users who have access to this database.

We did this project throughout the sixth and final semester of our first degree in computer science at the University of Paris (formerly Paris Descartes). This project is a task that every student must perform in order to obtain the diploma and it is done as part of a "Study Unit" (in French : "UE") called Tutored Projects. Each project is done by four students. The

students in our group are: Atia Salah Eddine, Bouldja Lounis, Namolaru Leonard and Saghroun Amos.

Although there was no prior acquaintance between all the members of the group, we were able to work on this project together, in collaboration and with mutual help. All the members of the group took part in all the stages of the project preparation: system design, code writing, documentation, etc.

Writing code is of course the most complex but also the most important part of software development. At this point, Salah was responsible for programming the invoice list management area, including the option to add a new invoice, see which invoices were paid and which were not, and allow, if necessary, the business owner to send a reminder to a customer who has not yet repaid his debts.

At the same time, Lounis was responsible for programming the customer list management area and managing the list of contracts signed with the customers: adding a new contract, editing existing customer information, connecting a contract that exists in the system to a customer that already exists in the system and more.

The other part of our application, programming the list of products and services, was under the responsibility of Amos: adding a new product, setting its price before VAT, choosing between different levels of VAT depending on the product type or type of service and in accordance with French law of course.

Finally, because the most important thing for a business owner is to maintain the confidentiality and privacy of the data (customer list, contract list, etc.), Leonard was responsible for writing a login page, securing the site to prevent unwanted person from accessing data within the system (for example: using Encryption of user passwords), writing a page that includes a list of all authorized users in the administration panel as well as creating a registration page if the business owner wants to give additional employee access to the data in the system. The code is structured in such a way that this new user will not be able to connect to the site until it is approved by an existing user through the site administration panel.

We performed all these tasks using the following technologies:

➤ FrontEnd: **ReactJS**

React is a free JavaScript library developed by Facebook since 2013. The main purpose of this library is to facilitate the creation of a single-page web application, by creating state-dependent components and generating an HTML page with each state change.

➤ BackEnd: **Spring boot**

Spring is an open-source framework for building and defining the infrastructure of a Java application, which it facilitates development and testing, and to code REST APIs that other programs use.

We chose to use these technologies due to their quality of performance, the rich documentation that is available online, and most importantly - because these are 2 technologies that are widely used in industry and therefore the preparation of this project helped us prepare and gain the appropriate and relevant experience for today's job market.

Preparing an entire project from scratch, from the design planning stage and code structure planning to the stage of presenting the finished product is the moment when we mobilize all the knowledge we have accumulated during the last 3 years to create a product by today's accepted labor market standards. This is a technological challenge that is also accompanied by the need to know how to collaborate and work in a team with other people.

In order to be successful in today's job market it is not enough to just be a good programmer. You need to know how to work in a team, you need to master the usual marketing rules, know how to deliver a presentation, and have a good command of English. Fortunately, during the project we were given the opportunity to gain experience in all these important aspects.

Therefore, after preparing this project we feel much more prepared for the job market so we would like to thank all the professors, teachers, and professionals who accompanied us during the preparation of the project and gave us very helpful advice.