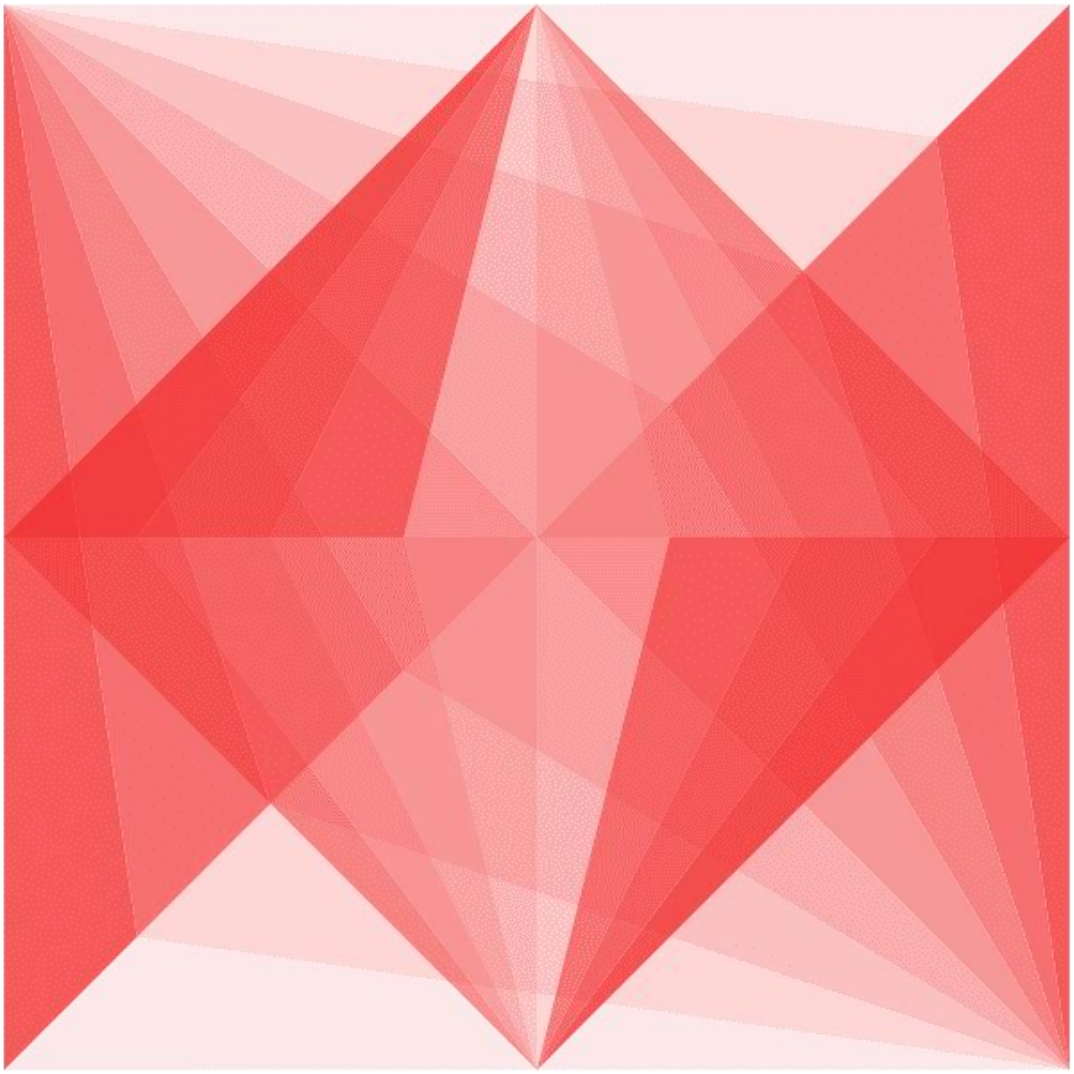


MOOZ

Never Letting down

PROPOSAL FOR MOOZ

INTRODUCTION

Online Webinars, videoconferences, online-courses are each time more frequents words we use in our daily life and even more they will be due to the work-from-home boom there will be due to the actual Covid-19 crisis, as most of the expert are beginning to predict. This will lead to a huge opportunity for companies that want to work in this mostly unexplored market such us Mooz

We consider MooZ has the potential to reach higher market quotes and become one of the most knowable IT companies in the mid-term future. To do it, MooZ must meet in agreement their main two service lines, Software and Content, for reaching to even more customers and offering them more customized solutions based on their feedback. And ItalIT will be the perfect solution to that problem, based on our large experience, we offer a solution based on:

- High available platform, it will be 24/7h online in order to give support to those clients that need to be connected more time than usual, this will be an outstanding and differentiating point from the rest of the solutions that surround the current market.
- Multiple connections availability in order to maintain all clients and workers without facing to server errors nor bottlenecks, a highly-desired functionality more difficult to guarantee as it may initially appear, by our initial soundings, this is the most remarkable specification for the clients of Mooz's markets.
- Great amounts of communication between services and between clients and the firm. A company that doesn't listen to their client is doomed to failure. Our solution offers an integrated ticketing system for listening the highly valuable feedback and requests of the clients.

We will use our expertise in this area to offer a solution designed especially for you using only the best features in the current market, always aimed to offer Mooz and subsequently your clients the best experience possible.

Eventually, we also guarantee an opened communication channel with our support department, as it is one of the main stamps of our company, indefinitely. In addition, if we end up by having strong business relation, we will grant you access to our Data Mining & Machine Learning department, which will give you the features of how the proposed solution is developing in relation to the expectations generated and the possible solutions to hypothetical scope problems.

PROJECT SPECIFICATIONS

The scope of this project is to create a software application able to manage and better coordinate the work of the project managers of the MooZ company, along with a better flow of information both from the partners than the final users to the sales and finance department. Technical support will also be able to receive tickets when problems arise during the operations of the MooZ services and will be able to manage them. This will allow a smoother user experience.

In particular:

- The project managers will be able to monitor and evaluate the progress of the projects, with a clear view of the available resources and with the possibility of scheduling the following activities
- The sales agents will be provided with a centralized interface through which to check the user reviews and feedbacks. These will be previously elaborated with a machine-learning algorithm that will extrapolate the mood of the users who wrote them. Sales agents can then sort by the urgency of addressing the problems highlighted in the feedbacks and they can answer with the formulation of a targeted offer if they deem it appropriate.
- Technical support will be provided with a ticketing system that will allow the user to report issues encountered during the normal fruition of the service. If these issues are of MooZ's partners' concern, they can forward them with the simple click of a button.
- Financial employees will get access to a payment database, along with the information of all the clients and partners. They will be able to track if a sum is due and, in that case, the deadline for it. A section with all the expired payments will also be provided.
- A new client's feedback section will be developed. It will be possible to leave a review on the overall service, on the used product and also on particular features of the product.

The developed infrastructure will be highly available (it must be operative 24/7), easily scalable and with redundancy to avoid data losses. A cronjob will be setup to backup the system daily.

Multiple languages will be supported and adding a new one will be as easy as adding a new file (in particular, we will use the Portable Object file format, which almost all the translation agencies support).

We will deliver the software with the requested languages (English, Swedish, German, French and Japanese). The number of concurrent users specified in the requirement will not be a problem for our proposed infrastructure.

Last but not least, we are aware that a software with these conditions must support multiple connections, that is why we have considered only established and proven ERP softwares, able to scale smoothly if new users have to be granted access.

VENDOR SELECTION

To reach the previous described desired benefits for Mooz and so to satisfy their requirements a ERP software is necessary. Our core activity is to design a whole software architecture based on the customer's needs and not designing the best ERP softwares. Therefore, we cannot design an ERP software which has such a high quality like the existing ones since they were developed over time by specialized engineers so they are very robust against bugs and data losses. Even if we would have the resources to build an ERP solution in such a high quality like the existing ones it would be very uneconomic because in opposite to ERP software companies, we wouldn't have economies of scale and thus, the price would be much higher.

Therefore, we buy the ERP software which is the heart of our offered software architecture. Because of this importance, the selection of the ERP software is done with high effort and very detailed. To generate a shortlist of the most suitable ones so we can compare each other it is necessary to identify the most fitting ones. These have to provide some special modules and features so the problems explained in the project specification (see point above) of MooZ are solved.

The ERP solutions SAP, Microsoft Dynamics NAV (MD-NAV) and ODOO fulfill these requirements best and are therefore the possible solutions for Mooz, which are compared by costs, flexibility to customer needs, robustness against bugs, effort for integrating, secure in relation to data losses, previous experience with the ERP software and client satisfaction. Because of the small budget the criterion „costs "is the most important one (weight = 0,35). As ODOO has with only 10000 € + 1000€/month the lowest price it has a big advantage against to Microsoft whose costs are 10000€ + 22600€/month and against SAP which offers a price of 10000€ + 41400€/month

In contrast to this, MD-NAV is highly flexible and can therefore easily geared on the special customer requirements. SAP is the most robust one against bugs and has the highest security against data losses since they gained a lot of feedback and experience in all the years of their existence, on which their highly skilled software engineers developed their ERP-Software constantly.

	weight	***SAP Business all-in one***		***Microsoft Dynamics Nav***		***Odoo***	
		Rating	Weighted	Rating	Weighted	Rating	Weighted
Costs (licenses)	0,35	2	0,7	5	1,75	10	3,5
Flexible (to customer needs)	0,2	6	1,2	9	1,8	7	1,4
Robust against bugs	0,1	9	0,9	4	0,4	3	0,3
Effort for integrating	0,15	8	1,2	6	0,9	2	0,3
Secure (data losses)	0,1	10	1	8	0,8	5	0,5
Previous experience with software	0,05	7	0,35	10	0,5	5	0,25
Client satisfaction	0,05	10	0,5	9	0,45	9	0,45
Overall mark			5,85		6,6		**6,7**

Despite the - in comparison to SAP and MD-NAV -low robustness, low security, high effort for integrating and low previous experience regarding working with the software the winner of the ranking is ODOO. The reasons for this choice are that the abilities of ODOO regarding to the above-mentioned criterions are nevertheless sufficient for Mooz 'requirements - which can also be detected by their general customer satisfaction (9 stars out of 10) - and its price in the most fitting one in relation to Mooz 'budget.

ARCHITECTURE

As already discussed, analyzing the requirements, we concluded that some of the requested features can be easily implemented through the customization of an Enterprise Resource Planning (ERP) software. Since the budget is limited, the ERP of our choosing is the open-source solution Odoo.

All the systems will be deployed in the cloud, in particular, thanks to our collaboration with Microsoft, we will use the Azure IaaS. On top of that, we will rent an E8as instance (4 core, 32 GB of ram, 64 GB of temporary storage) where we will install Red Hat Enterprise to extract the maximum possible performance. Additional storage modules will be required.

Our software will take care of implementing, to the users of the services provided by MooZ, a "reviews and ticketing" system. The collected data, together with already existing information stored on the server and handled by the ERP software, will be shown through a role-based dashboard.

The roles we will distinct upon are:

- Project manager
- Sales agent
- Technical support
- Financial employee

Those roles are based on the different functionalities the solution must offer. In addition, the system will allow assigning multiple roles to a single person (i.e. the CEO can have the possibility of accessing all the data).

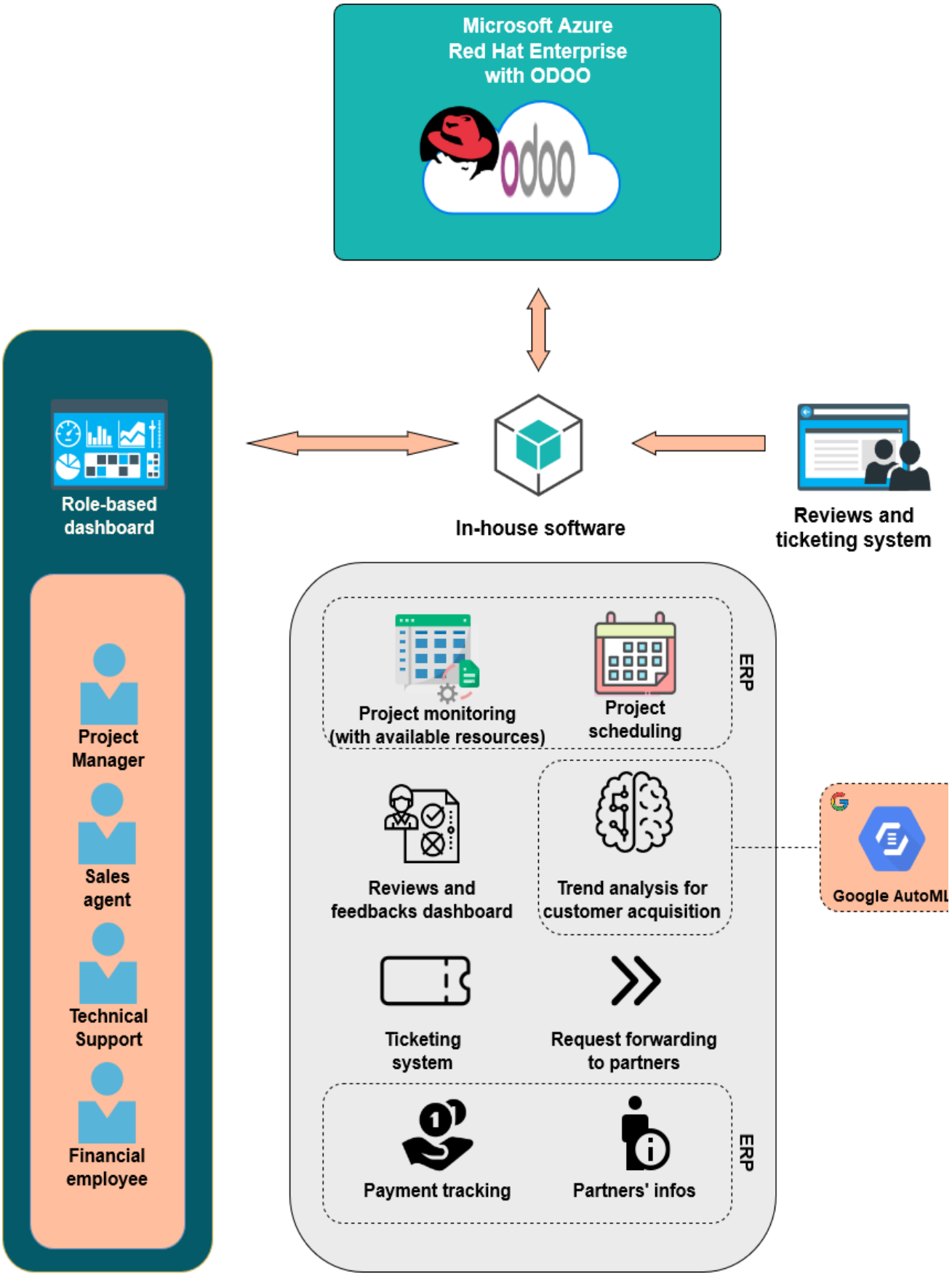
To analyze the information coming from the reviews and ticketing system, we will set up and run a Google AutoML instance with the scope of identifying the trends and the requests from the users. This will be useful to the sales agent, which will have the data displayed in their dashboard through some statistical tools like histograms or pie charts, to tailor the offers to the users' need. They will be able to access the unaggregated data too.

The technical support will be presented with a quick to use dashboard: sorting between the issues, identifying common causes and if they affect critical functionality will be a matter of seconds. In this way, they will be able to do their work without too much time lost in the user complaints. A forwarding button will be added to send the ticket to the partners if it is related to them.

The needs of the project manager and the financial employee will be satisfied by the ERP software. In particular, for the first figure, as it will be possible to schedule a project, see how it is going and check if there are some resources available and ready to be used for the project. On the contrary, they can see which are the arising problems.

Payment tracking and information about clients and partners will also have their dedicated section. It will be accessed by the financial employees and will provide means of soliciting payments if they were due. A clear representation of the company's current sources of revenue will also be shown.

On the next page it can be seen a graphic summarizing the designed architecture integrating all the features of the solution proposed.


Microsoft Azure
Red Hat Enterprise
with ODOO
odoo
Role-based
dashboard
Project
Manager
Sales
agent
Technical
Support
Financial
employee
In-house software
Reviews and
ticketing system
Project monitoring
(with available resources)
Project
scheduling
ERP
Reviews and
feedbacks dashboard
Trend analysis for
customer acquisition
Google AutoML
Ticketing
system
Request forwarding
to partners
Payment tracking
Partners' infos
ERP

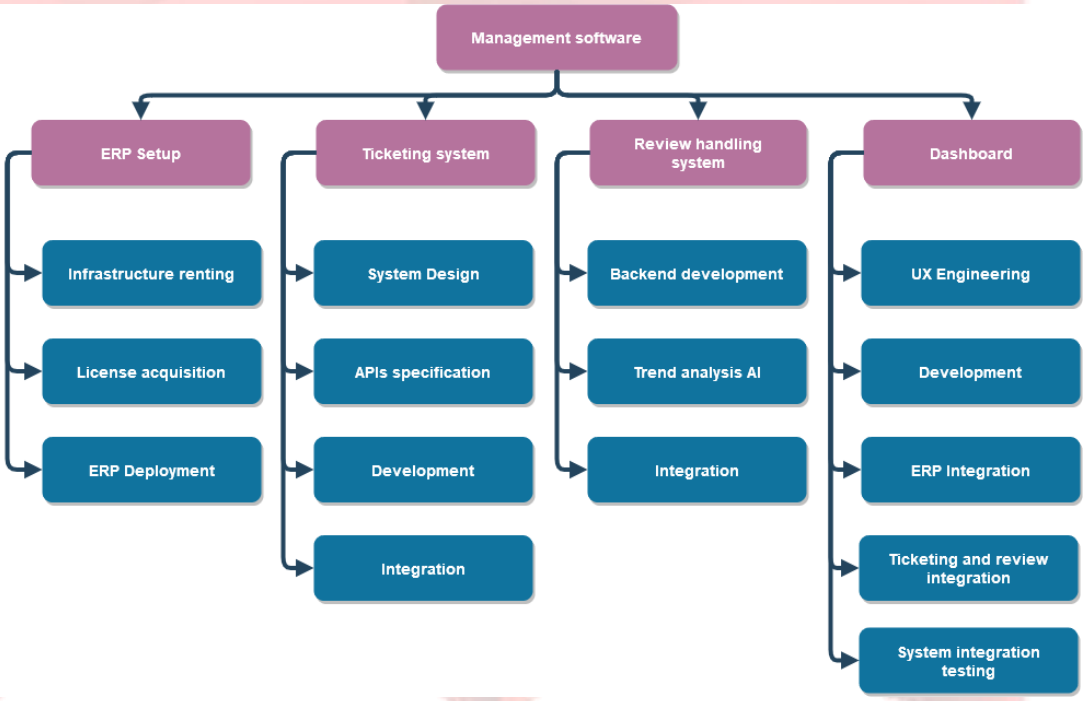
USE CASE

The features of the developed software architecture which described above leads to two main advantages namely *happier customer* and *increased operational efficiency*.

The reasons for this are the follows. Without our offered software the functional organization was unstructured with just little communication between the different main functions. Therefore, either it took a lot of time to find and get the desired and needed information or even the already in the company existing information must be collected a second time. That leads for example to that that the project manager had to plan with bad information and so with a high uncertainty, which is always costly. Furthermore, the problems of the customers were met insufficient and the offers were very general, which leads to unhappy customers. In contrast to this, with our proposed software solution all necessary information about resources of the company and customer needs, wishes and problems are stored at one place to which everyone have access.

Therefore, not only can invoices be monitored and made with less effort, but projects can also be planned with more accurate information. Deviations in the project progress can detected early as well thus activities to mitigate the costly deviations based on available resources can be defined. Because the salesman know trough the new feedback section exactly the requirements and wishes of the customer as well, they can offer fully customized solution and the technical support can respond immediately through the new ticket system to customers problems why their satisfaction will increase extremely.

WBS



To reach the development of the management software we need to set up the ERP management software, develop a ticketing and review handling system and have a dashboard ready to be used for the employees

ERP setup: the infrastructure needs to be rent; we then have to acquire the licenses (even if the software is open-source, extra features and support are provided by the main company distributing it) and deploy it on the infrastructure. The deployment includes testing that all the system is working properly

Ticketing system: an initial phase of system designing is necessary to understand how our application has to work. This will allow defining the APIs specification, which is necessary for the dashboard development.

The development of the solution can then start and when it is concluded some integration tests need to be performed in order to ensure that the modifications, we introduced in MooZ systems work as expected.

Review handling system: we start the development of the backend services (this is, how the data should be handled in the server) and with this aim, we focus on the setting-up of an Artificial Intelligence for trend analysis using Google AutoML for Natural Language Processing. The working system can then be put into production through an integration phase.

Dashboard: our UX engineers will study how to arrange all the data into what will be the system for it to be user-friendly, highly accessible, responsive (mobile, workstation, laptop etc.) and easily expandable if a new feature is required in the future. With their output, the interface design, the development can start. In the end, we have to integrate the ERP features into the dashboard (using Odoo's APIs) and later we blend in our in-house software. Lastly, we need to test the overall system to assure it has the over-the-top quality we want to achieve.

SCHEDULE

The project is set to start on 1 June 2020

By 10 June we plan to have the ERP software deployed in Azure IaaS

Since the complexity of this project is limited, we plan to have the APIs specification ready as soon as 3 June.

The development of the ticketing system is going to be finished by 23 June and should be well integrated into MooZ systems by 26 June.

The review and handling system will be ready in a week (5 June) and integrated in another 2 days (9 June).

The dashboard is the largest module: we plan to deliver the interface design document by 4 June, develop all the main functionalities by 23 June and then integrate the Ticketing and reviews module (26 June) and the ERP software (30 June). The integration processes can be done concurrently.

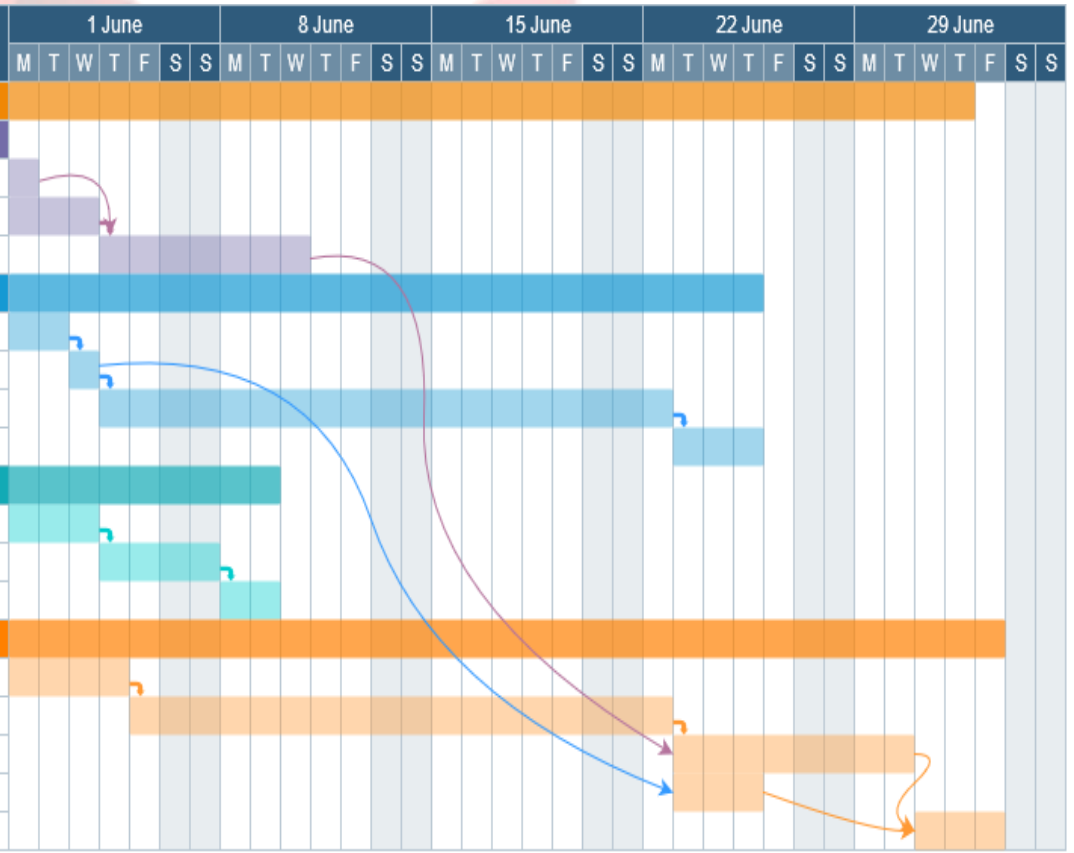
All the system will then be tested and delivered on 3 July.

To avoid any problems arisen during the last stages of the dashboard module, we would like to set the 10 July as the deadline.

Notice that, concerning the other modules, we have some slack time: the critical path is given by the dashboard and since the integration stages, which are the only ones requiring work packages from the other modules, are late in the project we have additional time to handle eventual issues.

On the next page it can be seen an image that summarizes the main points of the explained scheduling.

	Task Name	Duration	Start	ETA
	Management software			
1	**ERP System**			
1.1	Infrastructure renting	1 day		
1.2	License acquisitition	3 days		
1.3	ERP Deployment	1 week		
2	**Ticketing system**			
2.1	System design	2 days		
2.2	APIs specification	1 days		
2.3	Development	12 days		
2.4	Integration	3 days		
3	**Review handling system**			
3.1	Backend development	3 days		
3.2	Trending analystics system	2 days		
3.3	Integration	2 days		
4	**Dashboard**			
4.1	UX Engineering	4 days		
4.2	Development	12 days		
4.3	ERP integration	1 week		
4.4	Ticketing and review system integration	3 days		
4.5	System integration testing	3 days		



RESOURCES NEEDED

The resources needed are listed next:

- ERP System
- Infrastructure renting
    - 1x Senior network engineer
- License acquisition
    - 1x Purchasing agent
    - bargaining time with Odoo
- ERP Deployment
    - 1x Senior network engineer
    - 1x Junior network engineer
- Ticketing system
    - System design
        - 1x Senior software architect
        - 1x Senior software engineer
    - APIs specification
        - 1x Senior software architect
        - 1x Senior software engineer
    - Development
        - 1x Senior software engineer
        - 1x Junior software engineer
    - Integration
        - 1x Senior software engineer
        - 1x Junior software engineer
        - 1x Junior network engineer
- Review handling system
    - Backend development
        - 1x Senior software engineer
    - Trending analysis system
        - 1x Senior software engineer
        - 1x Junior data scientist
    - Integration
        - 1x Senior software engineer
        - 1x Junior network engineer
- Dashboard
    - UX Engineering
        - 1x Senior UX Engineer
        - 1x Junior UX Engineer
    - Development
        - 1x Senior frontend developer
        - 1x Junior frontend developer
    - ERP integration
        - 1x Senior frontend developer (same from development phase)
        - 1x Junior network engineer
    - Ticketing and review system integration
        - 1x Senior network engineer
        - 1x Junior frontend developer (same from development phase)

    - System integration testing
        - 1x Senior frontend developer
        - 1x Senior network engineer

To sum up we need:

- 12d Senior network engineer
- 15d Junior network engineer
- 3d Senior software architect
- 25d Senior software engineer
- 15d Junior software engineer
- 2d Junior data scientist
- 4d Senior UX engineer
- 4d Junior UX engineer
- 20d Senior frontend developer
- 15d Junior frontend developer
- 1d Purchasing agent

FINANCIAL

Our solution for this request consists of an in-house software running on a VM, and a review and ticketing system. In addition, we consider ERP for monitoring and scheduling projects. And another one for payments tracking. We also consider a platform to analyze customers' feedback. This is an Auto ML tool which the company can make monthly payment for analyzing using a natural language processing tool.

- ERP:
  - Renting 10000€+1000€/month
  - Setup 1000€
- Ticketing System 5500€
- Review handling system 1000€
  - Trending Analysis System 50€/month
- Dashboard 7000€+114€/month

Total Budget: 24500€+1164€/month

Title	*Costs*
Salary	13100€
Overhead	1000€
Labor hours	920
Material Costs	10400€+1164€/month
Overall Costs	24500€+1164€/month

SUMMARY

As final summary, the solution we have designed will provide your company with a high customized software that will solve every kind of problem of transparency, it will facilitate an easy way for linking the main service lines of the company and, thus, gaining productivity in order to give a better service for clients and maintaining them happy.

The development of this software will be divided in 4 main areas, ERP Setup, Ticketing System Review handling system and Dashboard, each with its own deliverables and sub-products, all together will form an integrated and easy-to-use solution that will answer to all the requirements proposed

Our main software will be ODOO, which has been considered the best option because of its cheapness, great flexible and, over all, its good relation with the user. By integrating it with the rest of features detailed previously, you will obtain a solution with a high availability, which provide monitoring mechanisms and that support multiple concurrent connections in multiple languages with the confidence of having frequent backups in case they would be needed.

The overall costs of the designed solution are 24500€ + 1164€ monthly divided between Salaries, and overhead. We consider that the total amount of Labor hours will increase to around 900h.