**Ministère de L’enseignement Supérieur et de la Recherche Scientifique**

**Faculté des Science de Bizerte**

**Report of**

**END-OF-STUDY PROJECT**

**In order to obtain:**

**Invoicing System dedicated for …**

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# **Appreciation:**

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# **Plan**

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# **General Introduction**

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n this age of technology, digitalization is ubiquitous, and businesses are investing significant resources to streamline their processes and stay ahead of the competition. One area that requires particular attention is the management of invoices and payments. This critical function can be complex and intricate, and businesses must ensure they are organized and efficient to avoid costly mistakes.

Managing invoices and payments requires a keen eye for detail and adherence to legal and regulatory compliance. Businesses must ensure that all their payment processes comply with relevant laws and regulations to avoid legal and financial repercussions.

The recruitment and selection of the right payment management system is also crucial. Companies must identify payment solutions that align with their organizational goals, culture, and values. This process is vital in creating an efficient payment system and driving business growth maintaining a positive relationship with clients and vendors to avoid payment disputes and conflicts.

Efficient invoice and payment management is a critical component of any successful business, and it requires organizations to navigate complex challenges while ensuring prompt and accurate payment processing enabling companies to focus on core business functions and stay competitive.

Chapter 1: Working Context

* 1. Introduction

In this chapter, I will introduce the company Zedney Creative, and then we will present the problem and describe the project to be carried out. Finally, we will define the Scrum agile framework as a framework for carrying out our mission.

* 1. Presentation of the company

Zedney Creative is an IT engineering services company (SSII) founded in 2011 and present in Tunisia (Tunis and Bizerte), France (Paris), Emirates (Dubai) and Saudi Arabia (Riyadh), it offers IT solutions adapted to different businesses and industries.

The company is a partner of choice that provides its customers with digital solutions that are perfectly effective in meeting the challenges of agility, performance, and development.

The company specialize in the fields of information systems, IT development, mobile development, process automation and digitalization, provides solutions to meet the needs of companies, relying on a community of consultants who offer their technical expertise to large groups in various fields.

Figure 1 : Company organization chart

This figure shows the hierarchy within a subsidiary founded in Tunisia. There are 3 directions (IT, financial administration and sales) managed by a general management.

My internship takes place within the IT department.

* 1. Issue of the Project
     1. Description of the problem

One of the major problems with invoice management is the potential for errors or inaccuracies. Invoices may contain incorrect information, such as incorrect pricing or quantities, which can lead to overpayment or underpayment. Additionally, invoices may be lost or misplaced, which can cause delays in payment and negatively impact relationships with vendors and clients.

Another challenge with invoice management is the sheer volume of invoices that many businesses receive, managing a high volume of invoices can be time-consuming and require a significant number of resources. This can be particularly challenging for small businesses or those with limited staff and resources. It can also be complicated by the different payment terms and methods used by vendors. Some may require payment by a certain date or using a specific payment method, while others may be more flexible so to keep track of these different requirements and ensuring timely payment will be a great challenge.

A Digital solution can help to streamline and automate many aspects of invoice management, reducing the potential for errors and improving efficiency. the solution can automate approval workflows, enable integration with accounting systems, customize payment terms and methods...

Developing software for invoices, products and client’s management can be a complex and challenging process, we are currently facing hardships concerning data accuracy, integration with other systems and security concerns, therefore the plan is to leverage an existing platform despite its issues and undertake a comprehensive effort to enhance its functionality. Specifically, we aim to improve the core functions of the platform and its underlying architecture to create a more efficient and user-friendly experience.

* + 1. Proposed Solution

In pursuit of our objective to enhance the platform, we will carefully analyze the existing issues and devise a strategy to address them. By focusing on the core functions that require improvement, we will implement modifications to optimize performance and user experience, we are planning to substitute the architecture of the platform to ensure that it is scalable, flexible, and sustainable for future growth

Through our efforts, we aim to exceeds user expectations and delivers value to our stakeholders by delivering a significantly improved system that ensures:

* An intuitive and user-friendly dashboard that provides easy access to key information and features, such as invoices, taxes, contacts, and clients.
* Improved functionality and core features, including the ability to create, manage, and track invoices; calculate taxes automatically; and easily add and manage client and contact information.
* More efficient and streamlined processes that reduce the time and effort required to create and manage invoices and generate documents.
* Robust security and data protection measures to safeguard sensitive information, such as client and payment details, and prevent unauthorized access or data breaches.
* Increased stakeholder engagement and support, by providing timely and accurate information, regular updates, and excellent customer service and support.
  1. Used Technologies:

Zedney Creative currently possesses a copy of the application that was built by a French team. The development of this application utilized Symfony 4, Vue.js 3, and MySQL as the underlying technologies.

The ongoing migration process entails a shift from the old technologies to adopting the React JavaScript library for front-end development, Django framework for back-end development, and the PostgreSQL database for data storage. This transition involves transferring existing code, restructuring the application architecture, and re-implementing functionality using the new technology stack.

The goal is to leverage the benefits and features offered by React, Django, and PostgreSQL, such as enhanced user experience, improved development efficiency, scalability and security. Throughout the migration, careful planning, testing, and data migration procedures are employed to ensure a smooth and successful transition to the new technology stack.

* 1. Used Methodologies
     1. Project management approach

I opted for an agile approach to project management based on the comprehensive indicators. This decision aims to achieve two main goals: first, to successfully implement as many requested functionalities as possible, and second, to effectively adapt to changes and emerging needs. referance agile

Agile is a project management and software development approach that operates in iterations, enabling teams to deliver value to customers more efficiently and with fewer challenges. Rather than relying on a single, extensive launch, an agile approach delivers work in smaller, more manageable increments that are readily usable by stakeholders

In addition, adopting an agile approach can also help save time by avoiding the pitfalls of the tunnel effect, a well-known and significant drawback associated with traditional project management methods.

While the origins of agile concepts and tools can be traced back to IT, the application of agile practices has expanded to various industries beyond the realm of information technology. Today, agile methodologies are available and utilized in diverse fields, ranging from innovative services to research and development in heavy industries. Some notable agile methods include Scrum, XP (Extreme Programming), RAD (Rapid Application Development), and DSDM (Dynamic Systems Development Method).

* + 1. Presentation of the used framework

After reviewing the characteristics of the most used agile methods I decided to choose the Scrum method. In fact, scrum indicates that the size of the team can be reduced and this is my case; another reason is that scrum is flexible in terms of the duration of the sprint (between 2 and 4 weeks).

Scrum is a framework that fosters collaboration among teams, it promotes learning through hands-on experiences, self-organization when tackling challenges, and reflection on successes and failures to drive continuous improvement, although it is primarily recognized as a project management-oriented process framework or pattern, even its founders and experts describe it as such. This versatile framework can flexibly incorporate diverse engineering methods or practices, allowing teams to adapt it to their specific needs and context. Reference scrum

* 1. Presentation and application of Scrum

In this part, I will present the product backlog and the list of actors acting in this project. I will also present the definition of done, one of the artefacts of the Scrum method.

* + 1. Product backlog

A product backlog is a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities that a team may deliver in order to achieve a specific outcome. The product backlog is the single authoritative source for things that a team works on, the study of the existing allowed me to identify the services and the needs of the client.

To meet project requirements efficiently, the identified needs were organized and prioritized based on their importance. This process involved grouping and sorting the needs according to their relative priority, once prioritized, the needs were then distributed across the various sprints.

The table below presents these needs which will be the subject of our work.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Type of Story | Story | Estimated Days | Priority | Sprint |
| 1 | TS1 | Adapting and familiarizing oneself with outdated project technologies in order to become proficient with them. | 14 | 9 | 1 |
| 2 | TS2 | Differentiating between diverse entities and assessing their various forms. | 2 | 6 | 2 |
| 3 | TS3 | Transferring the previous models from the outdated database and ensuring all necessary actions are carried out accordingly. | 2 | 7 | 2 |
| 4 | US1 | The user can leverage an intuitive interface to conveniently input the necessary information in multiple forms as needed. | 10 | 9 | 2 |
| 5 | TS4 | Strategically organizing the components within the forms to promote efficient and effective organization. | 7 | 8 | 3 |
| 6 | US2 | The administrator can securely log in to their account and securely access their information. | 2 | 6 | 3 |
| 7 | US3 | The administrator can securely modify their personal information, which includes updating their profile picture, email address, and password. | 1 | 5 | 3 |
| 8 | US4 | The administrator has the ability to include users, referred to as collaborators, and assign them various roles within the enterprise, as well as the ability to modify them when needed. equipe | 3 | 7 | 3 |
| 9 | US5 | The Administrator possesses the capability to effectively manage and add contacts, clients, and prospects within the system. This includes the ability to create new contacts and add them to the database, as well as manage existing ones by updating their information. repertoire | 7 | 9 | 4 |
| 10 | TS5 | Effectively control and regulate permissions between the administrator and collaborators. | 1 | 5 | 4 |
| 11 | US6 | Both the Administrator and collaborators have the capability to handle a variety of documents, including letters and couriers, legal documents, and internal documents. document | 6 | 7 | 4 |
| 12 | TS6 | Conducting a thorough review, revision, and editing of the business logic implemented in all the previous forms. | 2 | 5 | 5 |
| 13 | US7 | Both the Administrator and collaborators have the capability to effectively handle tax management, invoice processing, and article management. facturation | 12 | 8 | 5 |
| 14 | US8 | The Administrator and collaborators possess the ability to monitor financial and legal aspects in a more detailed manner. suivi | 13 | 8 | 6 |
| 15 | TS7 | Introduction to technologies that enable the creation of detailed charts and graphs. | 1 | 5 | 6 |
| 16 | US9 | Development and improvements of the dashboard, while also implementing efficient search functionality. | 14 | 8 | 7 |

# References

**There are no sources in the current document.**