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Introduction

International Conference on Applied Internet and Information Technologies is an annual Conference that we started in 2012 after successful results of the International Conference on Information and Communication Technologies for Small and Medium Enterprises in 2011. This year, the fourteenth Conference is hosted in Zrenjanin and presents collaboration between the University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia and the University "St. Kliment Ohridski", Faculty of Information and Communication Technologies - Bitola, Republic of North Macedonia.

The Conference was financially supported by the Provincial Secretariat for Higher Education and Scientific Research, Novi Sad. The Technical Faculty "Mihajlo Pupin" has provided the necessary technical support.

This year we had gathered our colleagues, scientists, researchers and students from 13 countries: Canada, USA, India, Russia, Germany, Denmark, Georgia, Slovakia, Hungary, Croatia, Bosnia and Herzegovina, North Macedonia and Serbia. They presented papers and promote the results of research and scientific work in the field of information technology. Out of more submitted papers, 66 were selected for presentation on Conference and publishing in Proceedings.

Some of Conference topics are: Artificial Intelligence, Intelligent Systems, Data Science, Big Data Technologies, Business Intelligence, IT Support to Decision-making, Information Systems, Software Engineering and Applications, Communications and Computer Networks, Data and System Security, Computer Graphics and Visualization, IT Management, etc.

During the conference were organized in six sessions: two plenary sessions, two Oral Sessions and two Poster sessions. The introductory lectures were:

- *Text Mining,* held by Slavica O'Connor, Canada,
- *IT equipment and software for training, modeling and data analysis for flood and forest fire prevention, protection and management in project SOLVE,* held by Andrijana Bocevska, North Macedonia,
- *Reducing Manual Labeling Effort by Identifying the Most Informative Unlabeled Data via Active Learning,* held by Velibor Ilić, Serbia,
- *Digital platform for monitoring and forecasting the environmental situation of the Baikal natural territory,* held by Igor V. Bychkov, Russia.

The AIIT program committee would like to thank the authors of the papers for their contribution. All submitted papers were peer-reviewed by members of the committee and the other eminent reviewers. All submitted papers were peer-reviewed through the double-blind review process. Also, the AIIT program committee would like to express special gratitude to the reviewers for their tremendous work done for selecting the papers with their valuable comments and suggestions that contributed to improve the quality of the papers.

AIIT 2024 was very successful conference with fruitful exchange of experiences among the participants and contribution to the further development of Internet and Information technologies research.

Next year the conference will be held in Bitola.

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Ivana Berković, Ph.D. is a Full Professor at the Technical Faculty "Mihajlo Pupin" in Zrenjanin, Serbia. She obtained her Bachelor's degree from the Faculty of Sciences in Novi Sad and completed her Master's and Ph.D. degrees at the Technical Faculty "Mihajlo Pupin" in Zrenjanin, specializing in Logic Programming and Automated Reasoning. Since 1987, Prof. Berković has been teaching at the Technical Faculty "Mihajlo Pupin." In 2008, she was appointed as a Full Professor at the University of Novi Sad. She was associated dean from 2002 to 2010. She is a member of Professional Councils of the University of Novi Sad. Her research interests include Artificial Intelligence, Automated Reasoning, Logic Programming Languages, and Computer Graphics. She has authored numerous scientific papers, textbooks, and software products. She participated as researcher or leader of 12 national funded projects. She is a member of editorial board of Journal ComSIS and member of program and organization committee of several international conferences.

Kostandina Veljanovska, University "St. Kliment Ohridski", Faculty of Information and Communication Technologies, Bitola, Republic of N. Macedonia (co-chair)

Kostandina Veljanovska, Ph.D. completed her education at the University "Sts. Kiril i Metodi", Skopje (BSc in Computer Science), at the University of Toronto, Toronto (MASc in Applied Engineering) and got her MSc and also her PhD in Technical Sciences at the University "St. Kliment Ohridski", Bitola, R. N. Macedonia. She has completed postdoc in Artificial Intelligence at the Laboratory of Informatics, Robotics and Microelectronics at the University of Montpellier, Montpellier, France. She worked as a Research Assistant at the Faculty of Applied Science, University of Toronto, Canada. She also, worked as a researcher at research team for Constraints, Learning and Agents at LIRMM, University of Montpellier. Currently, she works as a Full Professor in Artificial Intelligence and Systems, Computer Science and Computer Engineering at the Faculty of Information and Communication Technologies, University "St. Kliment Ohridski" -Bitola, Republic of N. Macedonia. Since 2022 she is vice-dean for Science and Collaboration. Her research work is focused on artificial intelligence, machine learning techniques, intelligent systems and human – computer interaction. She has published numerous scientific papers in the area of interest. She is a reviewing referee for several publishing houses, journals with significant impact factor in science and also, member of editorial board of several international conferences.

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A multi-task management system based on PHP and MySQL

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Abstract:
The multi-task management system is designed to assist individuals or diverse organizations, including groups, companies, and corporations, in efficiently managing their tasks and objectives. This platform has been meticulously analyzed and adapted based on the experiences of various companies. Operating online, it offers remote access and was developed using web languages, with MySQL selected as the database, given its suitability for online platform development. Upon completing the management system, we assessed that it could have a highly positive impact, with its utilization directly contributing to improved management quality. Thus, we recommend the development of similar platforms that would constitute a substantial database with records, serving as a repository of work histories, achievements, and various successes across all fields, encompassing collaboration among individuals in sectors such as education, healthcare, economics, and engineering.

Keywords:
Management system, Tasks, Web languages, MySQL database.

1. Introduction

In the digital era, the proliferation of online platforms has become essential for the efficient orchestration of organizational tasks across diverse industries. Among these platforms, multi-task management systems stand out as pivotal tools, offering a comprehensive solution to enhance operations and increase productivity. This paper initiates an exhaustive exploration into the realm of multi-task management systems, examining their architecture, functionalities, and the intricate interplay of technologies driving their development. Leveraging versatile technologies, these systems emerge as agile instruments capable of seamlessly orchestrating a wide array of tasks. At their core, the appeal of multi-task management systems lies in their capacity to synchronize various functions within a unified framework. From project management to resource allocation and communication facilitation, these systems provide a cohesive ecosystem where tasks integrate seamlessly, fostering collaboration and synergy across teams and departments.

We will analyze the complexities of multi-task management systems, unveiling their architecture and clarifying the crucial role that technology plays in their evolution. The primary goal of these systems is to streamline business processes within organizational hierarchies, enhancing practicality, transparency in task delegation, and establishing a secure management system. Ultimately, this paper serves as a testament to the transformative potential of multi-task management systems, with a particular emphasis on businesses. Through a synergistic fusion of technology and functionality, the future of management resides within the realm of multi-task systems, redefining the paradigm of organizational excellence.

2. Literature review

Web languages such as HTML, CSS, JavaScript and PHP are essential for creating and maintaining interactive and beautiful websites. They enable the structuring, styling and functionality of websites. While these languages work on the client side, databases, like in our case MySQL, store and manage data on the server side. The connection between them is achieved through a scripting language such as PHP, which serves as an intermediary for receiving and processing data from the database and

presenting them on the web. This is a mandatory connection between these three components to achieve a web service, similar to our management system. In Anticipating a Digital Future: Chaos and Mythology in Ubiquitous Computing, they carefully reflect on Ubiquitous Computing, which is the label for a "third wave" of seamless computing technologies, the Internet Everywhere [1]. A tight bond subsists among WBL, web-based teaching and training based on didactic concepts and aims [2]. Therefore, learning media must always keep up with existing technological advances, so that user competencies can develop in a better direction [3]. Multitask working behavior exerts an impact on overall work performance particularly, on work quality, productivity, and working memory [4]. Following the experts in multitask working in a company, the software developers should optimize working flow of duties and tasks, to avoid empty cycles is document flows. Document circulation as non-paper process has become necessity in post-pandemic society. Certain strategies in order to optimize document flows and task assignment can be used to minimize the harmful aspects of continuous task switching and to maximize the returns to experience that multi-tasking can bring to an organization [5]. Online platforms designed to accomplish day to day department level task and provide information of the task to specified user are known in the literature. They are developed to automate the process of admin and user management and user task. That kind of systems provide a platform for users to communicate and execute various related tasks [6]. Appropriate research should be performed prior to developing a web based multi-task management system either for a company or for another use. There are numerous examples in the literature where this type of systems help university students also. Research and development of an automated task management system for task monitoring for university students can continuously monitor the student's task performance. It is clear that students prefer a computer application to constantly monitor tasks over the internet and that can ease the tasks of users [7]. In a process of multi-task management system design it has to be produced a precise scheme of roles of each participant according to clearly identified principles and adopted an all-inclusive investigation approach [8, 9, 10]. It is true that for some people, organization is a way of life, from private life planning meals and shopping lists several days in advance, to the purely working environment. The benefits of using a multi-task management software in an office context within the company can lead an organization to seen improved the ability of managers, professionals and stakeholders to use and make the most of their time which is by definition a limited resource and therefore precious for the achievement of business objectives [11].

3. Methodology

Methodology for developing a multi-tasking management system based on web technologies using PHP and MySQL involves understanding user requirements by conducting comprehensive analysis, including surveys and interviews to identify daily management needs. Subsequently, conceptualization and design encompass defining system architecture, user interface, and feature set, leveraging PHP for server-side scripting and MySQL for database management to ensure scalability and performance. Development and implementation entail coding functionalities such as task management, scheduling, collaboration features, and reporting capabilities in PHP, while utilizing MySQL for data storage and management. Rigorous testing and quality assurance procedures are undertaken to identify and rectify bugs, ensuring reliability and usability. Deployment and evaluation involve deploying the system for user feedback and continuous monitoring to assess performance and user satisfaction, with feedback incorporated into future iterations to enhance functionality and address emerging needs, ultimately aiming to alleviate daily management multi-tasks for individuals and organizations.

4. Management system development

The development of the platform, more precisely multi-task system management will improve and facilitate communication between different departments as a unique form of creation, management and storage of tasks. Below we first presented the use case diagram for our project, then we also illustrated the development of the system through figures and part of the code.

4.1. Use Case Diagram

In order to have clearer functions of the management platform and also to reflect all levels of access and their interconnections, we have presented them through the use case diagram. Below is also figure 1.

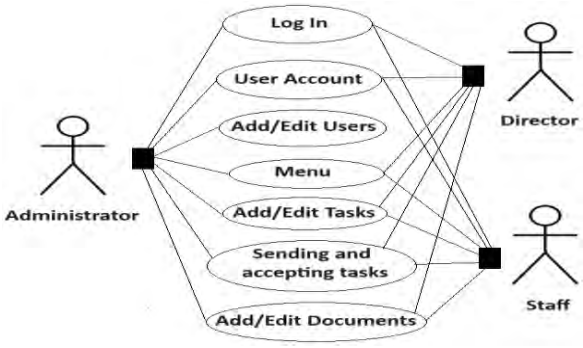

Figure 1. Use Case Diagram

4.2. Multi-task management system development

This management system was created with the help of web languages such as HTML, CSS, JavaScript and PHP. While in terms of the database, MySQL is used, as one of the databases which offers ease in structuring, storing and finding data. It is also quite suitable in creating different relations with web languages. Levels of access to our management system are: Administrator, Director, Staff.

Figure 2. Window for adding tasks

The "My Data" menu contains the data of one of the employees of the company's staff, where the employee can change his data from the Command.

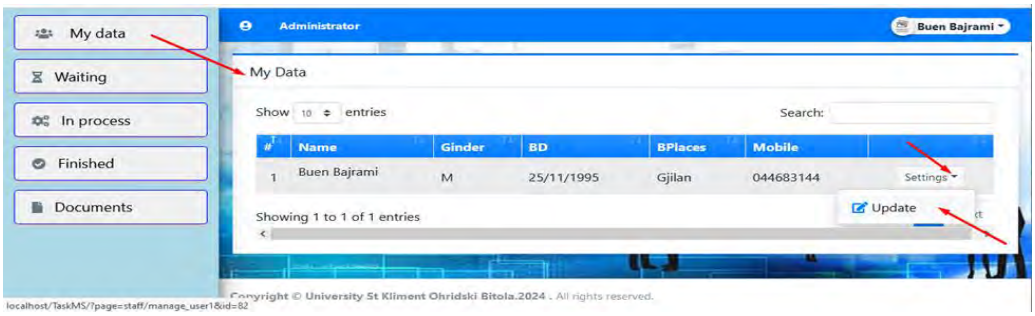

Figure 3. Menu - My data

The dialog opens where we change the data and press the button Save in order to edit user data.

We must be careful that in the field “Team nr” we note the number of the group it belongs to during the communication because the tasks can be sent to the whole group or individually to each one.

The menu “Waiting Task”, press 1 to display all the tasks that are waiting, and if we want to add a new task, press the button + Add Task.

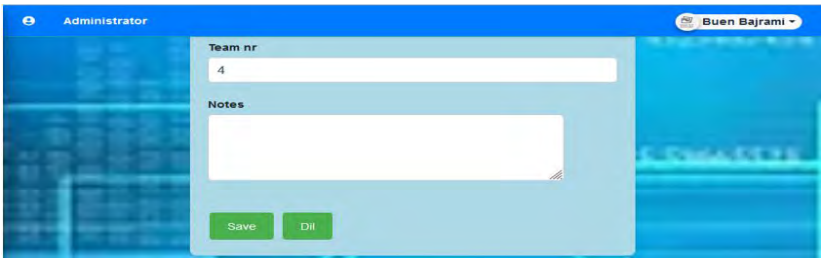

Figure 4. Group and task assignment

We check the table, here all the tasks you send to others, they send to you, and to any work team are displayed.

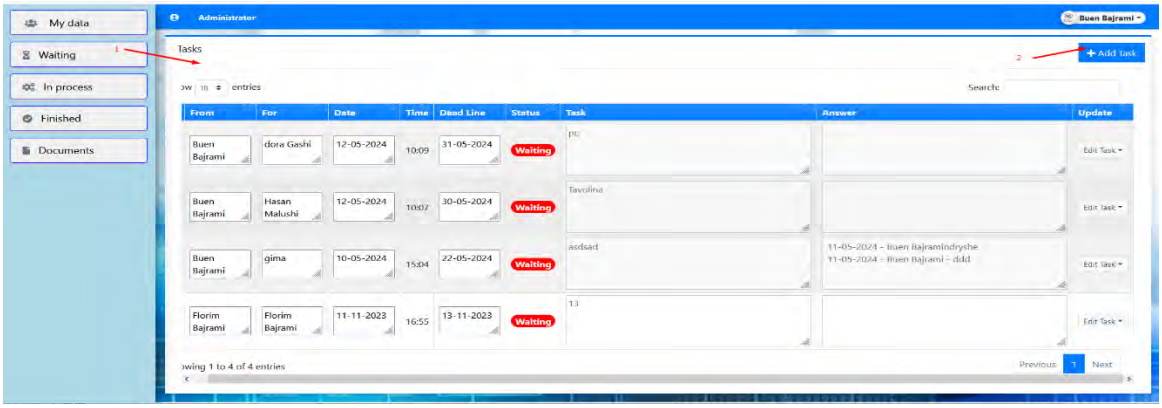

Figure 5. Waiting Menu

In the figure 6 we show the window of creating a new task to one person or more.

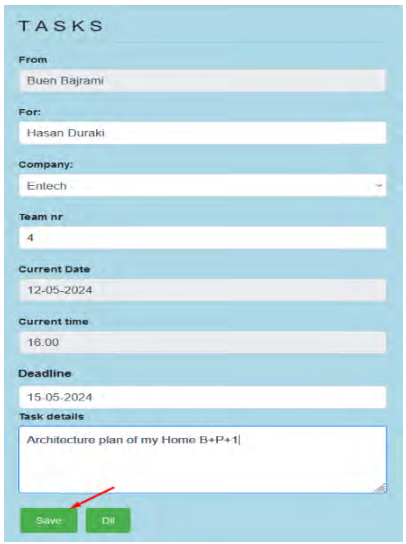

Figure 6. Window for adding tasks

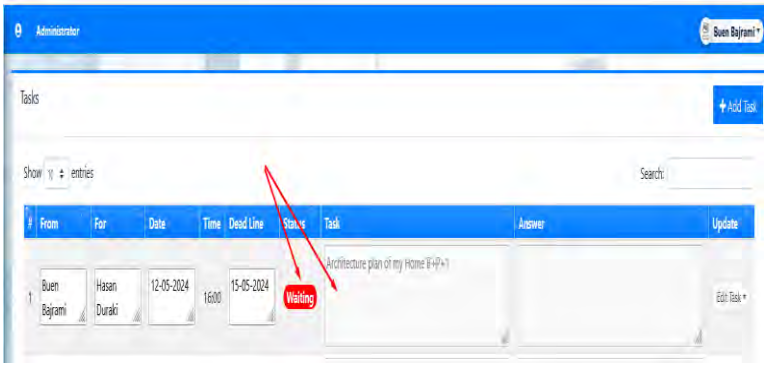

Figure 7. Tasks in the Waiting process

If you add a task done to this project press Edit Task->Update. Fill it in and press the Save button.

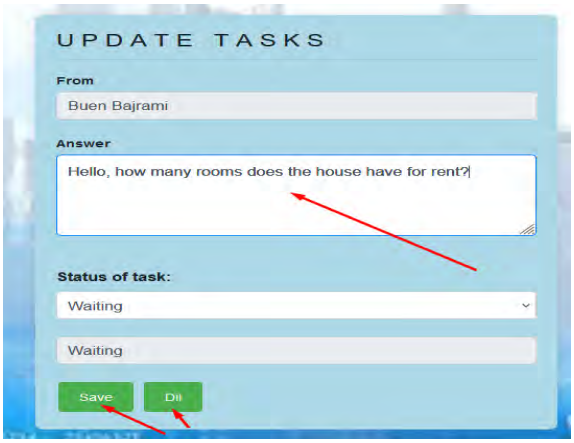

Figure 8. Window for editing tasks

Now we check the waiting table - Waiting.

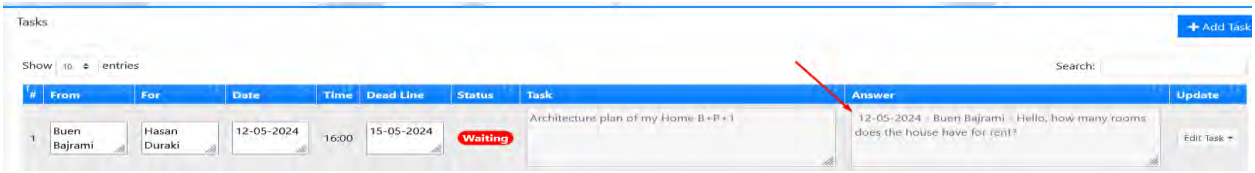

Figure 9. Editable Waiting tasks

If the project has entered the implementation process, we press the Edit Task-Update button.

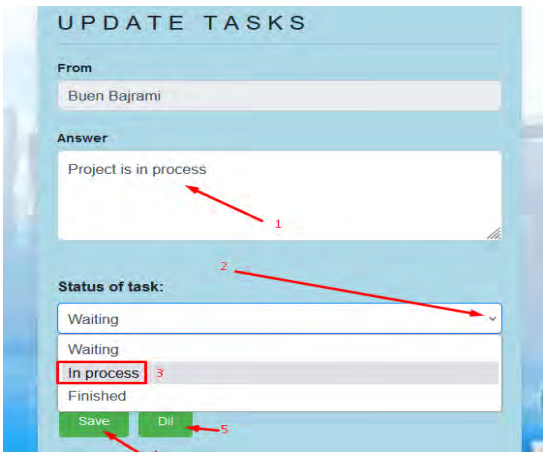

Figure 10.Window to change task status

The task disappear the Waiting list and moves to the list “In Process”. Our activities related to the repeated project. We press Edit Task-Update. After it is saved, we check the "In process" table, we can expand the field with the mouse to adjust the size to the text presented in the field.

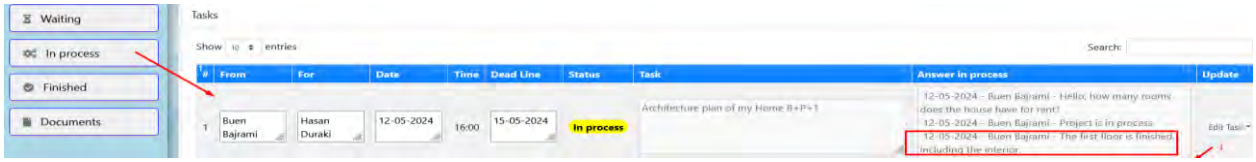

Figure 11. Table for tasks “In process”

When the task is finished, then the form must be filled at the Edit Task-Update window.

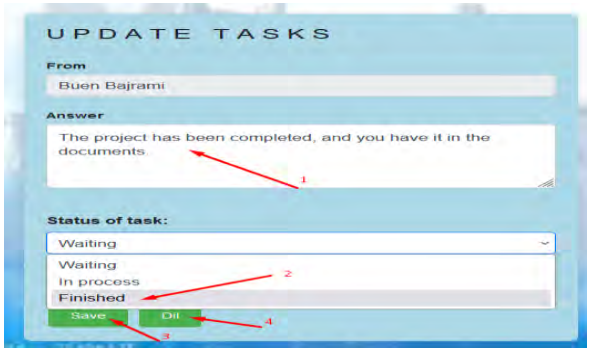

Figure 12.Finished status of the task

We check the “Finished” table.

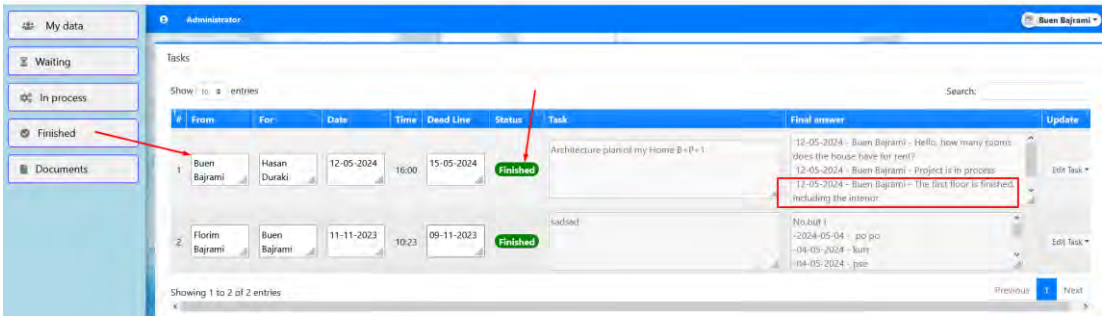

Figure 13. Table for tasks "Finished"

We can add the project to the documents menu in some formats like docx, pdf, jpg, jpeg, etc. But preferably is in pdf. Home page when we are logged in as a director is different.

We have all menus below: Home, Users, Waiting, In process, Finished, Documents. Here we have access from the directors and they have access to all the projects of the staff of the company that runs it, at the same time they can add or modify the data of their users-staff in the Users menu:

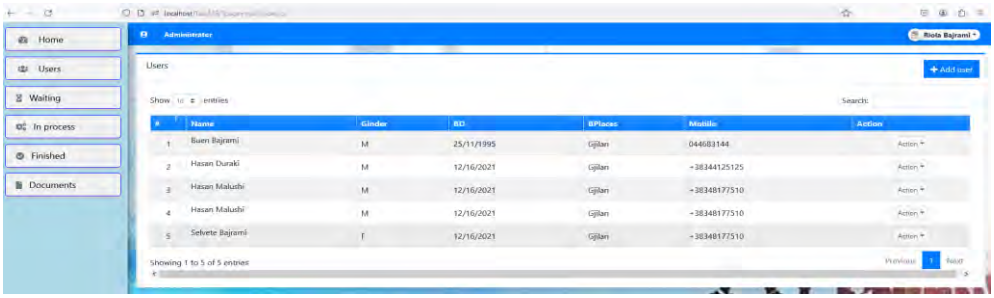

Figure 14. Users menu

To add a new user/staff press the button +Add user. In the end, we are logged in as administrator. We have also all menus below.

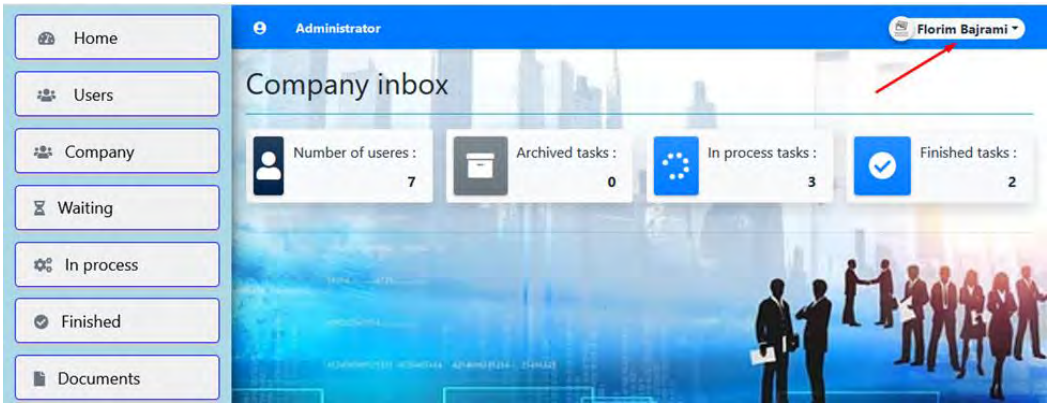

Figure 15. Home page as Administrator

We have all menus below: Home, Users, Company, Waiting, In process, Finished, Documents. Administrator access is to all data without restrictions, this administrator can register new administrators and directors of enterprises, as well as companies.

4.3. Database development

Our database is implemented in MySQL. As one of the most suitable databases to connect to a web service. Below we have presented the list of all the tables we have created for our project. In addition, we have presented the fields for all the tables. Database: taskms

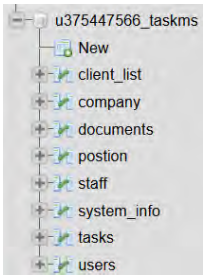

Figure 16. List of all tables in MySQL

Fields of the all tables:

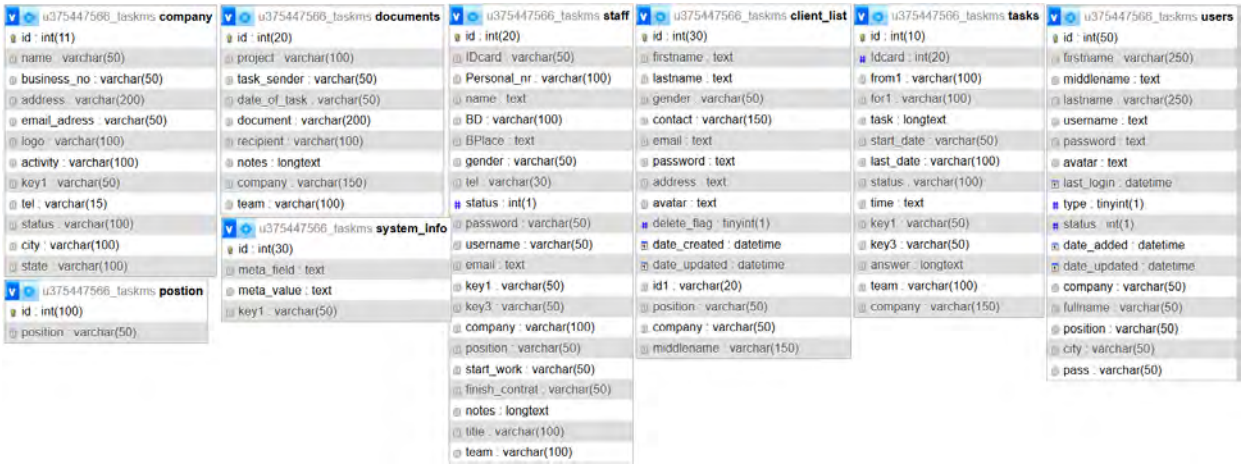

Figure 17. Fields for each table in MySQL

5. Discussion

The development of online task management platforms has a significant impact on the organization of work today. These platforms provide tools to plan, monitor and coordinate tasks efficiently. From a scientific point of view, their development requires the use of software engineering methods and techniques to improve performance and adapt to user needs. With an increasing number of companies using these platforms, the job market for software engineers is growing. This is always based on our research on the Internet, seeing that these digitized services are growing and also the requests to offer similar services are more and more. As for our platform, which has so far only passed our tests as developers. We estimate that its impact will be positive in the market of businesses that will be able to easily integrate into such a system.

6. Conclusion

In conclusion, this study presents the development of an innovative online service for multitasking system management, using web development languages such as HTML, CSS, JavaScript and PHP, with MySQL used for data management. The main objective was to create an efficient platform that increases productivity and optimizes the organization of daily tasks. Through an analysis of user requirements and system architecture, a real and practical solution was developed to meet the demands of modern multitasking management. MySQL integration ensures reliable and secure data storage, offering scalability and performance that matches the specific needs of our platform. The choice of MySQL was supported by its extensive applications and strong community support, which contribute to its continuous maintenance and improvement. The user interface is designed to be intuitive and user-friendly, enabling users to navigate the system and manage tasks efficiently. So far, the testing has been carried out only by the platform developers and from the results obtained, we can assess that it is a concrete, simple, stable and fast-to-use platform. This project represents a fundamental advance in multitasking system management, addressing current needs for organizations with a significant number of employees and laying the foundation for future developments. Our goal is to integrate new technologies and enable connectivity with additional tools to provide a more comprehensive user experience. This platform embodies our commitment to continuous improvement, ensuring it remains at the forefront of multitasking system management solutions.

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