

Topic: Automatic Permit Generation as an Attribute of Real-Time Data Management and Decision-Making.

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Abstract

In the era of digitalization, automatic decision-making by powerful systems has become a crucial aspect of modern management. Through the application of Robotic Process Automation (RPA), complex administrative processes can be streamlined and automated, enhancing efficiency and accuracy in decision-making. This paper addresses the importance of automatic permission generation and decision-making based on data stored in databases. One of the key applications of this system is the real-time monitoring of dates and locations, which is used to make critical administrative decisions in institutions such as universities, schools, and workplaces. The application presented in this study utilizes classes such as `uuid`, `smtplib`, `MIMEText`, `MIMEMultipart`, and `Flask` to create an integrated system that monitors and manages data. By using this application, advanced monitoring of locations and dates is achieved, contributing to improved transparency and decision-making in various contexts, including the case study of UMSH. This study also analyzes the impact of these automated processes in improving efficiency and preparing for future challenges in administrative management.

Keywords: Automatic permission generation, automatic decision-making, RPA, date monitoring, location management, UMSH, administrative processes

Introduction

In the digital age, organizations face numerous challenges in managing data accurately and efficiently, particularly in the context of real-time decision-making. Automatic permit generation is one of the key processes that contribute to improving operational efficiency and enhancing the quality of services. Technologies such as Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) have revolutionized the way data is managed and decisions are made, automating complex procedures and eliminating unnecessary human interventions.

Through automatic permit generation, organizations can optimize real-time decision-making by leveraging data analytics and automated processes. In this context, the focus of this paper is on analyzing the impact of these technologies and methods on improving data management and real-time decision-making.

Furthermore, the benefits of automating permit generation in various fields, such as human resource management, access control, and information resource administration, will be examined by analyzing how this process accelerates workflow and enhances accuracy in decision-making.

Additionally, this study will explore the latest technologies and platforms that enable this type of automation and provide an assessment of their role in transforming administrative processes at the Mediterranean University of Albania and similar institutions.

Literature Review

Brown (2023) examines the role of Intelligent Process Automation (IPA) and Robotic Process Automation (RPA) in real-time decision-making, positioning these technologies as key pillars of digital transformation in large organizations. The study focuses on analyzing case studies from various technology companies that use IPA and RPA to accelerate decision-making processes, particularly in the management of big data and the automation of daily processes, such as automatic permit and authorization generation.

Through a methodology based on empirical research and interviews with technology sector leaders, Brown argues that the use of RPA not only reduces decision-making time but also improves decision quality by eliminating human errors and enabling faster access to accurate data. The authors identify three main benefits of IPA and RPA: (1) improving the speed of data analysis, (2) automating internal processes, and (3) eliminating unnecessary bureaucracy. Furthermore, the study suggests that organizations using these technologies have a competitive advantage over those still relying on manual processes.

The challenges mentioned include the complexity of integrating IPA and RPA into existing systems, especially in sectors with outdated IT infrastructure, emphasizing the need for initial investments and staff training. The study's conclusions highlight the importance of combining IPA and RPA to improve real-time decision-making and support organizational growth in an increasingly digital world.

Chen and Xu (2023) address the issue of efficiency and accuracy in automatic permit generation, offering a comparative approach between the manual and automated processes in various organizations. The authors present a detailed analysis of the use of Robotic Process Automation (RPA) in automating administrative and rule-based procedures, such as authorizations and permits, by comparing data from organizations in different sectors.[1]

The methodology includes a study of large enterprises and educational institutions that have transitioned from a manual to an automated system for permit generation. Results show that organizations that implemented automation through RPA saw a 40% improvement in efficiency and a 30% improvement in the accuracy of generated data. One of the key benefits highlighted is the elimination of human errors, which are responsible for most issues in manual systems.

Chen and Xu also note some challenges, including the initial cost of implementation and the lack of technical expertise to maintain automated systems. The authors suggest that to overcome these challenges, organizations must invest in staff training and technological infrastructure. The study concludes with the recommendation that organizations aiming to improve performance and reduce operational costs should seriously consider integrating automated systems as a long-term strategy.[2]

Garcia and Lopez (2022) focus on the use of Robotic Process Automation (RPA) in large technology companies, particularly in the automation of permits and internal access for employees. In a world where technology organizations face numerous transactions and access requests, manual authorization management becomes increasingly challenging and complex. In this study, the authors explore how companies like Google and Microsoft have implemented automated systems to streamline and accelerate these processes.[3]

The study includes an in-depth analysis of internal IT structures and how RPA has improved permit generation processes for internal access to confidential data and operational systems. The authors report that the use of RPA has brought significant benefits, including reducing the approval time from several days to just a few minutes and improving control over data access.

Garcia and Lopez also address the challenges of implementing these systems in large organizations, including compliance with international privacy and security regulations. They suggest that RPA not only helps improve efficiency but also provides a higher level of data protection by using automated approaches for monitoring and generating permits.

In this study, Davis and Williams (2020) explore the role of Intelligent Process Automation (IPA) in real-time data management, focusing their research on organizations that use new technologies to enhance decision-making. The authors argue that IPA, compared to traditional data management systems, offers a higher level of automation, allowing organizations to make quick, data-driven decisions based on up-to-date information.[4]

Their methodology includes a detailed analysis of IPA applications in various sectors, including finance, healthcare, and education. The authors explain that one of IPA's main advantages is the ability to autonomously process and analyze data, reducing manual interventions and improving result quality. One of the most interesting cases studied by the authors involves a financial institution that uses IPA to monitor and manage risks in real-time, allowing them to make more accurate and timely decisions.

The authors conclude that using IPA in data management is essential for organizations aiming to remain competitive in an increasingly digital global market. Additionally, Davis and Williams suggest that IPA will continue to evolve and improve with the development of artificial intelligence and other advanced technologies.[6]

Johnson, Miller, and Cooper (2022) investigate the impact of Intelligent Process Automation (IPA) and Robotic Process Automation (RPA) in the workplace, highlighting the benefits of process automation in reducing administrative burdens and improving operational efficiency. The authors analyze a series of case studies from international companies that have implemented these technologies to automate repetitive and bureaucratic processes, such as permit requests and various internal authorizations.[7]

One of the key findings of this study is that companies using IPA and RPA have been able to save significant time in processing administrative requests and have improved service quality through consistent process automation. Moreover, using IPA has enabled real-time data analysis, giving organizations the ability to make informed and accurate decisions without human intervention.

The authors also discuss the challenges associated with the implementation of RPA and IPA, including staff resistance to technological changes and the initial cost of implementation. According to them, a successful strategy for implementing these technologies involves continuous employee training and ensuring an appropriate IT infrastructure for system integration. In conclusion, Johnson et al. argue that the combination of RPA and IPA will continue to be a key element in improving productivity and data management in modern organizations.

Jones and Thompson (2022) present a detailed analysis of the use of Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) in the higher education sector, with a particular focus on automating administrative processes in universities. They address the benefits of these technologies, mentioning how universities have managed to improve efficiency and reduce human errors in processes such as automatic statistics generation, permits, and the management of student and staff access to internal resources.[6]

In one of the case studies included in the study, a university in Europe used RPA to automate permit generation for staff and student access to digital libraries and research laboratories. This system resulted in a reduction in permit processing time from several days to a few hours and increased security in accessing sensitive resources.

The authors emphasize that one of the main challenges universities face is outdated technological infrastructure, which requires upgrades to integrate automated systems. Moreover, the challenges include staff resistance to technological changes, which may require a new technological culture and training programs. Jones and Thompson conclude by suggesting that universities embracing automation will benefit not only in terms of efficiency but also in improving the quality of services for students and staff.

Miller and his colleagues (2021) provide an in-depth analysis of automation in the public sector, focusing on a case study of automatic permit generation in universities. They explore how automating this process has brought significant benefits to administrative efficiency and access security for academic resources. The study includes data from a large public university where the permit system was transformed from a manual process to an automated system supported by Robotic Process Automation (RPA).[7]

The authors point out that automation has significantly improved permit processing time, greatly reducing the time needed for approval and authorization. This improvement has helped the university cope with the large influx of requests from students and staff for access to various resources such as laboratories, libraries, and digital services.

Furthermore, the study reveals that the use of RPA has improved data security by eliminating human errors that often occurred in the manual process.

Miller et al. also mention some challenges related to implementing the automated system, including infrastructure costs and the need for staff training. They suggest that universities and other public institutions should carefully plan the transition process toward automation, ensuring they have the necessary resources to support new technological systems.

In this paper, Qordja (2023) analyzes the use of Robotic Process Automation (RPA) in data generation using Optical Character Recognition (OCR) at the Mediterranean University of Albania. This study shows how the automation of data collection and analysis processes has significantly improved the performance and accuracy of information management systems within the university.[8]

The author explains that the use of OCR has allowed data from both physical and digital documents to be processed automatically, eliminating the need for manual information processing. By using RPA to automate the analysis and generation of statistics, the university has managed to significantly reduce the time needed to generate reports and improve the quality of the data used for decision-making.

This study also highlights the long-term benefits of using RPA and OCR to improve the efficiency of the university administration system, suggesting that these technologies should be further integrated into other data management systems within the university. Qordja concludes by recommending that further research be conducted to explore the possibilities of further developing RPA and OCR-based automated systems in the education sector.

Smith (2021) presents an analysis of the impact of Robotic Process Automation (RPA) on administrative tasks, exploring how automating these processes has helped improve efficiency and reduce operational costs in various organizations. The author focuses on the benefits of RPA implementation, emphasizing the reduction of time and human effort in repetitive processes, as well as the elimination of common errors that occur during manual data processing.[9]

The study includes a review of successful RPA implementation cases in various sectors, including education, healthcare, and public services. In all these sectors, Smith reports that automation has significantly improved the processing of administrative requests, such as authorizations and permits, reducing processing time by up to 50%. One of the main advantages highlighted is RPA's ability to operate with a high level of accuracy and speed, reducing the need for human intervention.

Despite the obvious benefits, the author also mentions some challenges that organizations must consider, such as the initial investments for system implementation and the need for staff training to work with new systems. In conclusion, Smith emphasizes that RPA

represents an important evolution in the automation of administrative tasks and will continue to play a significant role in the digital transformation of organizations.

Taylor and Anderson (2023) offer a forward-looking view of Intelligent Process Automation (IPA) and Robotic Process Automation (RPA), analyzing key trends that will shape data management in the next decade. The authors focus on the impact of new technologies, including Artificial Intelligence (AI) and Machine Learning, on improving the data automation and decision-making process.[10]

One of the key conclusions of the study is that IPA and RPA are evolving from systems that automate simple, repetitive processes to complex platforms capable of autonomously processing data and making strategic decisions in real-time. The authors suggest that organizations that incorporate IPA and RPA will benefit from significant improvements in efficiency and competitiveness, eliminating bureaucratic barriers and speeding up the decision-making cycle.

However, the challenges associated with implementing these technologies are related to ethical issues, including data privacy and cybersecurity. Taylor and Anderson conclude that to benefit from these new trends, organizations must invest in developing more secure and advanced technological infrastructures.

Walker (2024) explores the next phase of automation, focusing on AI-based permit generation and advanced automation systems. The author examines how AI is revolutionizing administrative and authorization processes by using big data and intelligent algorithms to analyze and approve permits in real-time.[11]

Through an analysis of systems already in use in large technology enterprises, Walker shows that AI-driven RPA has the ability to improve not only the speed of processing permit requests but also their accuracy and security. The study includes concrete cases from major companies like Amazon and IBM, which have implemented this technology to speed up authorization processes and increase transparency in managing access to their digital resources.

The authors suggest that as AI and RPA technologies continue to develop, these systems will become increasingly autonomous, completely eliminating the need for human intervention in authorization processes. However, security and privacy challenges remain a major concern, requiring new solutions for data protection and compliance with global regulations.

Clark and Smith (2020) examine the impact of automation on data security and access control management, with a particular focus on the challenges and benefits that Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) bring to sectors that require high data protection. They argue that while automation improves system

efficiency and reduces the risk of human errors, the implementation of these technologies may create new security vulnerabilities.[12]

In a study of cases from the finance and healthcare sectors, the authors show that the use of RPA has significantly increased control over access to sensitive data, enabling access authorization based on predefined and tailored rules for each user. One of the key findings of the study is that access automation has eliminated some of the errors that typically occurred in manual processing, improving overall security.

However, Clark and Smith warn that organizations must be cautious in implementing these technologies, ensuring that their systems are secured against cyber-attacks and unauthorized access. They suggest that organizations invest in advanced security solutions and implement strict controls to protect automated systems from potential breaches.

Garcia and Lopez (2022) focus on the use of Robotic Process Automation (RPA) in large technology companies, analyzing how these enterprises have adopted automated systems to accelerate employee access permits and IT management processes. Through a review of case studies from major companies like Google and Amazon, the authors show that the automation of access permits to data and systems has brought significant improvements in efficiency and security.[13]

One of the key points of the study is the identification of the great benefits of RPA in companies with complex IT infrastructure. Employee authorization processes for accessing internal systems have been fully automated, eliminating manual interventions and significantly reducing processing time. Garcia and Lopez emphasize that this process has greatly reduced the number of human errors and improved response speed to internal permit requests.

In addition to the benefits, the authors discuss some challenges related to the implementation of RPA in these companies, including adapting new platforms to existing systems and the need for staff training. They conclude that despite these challenges, technological advancements in permit automation have made these companies significantly more competitive, positioning them as leaders in operational efficiency.

Brown (2023) emphasizes the importance of Intelligent Process Automation (IPA) and Robotic Process Automation (RPA) for real-time decision-making. In his study, he examines how organizations use these technologies to improve internal decision-making processes, with a particular focus on the automation of real-time permits and authorizations.[14]

The authors argue that RPA and IPA can process data much more efficiently than traditional methods, allowing organizations to make informed decisions based on up-to-date data. Brown provides examples from various sectors where RPA has been used to manage authorizations and automatic permit generation. One of the main benefits

mentioned in the study is the reduction of manual interventions and the improvement of the accuracy and speed of data processing.

Although the advantages of these technologies are numerous, the author also mentions some challenges, including data security issues and difficulties in integrating IPA and RPA with existing information systems. In conclusion, Brown suggests that organizations that incorporate these technologies will benefit from a significant increase in productivity and efficiency.

Davis and Williams (2020) address the role of Intelligent Process Automation (IPA) in real-time data management, emphasizing that intelligent automation is an essential tool for processing large-scale data in contemporary organizations. This study examines cases of IPA use in a range of sectors, including healthcare, finance, and education, identifying the benefits and challenges of these technologies.[15]

The authors argue that one of the main advantages of IPA is its ability to analyze data in real-time, allowing organizations to make informed decisions much faster than traditional methods. Through a series of case studies, Davis and Williams show that IPA has significantly improved operational efficiency and has reduced many of the challenges associated with manual intervention and human errors.

Although the technology is promising, the authors emphasize that integrating IPA into existing systems can be complicated and requires a well-established infrastructure to support it. They suggest that organizations invest in developing staff's technical skills and improving IT infrastructure to fully benefit from IPA.

Smith (2021) examines the impact of Robotic Process Automation (RPA) on administrative tasks, noting the benefits it brings to organizations seeking to improve efficiency and reduce operational costs. Through a literature review and analysis of case studies from various organizations, Smith concludes that the use of RPA to automate simple and repetitive tasks has helped improve overall performance and alleviate the workload of administrative staff.[16]

The author notes that RPA has helped eliminate human errors by automating processes that previously required manual intervention, such as form processing and permit generation. This has allowed organizations to save time and improve the accuracy of processed data. However, the author also mentions the challenges associated with RPA implementation, including the initial cost and resistance to technological changes in some organizations.

Smith concludes that for organizations looking to improve administrative processes and remain competitive in the global market, RPA is a necessary solution and represents an important step toward the complete digitalization of operations.

Taylor and Anderson (2023) address future trends in data management through Intelligent Process Automation (IPA) and Robotic Process Automation (RPA). The study focuses on how new technologies like Machine Learning and Artificial Intelligence (AI) are improving the automation process and making organizations faster and more efficient in data processing.[17]

The authors present concrete cases of organizations that have adopted IPA and RPA technologies to manage large data flows and improve decision-making. One of the key findings is that organizations incorporating IPA and RPA have seen a significant improvement in data processing speed and have been able to eliminate many of the challenges associated with manual intervention and human errors.

In addition to technological benefits, the study also addresses the security and data protection challenges related to the implementation of these technologies, emphasizing that new mechanisms need to be developed to ensure security in an increasingly digital world. Taylor and Anderson conclude that organizations investing in IPA and RPA technologies will have a sustainable advantage in data management and decision-making.

The integration of Intelligent Process Automation (IPA) with Robotic Process Automation (RPA) offers a transformative approach for decision-making in the cryptocurrency sector, especially for buying and selling in the stock market. While RPA excels in automating repetitive tasks with speed and accuracy, IPA enhances this capability by incorporating artificial intelligence and machine learning, enabling more sophisticated and adaptive processes.

Key benefits include:

1. **Data Processing and Analysis:** IPA can process vast amounts of unstructured data (e.g., market news, social media sentiment) alongside structured data, offering real-time insights and predictive analytics.
2. **Automated Decision-Making:** By combining RPA's efficiency with IPA's cognitive abilities, cryptocurrency firms can automate complex decisions based on historical and current market trends, reducing human intervention.
3. **Risk Mitigation:** IPA aids in identifying market anomalies and potential risks by analyzing patterns that traditional RPA might overlook.
4. **Scalability and Adaptability:** IPA-driven systems learn and improve over time, adapting to volatile cryptocurrency markets more effectively than static RPA systems.
5. **Cost Efficiency:** Automation reduces operational costs while minimizing errors, enhancing overall profitability for crypto traders and investors.

The synergy of IPA and RPA creates a robust framework for navigating the complexities of the cryptocurrency market, enabling data-driven, timely, and strategic trading decisions. [18]

implementation of Robotic Process Automation (RPA) in conjunction with Optical Character Recognition (OCR) technologies for data generation and management at the Mediterranean University of Albania. The study highlights the efficiency and accuracy improvements achieved in academic settings, particularly in the context of digitizing large quantities of library data.

Key Insights:

1. Problem Addressed:

Manual data extraction from library resources, such as book covers and metadata, is time-consuming and prone to errors. Traditional approaches required significant human intervention and time.

2. Solution Proposed:

RPA combined with OCR platforms was utilized to automate the process of digitizing book data. This approach drastically reduced processing times and eliminated manual errors.

3. Results and Impact:

- Time Efficiency: Manual data entry for 19,000 books averaged 10 minutes per entry, while the automated system completed the same task in 20 seconds per entry.
- Accuracy: The automation ensured error-free data extraction compared to the inconsistent quality of manual processes.
- Scalability: The system demonstrated high adaptability for future use cases, such as managing student records and other academic processes.

4. Applications in Higher Education:

The methodology can be extended to other administrative tasks, like student performance evaluations and resource management, improving the digital transformation of academic institutions. [19]

The Case of the Mediterranean University of Albania

The attendance management system **E-Prezenca**, used at the Mediterranean University of Albania (UMSH), is an electronic platform that allows real-time registration and monitoring of the presence of faculty and academic staff. This system is integrated into the university's digital infrastructure and provides advanced functionalities for managing attendance and absences, significantly enhancing transparency and administrative efficiency.

Key features of the system include

1. **Electronic Check-in and Check-out:** Faculty and academic staff can register their entry and exit times through a simple, user-friendly interface, as demonstrated in previous examples.
2. **Real-time Monitoring:** Administrators can view real-time data through a dedicated dashboard, where they can filter and analyze staff attendance by month, dates, or registered location.
3. **Reports and Alerts:** The system can generate detailed reports on faculty presence and send alerts if a faculty member stays less than the minimum required time (e.g., less than 3 hours and 30 minutes)
4. **Absences and Duration of Stay:** The administrator can track faculty members who are absent or have stayed for a short period, thus facilitating the process of absence control and management.

This system is designed to improve the accuracy and speed of attendance management, making it easier for the administration to handle data and effectively track attendance.

****E-Prezenca**** represents an important example of how technology is being utilized in the education sector to enhance administrative processes at UMSH.

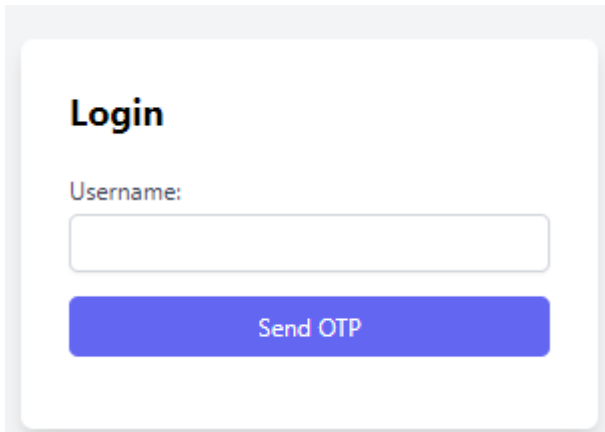


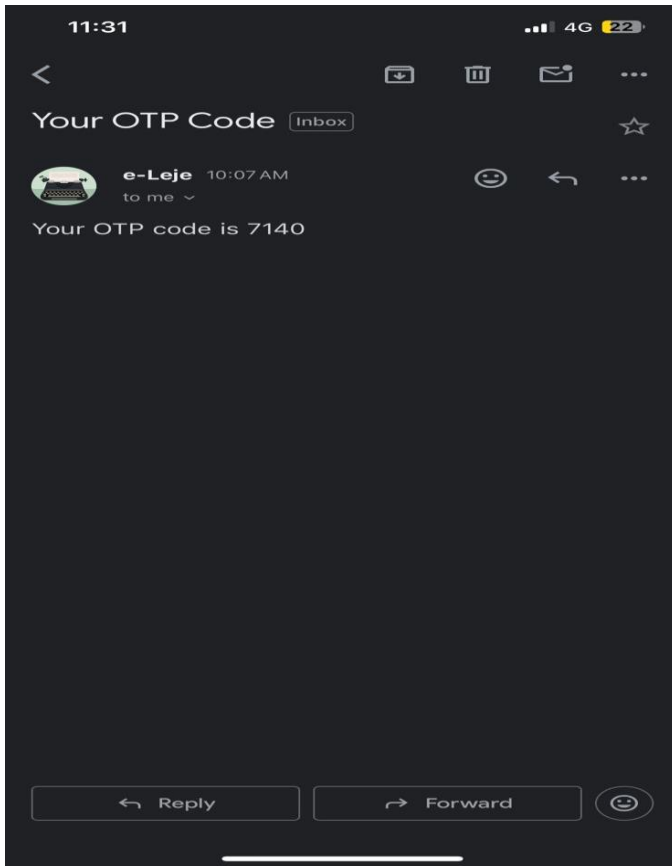
FIGURE 1. NDERFAQJAE LOGIMIT

In this image, a login screen for OTP (One-Time Password) verification is displayed. The OTP field is filled with the text "gerild.qordja." Below it is a blue button labeled "Verify OTP." This is a simple verification screen where the user must enter the OTP sent to them to proceed further in the system. The application in use is on an HP computer, and the open browsers include Chrome and Edge.

The OTP verification process is a security measure used to authenticate a user's identity during login or when performing a sensitive transaction. The OTP is an automatically generated password valid for a single use and only for a limited time. Here's how this process works:

1. **OTP Request:** When a user attempts to log into a system, register, or perform a sensitive action, the system requires them to input an OTP to ensure their identity.
2. **OTP Generation:** The system generates a one-time code, typically consisting of several digits or letters. This code can be generated by a server, an application, or a dedicated device (such as an authentication app or SMS).
3. **OTP Delivery:** The OTP is sent to the user through a secure channel, such as via SMS, email, or an authentication app.
4. **Entering the OTP:** The user receives the OTP and enters it in the appropriate field on the login or verification screen, as shown in the image.
5. **OTP Verification:** The system checks if the entered OTP is correct and valid within the set time limit. If the OTP is correct, the user is allowed to proceed.
6. **OTP Expiration:** If the user fails to enter the OTP within the specified time frame, it expires, and the user must request a new OTP.

The OTP process enhances security by ensuring that even if the primary password is compromised, an unauthorized person cannot access the system without having the OTP sent to the user's personal device or email.



This image displays an email message from the e-Leje system, containing an OTP (One-Time Password) code. The subject of the message is "Your OTP Code," and the content of the email reads: "Your OTP code is 7140." This OTP is a temporary password used to verify the user's identity during the login process or to perform certain security actions.

In this case, the OTP code has been successfully sent, and the user can use it to proceed with the relevant action within a specified time frame.

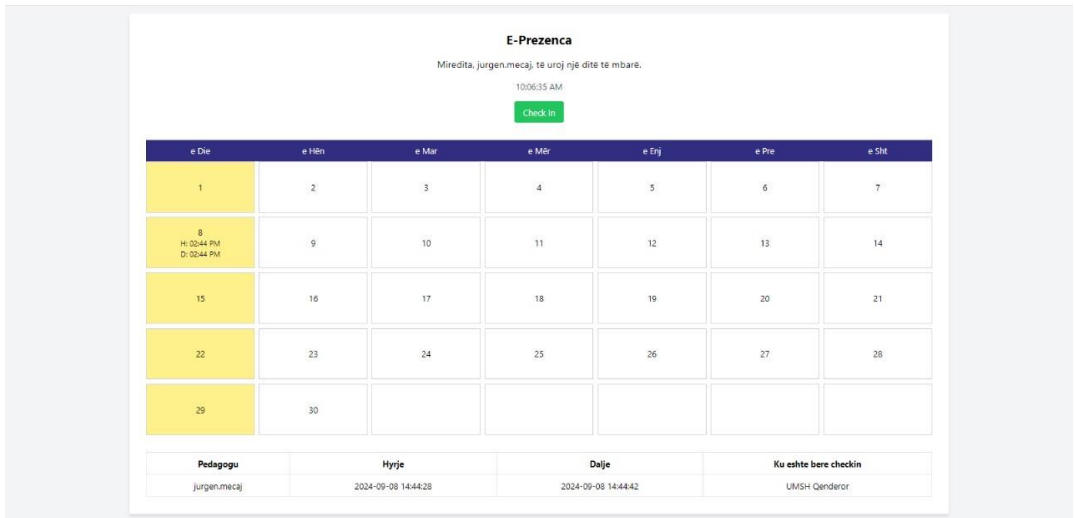


FIGURE 2. NDERFAQJA E PEDAGOGUT

This image depicts a system called **E-Prezenca**, where users can record their attendance using a calendar. At the top of the page, the user is greeted with a message wishing them a good day, and there is a green button for "Check in." The calendar shows the days of the month, with the dates on which the user has checked in highlighted in yellow. On **September 8**, the entry is marked with the check-in time (H: 02:44 PM) and check-out time (D: 02:44 PM).

Below the calendar, there is a table displaying the details of the lecturer, in this case, **jurgen.mecaj**, along with the check-in and check-out times for September 8, 2024, and the location of the check-in, which is recorded as **UMSH Qendror**.

The system appears simple and user-friendly, allowing each user to electronically register their attendance by checking in and out, with the data stored in the calendar for an easy summary of attendances.

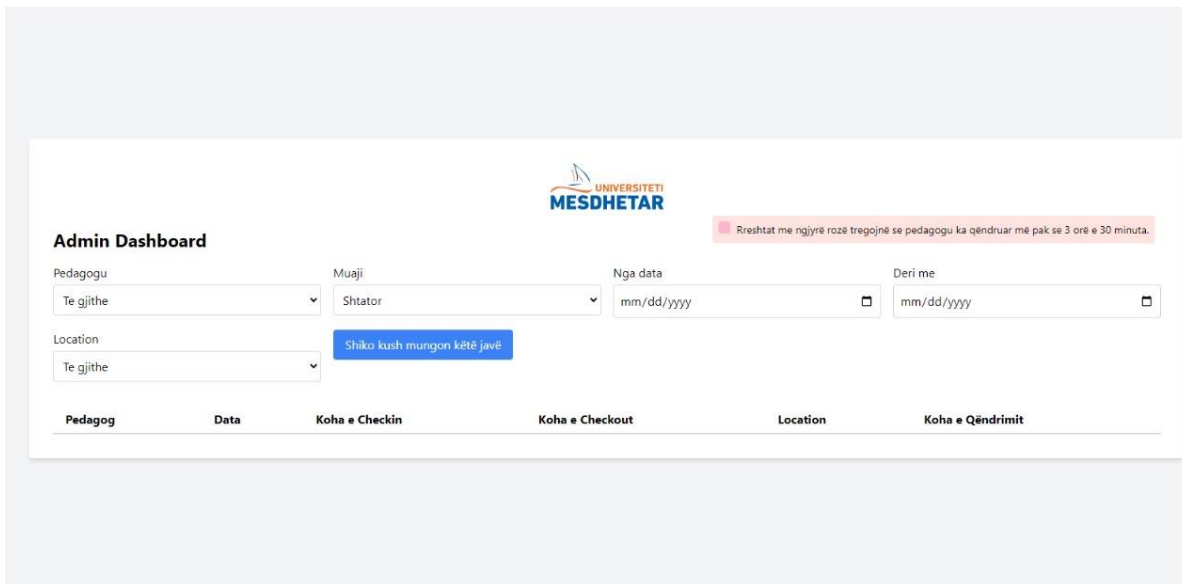


FIGURE 3. NDERFAQJA E ADMINISTRATORIT

This image displays an **Admin Dashboard** interface connected to the attendance system at the **Mediterranean University of Albania**. The interface allows the administrator to monitor faculty attendance and generate reports based on various criteria. The selection options include:

1. **Lecturer** – the administrator can choose a specific lecturer or view data for all lecturers.
2. **Month** – allows the selection of a specific month for the report (in this case, September is selected).
3. **Location** – filters attendance based on the location of the check-in.
4. **From Date and To Date** – specifies the time period for the data to be displayed.

There is a button labeled **"Shiko kush mungon këtë javë"** (View who is absent this week), which shows which lecturers have been absent during the current week.

Above the table, there is a pink warning message explaining that **"Rows highlighted in pink indicate the lecturer stayed for less than 3 hours and 30 minutes,"** providing a visual summary of lecturers' stay durations at the university.

At the bottom of the table, columns display the following details: **Lecturer, Date, Check-in Time, Check-out Time, Location, and Duration of Stay**, offering a comprehensive overview of each lecturer's presence during the selected period.

Recommendations:

1. **Expansion of RPA and IPA Use:** Organizations should invest in the broader implementation of Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) technologies to improve the efficiency of administrative processes, reducing manual interventions and human errors.
2. **Staff Training:** It is crucial for organizations to train their staff in the use of automated systems and ensure they possess the necessary skills to maintain and manage the automated infrastructure.
3. **Investment in Infrastructure:** To fully benefit from the advantages of these technologies, investments in technological infrastructure are required, particularly in organizations with outdated IT systems that need new integrations.
4. **Compliance with Privacy and Security Regulations:** Organizations must develop stronger security controls to protect data and ensure compliance with international data security and privacy regulations.
5. **Monitoring and Evaluation of Systems:** The use of RPA and IPA should be regularly monitored to assess performance and identify further opportunities for improvement in efficiency and accuracy.

Conclusions:

1. **Efficiency and Accuracy:** The implementation of RPA and IPA has shown significant improvements in operational efficiency and the accuracy of real-time data processing. These technologies greatly reduce the time and effort required for processing permits and authorizations.
2. **Improved Decision-Making:** By using advanced technologies for the automatic generation of permits and access management, organizations can make faster and more informed decisions, eliminating unnecessary bureaucracy and human errors.
3. **Challenges in Implementation:** The primary challenges identified include initial implementation costs and a lack of technical expertise to integrate and maintain these systems. However, the long-term benefits outweigh the challenges, providing a competitive advantage for organizations that adopt these technologies.
4. **Data Security:** While automated systems offer efficiency improvements, they also introduce new challenges in data security. This highlights the need for strict security measures and compliance with global regulations.
5. **Evolution of Automation Technologies:** The increasing use of AI and Machine Learning in these processes has the potential to fully transform permit automation and decision-making, making these systems more independent and capable of improving the quality and speed of real-time decisions.

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