

A Web-Based Advanced Law Firm Tracking System Application For Lawyers

Emre AVUÇLU^{a1}, Selin YALÇIN^a

^a Aksaray University, Aksaray, Turkey

ORCID ID: 0000-0002-1622-9059, ORCID ID: 0009-0008-7246-2040

^aDepartment of Software Engineering, Faculty of Engineering, Aksaray University, Aksaray, Turkey

Abstract

Law office tracking system is a digital solution used in today's legal practice to ensure that work is carried out efficiently and regularly. With the rapid development of technology, law offices also save time and resources by moving their transactions to digital platforms. These systems offer many functions such as case tracking, client management, document archiving, calendar and appointment management, alleviating the workload of lawyers and allowing them to work more strategically. Modern law firms can manage client relationships more effectively by using these systems. They make litigation processes more transparent and traceable and minimize the error rate. Especially in large-scale offices, it has become almost impossible to carry out critical functions such as file tracking and process management using manual methods. For this reason, digital tracking systems both increase the competitiveness of offices and increase the quality of legal services. In this study developed in web-based PHP language, an application that provides solutions to all these problems has been developed and this application is explained in detail.

Keywords: “Office Tracking System, Lawyer, File Tracking.”

1. Introduction

In today's world, where information technologies have become an indispensable part, it has become mandatory to benefit from such technologies in all kinds of business and operational processes. It is essential for the state to save both time and expense while providing public services. Information technologies have begun to be widely used in the public sphere so that citizens can access the government online whenever they want [1]. Online tracking systems are necessary for the state to fulfill its duties towards citizens in an electronic environment quickly, securely and transparently [2]. Undoubtedly, one of the most important pillars of such online projects is the e-justice project. With the e-justice project, it is aimed to create an information network that will cover all judicial bodies throughout Türkiye [3]. In online tracking systems, citizens will be able to access public services electronically, thus the speed of public activities will be increased [4]. Similarly, information exchange between public institutions will be possible electronically, and as a result, the auditability of public institutions will be facilitated [5]. Digital applications are gaining importance for companies to interact with their customers on different issues such as informing, creating awareness and persuading [6]. The growth and development in digital devices continues rapidly. It is estimated that the number of people using tablets will reach 1.43 billion and the number of people using smartphones will reach 2 billion in 2018 [7]. The number of objects connected to the Internet is expected to reach 25 billion by 2020 [8]. In transactions made on the Internet, the most needed issue is security. To address these problems, digital signatures have been developed worldwide [9]. In order to solve such problems, a transition was made from the classical state approach to the electronic state approach [10]. It follows digital developments in different sectors. Similarly, insurance companies respond to customer expectations by developing digital solutions. Most insurance customers do research online before going to agents or brokers. For this reason, there is a need for applications where digitalizing companies can find solutions for their customers. In order to find solutions to similar problems, these customers follow comments on social media sites and use blog posts as a guide [7]. Digital transactions cover many different services. These services are informational services, accounting, brokerage and support services [11]. Digital applications create more efficient processes by making customer experiences interactive. It enables the formation of customers' behaviors and attitudes in the areas of customer satisfaction, customer retention, customer loyalty and customer purchasing [12]. Different web-based studies were conducted in different areas [13-14]. Different management studies were carried out in different areas [15-16]. For this reason, digital applications are of great importance for companies in every field. In this study, a web-based application that provides solutions to such problems was developed for law offices.

Not using law firm tracking systems can lead to a number of operational and administrative problems:

¹Corresponding Author

E-mail Address: emreavuclu@aksaray.edu.tr

Loss of Time: Searching and finding documents manually can lead to loss of time in following up the litigation processes. This causes lawyers to spend less time with clients.

Errors: Manual recording and document management increases the likelihood of errors occurring. For example, incorrectly recording a hearing date can have serious consequences.

Decrease in Productivity: Not taking advantage of the automation opportunities offered by technology reduces the efficiency of business processes and increases the workload of employees.

Client Satisfaction: Failure to manage litigation processes effectively may lead to client dissatisfaction. Clients want to receive regular and accurate information about the status of their cases.

Law firms are professional organizations with complex and intensive business processes. Managing these processes efficiently is critical for both client satisfaction and reducing the workload of office employees. The opportunities offered by today's technology make it possible to manage these processes through digital platforms. This study aims to examine how a law office tracking system developed with PHP can increase the operational efficiency of law offices and to eliminate the problems that may be encountered if such systems are not used.

2. Material and Methods

PHP is a programming language widely used to develop web-based applications. The law office tracking system developed with PHP aims to facilitate litigation processes, customer relations and document management.

The main features of the web-based application developed in this study are:

Case Management: Storing and managing case files, hearing dates and case-related documents in digital environment.

Customer Relationship Management: Keeping client information and contact records in a central database.

Document Management: Digital archiving of all documents used by the law firm and quick access when necessary.

Law office tracking systems developed with PHP allow lawyers to manage their business processes more efficiently and error-free. If such systems are not used, time losses, errors and efficiency problems may negatively affect the overall performance of law firms.

In order to eliminate such problems, the interfaces of the dynamically developed web-based legal tracking system are introduced and explained respectively. The general interface of the application is shown in Figure 1.

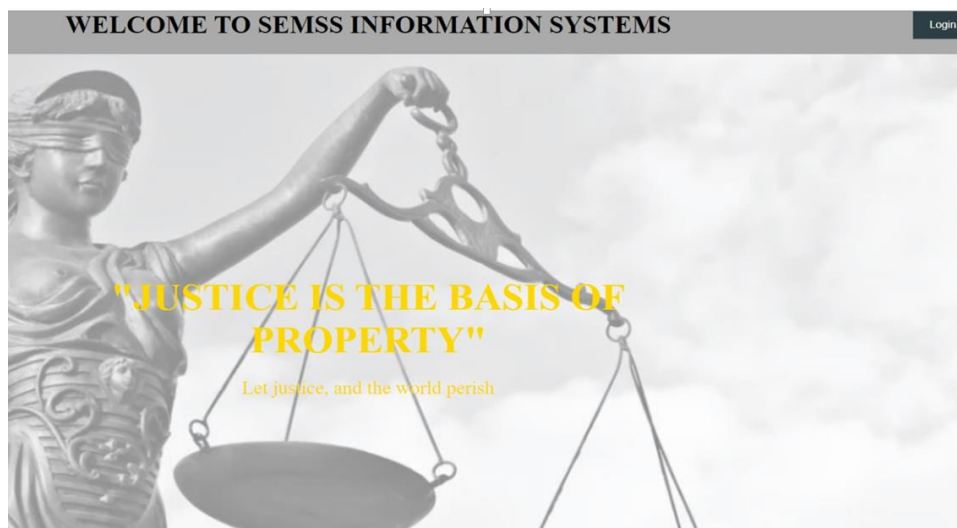


Figure 1. General interface view

Users who purchase this application can access their information and files by correctly entering the username and password given by the seller with the login button. Username, Password and TR number are registered in the database. If the information entered is incorrect, you will be redirected to the login screen. Figure 2 shows the Login Screen of the application.

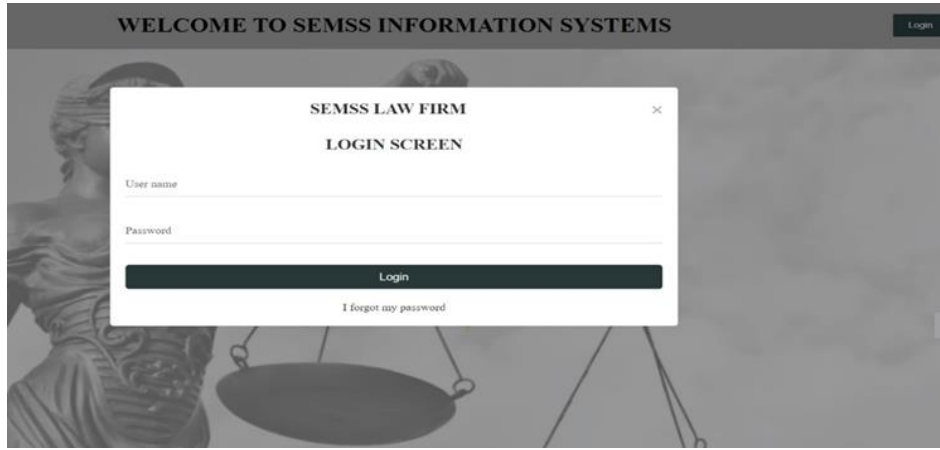


Figure 2. Login Screen

If the information entered is correct, the information panel opens. First, the page displaying the user's personal information opens. This information is based on the TR Number information kept in the database. Figure 3 shows the page displaying the ID and Address information of the application.

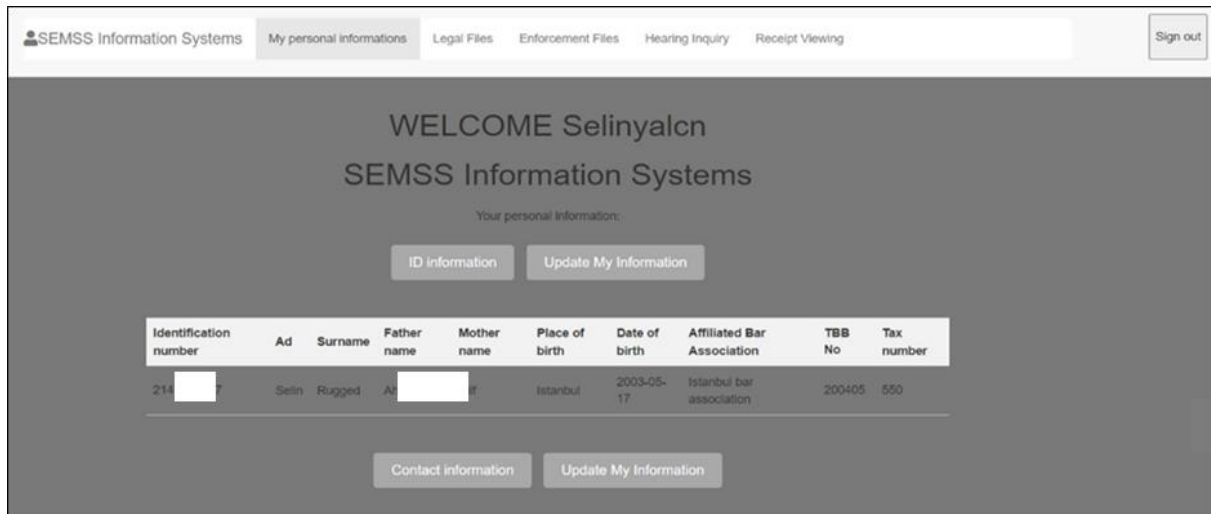


Figure 3. Identity and Address Information

Identity information, as well as the bar association to which the lawyer is affiliated, TBB Number and Tax Number information are also kept. Adding this information is so that the lawyer can update his information in case of any bar association changes. Figure 4 shows the page that updates the application's ID information.

Update My Information

Ad	S i
Surname	Y in
Father name	A et
Mother name	E
Place of birth	İs tbul
Date of birth	2003-05-17
Affiliated Bar Association	İstanbul barosu
TBB No	200405
Tax number	550
<input type="button" value="Save"/>	

Figure 4. Updating Credentials

Contact information can also be viewed and updated. The user can see his/her information when renewing any phone address or e-mail, and this information is kept in the database according to the TR Number information. Figure 5 shows the page displaying the Contact Information of the application.

WELCOME Selinyalcı

SEMSS Information Systems

Your personal information:

My Contact Information

Address	Email	Telephone No
Şahin Mahallesi 133 sk. No:45 İstanbul	selin.yalcin00@gmail.com	5346245102

Figure 5. Viewing Contact Information

Figure 6 shows the page that updates the Contact Information of the application.

Contact information Update My Information

Update My Contact Information

Address

Email

Telephone No

Figure 6. Updating Contact Information

The user can view all the Legal files he/she has received. All information about legal files such as plaintiff, defendant, case date, case subject, court, file status can be viewed and updated. Figure 7 shows the page displaying the legal files of the application.

LEGAL FILES								
ID	Plaintiff	Defendant	Case History	Subject of the Case	Court	This no	File Status	Transactions
1	Game Sun Alökmen	Nu...	2024-08-08	Divorce (Divorce due to the foundation of the marital union is shaken (Conte...))	Istar... 5th Fam Court	2022676	Hearin... date has been given, preliminary examination hearing will be held	<input type="button" value="Update"/>
2	Meral Gökdağ	Tu... Ahmet (...sya)	2024-08-09	Deed C... ellation and Registr... n Case	Istar... 2nd Fam Court	2022675	A decis... on of non-jurisdiction was m... e. It was decided to lift the seasure on the real estate.	<input type="button" value="Update"/>
3	Zeynel Demir	Ec...	2024-07-05	Divorce... attering the founda... s of the marriage union (...ensual))	Istar... 6th Fam Court	2022711	Case V... alved	<input type="button" value="Update"/>
4	Mungan's weight	Ze...	2024-07-20	Unfair c... upation Compet... tion (Ecrimisil)	Istar... 11th Civil court of First... stance	2022255	Trial Continues	<input type="button" value="Update"/>
5	Eren Erdoğan	Gö... amüller Food Transportation Construction Advertising Printing House Organization Marketing Industry and Trade Limited Company	2024-06-30	Workers' Receivables			Warning letter sent	<input type="button" value="Update"/>

Figure 7. Viewing Legal Files

The purpose of updating the file may be to move the file to a later date, to renew the status of the file, or to involve third parties in the case. In such cases, the file update process is performed. Figure 8 shows the page that updates the legal files of the application.

LEGAL FILES																								
ID	Plaintiff	Defendant	Case History	Subject of the Case	Court	This no	File Status	Transactions																
1	Game Sun Alökmen	Nurullah Demir	2024-08-08	Divorce (Divorce due to the foundation of the marital union being shaken (Contested))	Istanbul 5th Family Court	2022676	Hearing date has been given, preliminary examination hearing will be held	<input type="button" value="Update"/>																
<table border="1"> <tr> <td>Plaintiff</td> <td><input type="text" value="Pe u Alökmen"/></td> </tr> <tr> <td>Defendant</td> <td><input type="text" value="Nu h Demir"/></td> </tr> <tr> <td>Case History</td> <td><input type="text" value="20: 8-08"/></td> </tr> <tr> <td>Subject of the Case</td> <td><input type="text" value="Bo na(Evlilik birliğinin ter"/></td> </tr> <tr> <td>Court</td> <td><input type="text" value="İsta il 5. Aile Mahkemesi"/></td> </tr> <tr> <td>This no</td> <td><input type="text" value="20: '6"/></td> </tr> <tr> <td>File Status</td> <td><input type="text" value="Du , na tarihi verildi ön ino"/></td> </tr> <tr> <td colspan="2"><input type="button" value="Update"/></td> </tr> </table>									Plaintiff	<input type="text" value="Pe u Alökmen"/>	Defendant	<input type="text" value="Nu h Demir"/>	Case History	<input type="text" value="20: 8-08"/>	Subject of the Case	<input type="text" value="Bo na(Evlilik birliğinin ter"/>	Court	<input type="text" value="İsta il 5. Aile Mahkemesi"/>	This no	<input type="text" value="20: '6"/>	File Status	<input type="text" value="Du , na tarihi verildi ön ino"/>	<input type="button" value="Update"/>	
Plaintiff	<input type="text" value="Pe u Alökmen"/>																							
Defendant	<input type="text" value="Nu h Demir"/>																							
Case History	<input type="text" value="20: 8-08"/>																							
Subject of the Case	<input type="text" value="Bo na(Evlilik birliğinin ter"/>																							
Court	<input type="text" value="İsta il 5. Aile Mahkemesi"/>																							
This no	<input type="text" value="20: '6"/>																							
File Status	<input type="text" value="Du , na tarihi verildi ön ino"/>																							
<input type="button" value="Update"/>																								

Figure 8. Updating Legal Files

When users receive a new case, they can enter the necessary information with the add button and refresh the file. Figure 9 shows the page that adds the application to the legal files.

Plaintiff	<input type="text"/>
Defendant	<input type="text"/>
Case History	<input type="text"/>
Subject of the Case	<input type="text"/>
Court	<input type="text"/>
This no	<input type="text"/>
File Status	<input type="text"/>
<input type="button" value="Add"/>	
<input type="button" value="Add"/>	

Figure 9. Addition to Legal Files

Users can view Enforcement files, the follow-up date is the opening date of the file, and from here they can check the dates, file status and follow-up amount. Figure 10 shows the page that displays the enforcement files of the application.

Enforcement Files									
ID	Payee	Debtor	Tracking Date	Executive Office	This no	Tracking Amount	Subject of Pursuit	File Status	Transactions
1	European Bank Joint Stock Company	Mustafa Öztür, Ramazan Öztür (3rd Party Son: Akif Öz)	2019-01-14	Istanbul Enforcement Office	2022155	96.000,520 TL	Credit Debt and taboo cancellation	A request was made on behalf of the 3rd Party and it was requested that the lien on the real estate belonging to the 3rd Party be removed as of the first article 106 and article 110.	Update
2	Sevda Ates	Eretilmez	2022-12-27	Istanbul Enforcement Office	2022127210	7.843 TL	Past period alimony receivable	Notification was issued and prepared	Update
3	Yasurun	Bertalan	2023-08-10	Istanbul Enforcement Office	2020127	190.500 TL	Lien	Seizures Will Be Placed	Update
4	Peşin	Filiz	2023-09-28	Istanbul Enforcement Office	2023125251	9.500 TL	Attorney's Fee Receivable	Accepted for Seizure No goods	Update

[Add](#)

Figure 10. Viewing Enforcement Files

It can also perform the update process. The purpose of this is to ensure that the user can update the status of the file in case of any change in the file status. Figure 11 shows the page that updates the enforcement files of the application.

ID	Payee	Debtor	Tracking Date	Executive Office	This no	Tracking Amount	Subject of Pursuit	File Status	Transactions
1	European Bank Joint Stock Company	Mustafa Öztür, Ramazan Öztür (3rd Party Son: Akif Öz)	2019-01-14	Istanbul Enforcement Office	2022155	96.000,520 TL	Credit Debt and taboo cancellation	A request was made on behalf of the 3rd Party and it was requested that the lien on the real estate belonging to the 3rd Party be removed as of the first article 106 and article 110.	Update

Payee	<input type="text" value="A Bank Anonim Şirketi"/>
Debtor	<input type="text" value="M Öztür, Ramazan Öz"/>
Tracking Date	<input type="text" value="2 1-14"/>
Executive Office	<input type="text" value="İs İcra Dairesi"/>
This no	<input type="text" value="2 5"/>
Tracking Amount	<input type="text" value="9 520 TL"/>
Subject of Pursuit	<input type="text" value="K borcu ve tabu iptali"/>
File Status	<input type="text" value="3. ... adına talepte bulun"/>

[Update](#)

Figure 11. Update to Enforcement Files

Additionally, when users click on the add button when a new enforcement file is opened, they can fill out the form and update the file. Figure 12 shows the page that adds the enforcement files of the application.

Figure 12. Addition to Enforcement Files

The importance of the hearing questioning module developed in this application;

For law firms, effectively managing hearing dates and details is critical to the successful conclusion of cases. In the law firm tracking system we developed, the hearing inquiry module is one of the most important components. This module allows lawyers and law firm staff to easily track hearing dates, times and locations. Additionally, reminders and notifications about hearing dates ensure that no hearing is missed. The hearing inquiry module greatly facilitates the business processes of law firms with its user-friendly interface and quick access facilities. Thanks to this module, time losses are minimized and possible errors are prevented because hearing dates and relevant documents are collected on a single platform. The user is asked to select a specific date range and the hearings that will take place within this date range are displayed on the screen. Date information is displayed on the screen by taking it from the date recorded in the legal files.

Figure 13 shows the page that performs the Hearing Inquiry process of the application.

ID	Plaintiff	Defendant	Case History	Subject of the Case	Court	This no	File Status
1	Gan Sun Ali en	Nun r	2024-08-08	Divorce (Divorce due to the foundation of the marital union being shaken (Contested))	Istanbul 5th Family Court	2022676	Hearing date has been given, preliminary examination hearing will be held
2	Mil Gc Gc ag	Turgu Gökda met Akdağ	2024-08-09	Deed Cancellation and Registration Case	Istanbul 2nd Family Court	2022675	A decision of non-jurisdiction was made. It was decided to lift the measure on the real estate.

Figure 13. Hearing Inquiry

The hearing inquiry module plays an important role in ensuring order and efficiency in the business processes of law firms. Thanks to this module developed with PHP, lawyers can quickly access hearing dates and related information and provide better service to their clients. Therefore, the integration of such a system will increase the competitiveness of law firms and improve their operational processes.

The importance of the income statement and earnings status, financial management for law firms is one of the cornerstones of operational success and sustainability. In this context, the developed law office tracking system is a screen where lawyers can view their income and expense statements and see the total debt and receivable amounts. This screen allows lawyers and office managers to clearly monitor their financial situation and helps them make strategic decisions. Figure 14 shows the page showing the Income-Expense table of the application.

Receipt Viewing

CASH INCOME/EXPENSE ENTRY

Fall: Central Vault ▼

Income/Expense Type:

Amount:

Will borrow: Debt ▼

History: gg.aa.yyyy

Explanation:

Fail	Income/Expense Type	Debt	receivable	History	Explanation	Transactions
<input type="text" value="Don't wait..."/>	<input type="text" value="Income/Expense search..."/>	<input type="text" value="Search for debt..."/>	<input type="text" value="Search to buy..."/>	<input type="text" value="Search for date..."/>	<input type="text" value="Search for description..."/>	
Central Vault	Office Food Expense	500	0	2024-05-20	office food	<input type="button" value="Update"/> <input type="button" value="Will"/>
Central Vault	Bill Payment	1000	0	2024-03-08	March office bill payment	<input type="button" value="Update"/> <input type="button" value="Will"/>

Figure 14. Income-Expense Table

The main benefits of the income statement and earnings status screen are:

Financial Transparency: This module allows lawyers and managers to view their financial situation in a detailed and transparent way. Detailed analysis of income and expense items allows office management to make more informed financial decisions.

Time Saving: Manual accounting records and reporting processes are quite time consuming. Thanks to this module, all financial data is processed automatically and can be reported instantly. This allows office staff to use their time more efficiently.

Error Reduction: Manually recording financial transactions is an error-prone process. Automated income and expense statements minimize data entry errors and increase the accuracy of financial reports.

Strategic Planning: A clear view of the total debt and receivable amount helps office management make strategic plans for the future. This information plays a critical role in investment decisions, cost control and budgeting processes.

Figure 15 shows the page showing the Total Earnings of the application.

Fail	Income/Expense Type	Debt	receivable	History	Explanation	Transactions
<input type="text" value="Don't wait..."/>	<input type="text" value="Income/Expense search..."/>	<input type="text" value="Search for debt..."/>	<input type="text" value="Search to buy..."/>	<input type="text" value="Search for date..."/>	<input type="text" value="Search for description..."/>	
Central Vault	Office Food Expense	500	0	2024-05-20	office food	<input type="button" value="Update"/> <input type="button" value="Will"/>
Central Vault	Bill Payment	1000	0	2024-03-08	March office bill payment	<input type="button" value="Update"/> <input type="button" value="Will"/>
Personal Safe	earning	0	2000	2024-08-27	will get a lawsuit	<input type="button" value="Update"/> <input type="button" value="Will"/>
Central Vault	earning	0	100000	2024-05-26	will get a lawsuit	<input type="button" value="Update"/> <input type="button" value="Will"/>
		0	0	0000-00-00		<input type="button" value="Update"/> <input type="button" value="Will"/>
Total:		1500.00	102000.00			

TOTAL EARNINGS: 100500.00 TL

Figure 15. Viewing Total Earnings

In the developed application, the necessary function for managers to track their total debt and earnings accounts is shown in Table 1.

Table 1. Function that calculates and displays the total of debt and earnings

	Function-1:
1. function calculateTotal() {
2.	var debtTotal \leftarrow 0;
3.	var incomeTotal \leftarrow 0;
4.	var debtElements \leftarrow document.querySelectorAll('. debt-input');
5.	var incomeElements \leftarrow document.querySelectorAll('. income-input');
6.	incomeElements. forEach (function (element) {
7.	debtTotal $+\leftarrow$ parseFloat(element.value) 0; });
8.	incomeElements. forEach (function (element) {
9.	incomeTotal $+\leftarrow$ parseFloat(element.value) 0; });
10.	document.getElementById('debt-Total').textContent \leftarrow debtTotal.toFixed(2);
11.	document.getElementById('income-Total').textContent \leftarrow incomeTotal.toFixed(2);
12.	document.getElementById('earnings-Total').textContent \leftarrow (incomeTotal- debtTotal).toFixed(2); }
13.	window.onload \leftarrow function () {
14.	calculateTotal ();.. };.....
15.	end function

3. Conclusions And Future Works

The law office tracking system developed with PHP greatly facilitates the business processes and financial management of law offices with its critical components such as the hearing inquiry module and income and expense table. Integration of this system increases the efficiency of offices, minimizes time and error losses, and supports strategic decision-making processes. Thanks to digital transformation, operational efficiency increases, client satisfaction increases and financial transparency is ensured. Additionally, the detailed reporting and analysis features offered by this system allow law firms to regularly evaluate their performance and identify areas for improvement. Centralized management of data increases security and accelerates access to information. As a result, all law firms' adoption of this type of tracking system will significantly contribute to their long-term competitive advantage and sustainable success. Automatic date reporting systems may be added to future studies.

References

- [1] Akil, C. (2013). "Borçlunun Üçüncü Kişilerdeki Mal ve Alacaklarının Haczi". Yetkin Yayınları, Ankara.
- [2] Demirel, D. (2006). "E- Devlet ve Dünya Örnekleri". Sayıştay Dergisi, s. 61.
- [3] Muşul, T. "İcra ve İflas Hukuku Esasları". Adalet Yayınları, Ankara, 2015, 5. Baskı.
- [4] Gürsul, F., Bayrakdar, B. (2009), "Ulusal Yargı Ağı Projesi(UYAP) Sistemi nin Değerlendirilmesi", E-Akademi Hukuk, Ekonomi ve Siyasal Bilimler Aylık İnternet Dergisi, s. 90.s
- [5] Karşlı, A., Gürsul, F., Kartal, E. (2009), "Nitel Araştırma: Avukatla rın Ulusal Yargı Ağı Projesi (UYAP) Uygulama Yazılımına ilişkin Görüşleri", Legal Hukuk Dergisi, s. 82.
- [6] Duffett, R. G., Wakeham, M. (2016). Social Media Marketing Communications Effect on Attitudes Among Millennials in South Africa. The African Journal of Information Systems, 8 (3), 20-44.
- [7] Pozzi, S. R. (2015). "Diving Into Digital". Best's Review, 5, 47.
- [8] McMahon, C. (2015). "Top 5 Tech Trends for 2015". Insurance Networking News, 17 (6), 10-16.
- [9] Çetin, A., Çitli, Z. C. (2012). "Elektronik Sigortacılıkta E-imza". Marmara Üniversitesi Bankacılık ve Sigortacılık Enstitüsü E-Dergisi, 2 (2), 2-19.
- [10] Aycı, E., (2005). "Yargı Etiği Açısından Ulusal Yargı Ağı Projesi (UYAP)", Adalet Dergisi, s. 22.
- [11] Bernardo, N. (2016). "The Chapter Management of Digital Insurance". Part of the Series Palgrave Studies in Financial Services Technology. UK: Palgrave Macmillan, 47-90.

- [12] Salvatore P., Patricia J. G., Ron K. (2016). "Solving the crisis of immediacy: How digital technology can transform the customer experience". *Business Horizons*, 59(4), Pages 411-420, ISSN 0007-6813, <https://doi.org/10.1016/j.bushor.2016.03.004>.
- [13] Durgun, M., & Gökrem, L. (2023). "Remote-Controlled Affordable Solenoid Valve Design and a Web-Based Approach to Its Implementation". *International Scientific and Vocational Studies Journal*, 7(2), 206-212. <https://doi.org/10.47897/bilmes.1404670>
- [14] Başçiftçi F., Avuçlu E. (2018). "An expert system design to diagnose cancer by using a new method reduced rule base". *Computer Methods and Programs in Biomedicine*, 157, Pages 113-120, ISSN 0169-2607, <https://doi.org/10.1016/j.cmpb.2018.01.020>.
- [15] Öztürk, S. M., & Çifci, A. (2023). A Study in Enhancing Battery Management Systems for Diverse Battery Types. *International Scientific and Vocational Studies Journal*, 7(2), 122-136. <https://doi.org/10.47897/bilmes.1385510>
- [16] Taştan, M., & Uğural, M. N. (2022). Applicability Of Incineration Technology In Waste Management: Istanbul Case Study. *International Scientific and Vocational Studies Journal*, 6(2), 121-137. <https://doi.org/10.47897/bilmes.1212938>