Original Article

Web Application and Mobile Application Support System Marine Insurance Litigation Management

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Abstract - *From the operations of The Siam Barristers Co., Ltd., the company is responsible for filing lawsuits related to marine insurance on behalf of general insurance companies. Due to the large number of insurance companies as clients, the number of lawsuits has increased significantly. As a result, the preparation of lawsuit documents has been delayed, primarily because most of the work involves extensive documentation. To address this issue, web and mobile applications were developed to support marine insurance lawsuit management for lawyers, enhancing convenience and efficiency. The system was developed using JavaScript and a MySQL database management system to ensure appropriate functionality for users. Testing results showed that both the web and mobile applications of the marine insurance litigation management system performed as intended. The web application successfully facilitated searching, adding, and storing information, tracking appointments and case statuses, disbursing expenses, issuing demand letters, attaching relevant documents, and configuring settings to suit lawyers' needs. Similarly, the mobile application effectively supported searching and storing information, tracking appointments and case statuses, disbursing expenses, and adjusting settings for user convenience. However, based on user feedback, additional modifications were made, including font and text color customization on the website to suit individual preferences, as well as editing and adding themes to the mobile application based on recommendations from the instructor of the mobile design course. A total of 10 respondents participated in the evaluation, consisting of one administrator and nine system users. The results indicated a mean score of 4.28 with a standard deviation of 0.01, demonstrating that users consistently agreed that the developed system was suitable for practical use.*

Keywords - Web application, Mobile application, Marine insurance, Litigation management.

1. Introduction

The Siam Barristers Co., Ltd. is a law firm specializing in various types of litigation, primarily focusing on marine insurance litigation. Since the company's main clients are traders who transport goods by sea, they are required to have marine insurance for their shipments. In cases where damage occurs during transportation, the company initiates legal action against the carrier, leading to lawsuits. To improve efficiency, The Siam Barristers Co., Ltd. seeks the cooperation of the development team in designing a web and mobile application that enhances user convenience and streamlines work processes. This initiative benefits the company by leveraging technology to improve flexibility and efficiency while providing valuable data for research purposes. As a case study, Ms. Suchanya Yoo Muang, License No. 348/2564, a lawyer at The Siam Barristers Co., Ltd., has contributed by providing insights into litigation procedures and representing the company in outlining its requirements. She has also detailed the steps involved in filing a lawsuit to ensure that the developed system aligns with the firm's core legal processes, as follows:

The process of filing a lawsuit of The Siam Barristers Co., Ltd. 1) In the case of receiving documents, the client wishes for the lawyer to file a lawsuit. (Client is the plaintiff in the case) 2) Contacted by the client (by phone/email) should record the client's phone number and email. Our company will record the company's Ref. number and will have the client's Ref. number as well. 3) The client sends the case documents to consider whether to sue or what can be done. When the lawyer receives the documents, the lawyer must first examine the facts and consider whether the case has expired. If it has, the lawyer will issue an opinion to the client to close the case. However, if the case has not expired, the lawyer must issue an opinion to the client and must inform the client when the statute of limitations will expire. Because if the client wants to

sue, the lawyer must allow time for the client to find additional documents and allow time for the lawyer to file a lawsuit, approximately one month before the statute of limitations expires. Therefore, there should be a notification of when the statute of limitations will expire. 4) The lawyer issues an opinion on the case to the client (including opinions that cannot be sued / not worth suing / can be sued). If the lawyer thinks the case cannot be sued, but the client still wants to issue a demand letter (Noted), the lawyer will issue a demand letter. After that, the lawyer will wait for the debtor to contact him. If he does not contact him, the case will be closed. But if he still contacts him, he will coordinate to see if the debtor agrees to pay damages, to what extent, or what documents the debtor needs to consider paying additional damages. If the lawyer can claim damages for the client at this stage, then the legal fees for the actions taken can be collected. If the lawyer thinks the case is not worth suing, the client will consider whether or not they still want to sue. If they do not want to sue, the case will be closed.

However, if they want to continue to sue, the lawyer will issue a letter to the debtor in the case first. The lawyer will then prepare a lawsuit to submit to the court and proceed with the court process. 5) When the lawsuit is filed with the court, on the day of filing, the court will notify the mediation date for 1 day and/or the hearing date for 1 day (the name of the first date can be many, depending on what each court has scheduled on the first day. Therefore, there should be a space for the lawyer to specify the appointment date (what the court has scheduled to do). After filing the lawsuit, firstly, within 7 days of filing the lawsuit, the lawyer must call the court to ask if the court has accepted the lawsuit, if there are any problems with the lawsuit or if the statement requesting to close the warrant has any problems. Secondly, within 14 days of filing the lawsuit or if it has been more than 14 days, the lawyer must keep calling the court to ask if the court has sent the warrant to the defendant. The lawyer must call the court to ask if the court has sent the warrant to the defendant and how to send it. Which is mostly sent by posting a subpoena to the defendant.

The lawyer must ask the court what date the court posted the subpoena. Then, count another 30 days from posting the subpoena and call the court again to ask if the defendant has filed a statement. But if it is a case of posting a subpoena on behalf of the defendant, it means that the subpoena must be sent to a foreign country. This will be counted differently, that is, count another 60 days from the posting of the subpoena. When 60 days have passed, call the court again to ask if the defendant has filed a statement. After that, proceed with the court process as usual until the verdict is reached. There should be no limit on the number of appointments because each case has different appointments. The names of the appointments are different. [2] However, the appointments should be specified as follows: appointment date / appointment time / which court / case number / name of the plaintiff, defendant or petitioner / and what the appointment is

for (e.g. mediation appointment, mediation appointment / testify/examine plaintiff's witness, preparation appointment, trial appointment, appointment to determine the two places and determine the issues of the dispute, appointment to examine plaintiff's witness, appointment to examine defendant's witness, appointment to hear the verdict). In addition to the appointment date set by the court, during this court process, There will be other dates set, such as in cases where mediation is not possible, and witnesses must be examined. In this case, the court will order that a record of testimony must be submitted to the court and the parties in the case 7 days in advance before the examination of witnesses.

The lawyer must allow about 1 month to prepare the case before the examination date because he must talk to the client about who will testify in court. He must schedule a meeting with the client and relevant parties to inquire about the facts and include them in the record of testimony. Once completed, it must be submitted to the court within the specified time, 7 days before the examination of witnesses. 6) The client contacts him to be a lawyer. In the case of the client being a defendant in the case, the lawyer must send the documents and the attorney's appointment form to the client. The lawyer must request the case file from the client. The client will then send the lawyer a copy of the lawsuit and other documents received from the court. When the file is received, there will be a legal date: the first is the due date for filing the statement of defence. The second is the court appointment date.

The court will specify this in the summons. [3] The lawyer must prepare the statement of defence to submit to the court within 30 days from the date the defendant received the summons by posting. Most lawyers will file a request to extend the time for filing the statement of defence. Mostly, they will request an additional 30 days. [4] However, for every requested date, the lawyer must note down the date that the law allows for filing the statement of defence and then ask the court for an extension. The court will grant the extension until what date? Because the lawyer cannot file documents past the specified date. Whatever is submitted must be submitted at least 1 day in advance to prevent mistakes. Then, go to court. From this problem, the researcher has proposed a web application and a mobile application for managing lawsuits to help store information on lawsuit management.

2. Background

The Siam Barristers Co., Ltd. was registered on October 16, 2014, registration number 0105557154433, with a registered capital of 1,000,000 baht, located at 184/223 Forum Tower Building, 33rd floor, Ratchadaphisek Road, Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310. We provide legal services, lawyers, legal consulting, contract drafting and all types of legal services, but focus on civil cases because most of our clients file lawsuits regarding marine insurance. Marine and Transportation Insurance and Domestic Cargo Insurance are insurance policies that cover the loss or

damage of imported or exported goods by sea, air or land. Loss or damage of goods during land transport within Thailand is also covered.

2.1. Terms and Conditions for Marine Cargo Insurance Policy

2.1.1. Cargo Insurance Terms (A)

This insurance covers all risks for loss of or damage to the insured object, except as excluded.

2.1.2. Cargo Insurance Terms (B)

Loss of or damage to the insured object reasonably caused by fire or explosion, the stranding, sinking or capsizing of a ship or vessel, overturning or derailing of a land vehicle, contact or collision of a ship, vessel or vehicle with any external object other than water, unloading of goods at a port of disaster, earthquake, volcanic eruption or lightning, loss of or damage to the insured object caused by general casualty, ditching and overboard, entry of seawater, lake water or river water into the ship, vessel, bulk carrier, vehicle, container or premises for storing goods, total loss of any package damaged by falling or falling during loading or unloading of the ship or general casualty, ship or vessel at fault.

2.1.3. Cargo Insurance Terms (C)

Loss or damage to the insured object reasonably caused by fire or explosion, ship or craft running aground, sinking or capsizing, land vehicles overturning or derailing, collision or collision of ships, vehicles or vehicles with external objects other than water, unloading of goods at a port of disaster, loss or damage to the insured object caused by general sacrifice, throwing at sea, general damage, ships colliding with each other. Domestic Cargo Insurance Policy (All Risks Coverage).

Total or partial damage or loss of the insured goods caused by accidents or external causes, general damage to the insured goods, including the average general damage and salvage costs, which the insured must pay according to customary practices or by law, except where the cause falls under the exceptions. Domestic Cargo Insurance Policy (Specified Perils). This insurance covers total or partial damage or loss of the insured goods caused by fire, explosion or lightning, the vehicles used for transport or the goods. The insured person has an accident colliding with or being hit by another vehicle or anything outside the vehicle, including the tractor and trailer of the vehicle used for transportation, the ship sinking or running aground, the plane crashing, the train derailing, the vehicle including the tractor and trailer or the trailer overturning or falling off the road or bridge or shoulder, the additional special risks that are clearly specified in the insurance policy table.

2.2. The Process of Filing a Lawsuit with The Siam Barristers Co., Ltd.

In case of receiving documents, the client wants the lawyer to file a lawsuit (the client is the plaintiff in the case) When contacted by the client (by phone/email), the client's phone number and email should be recorded. Our company will also record our TSB Ref. number and the client's Ref. number. The client sends the case documents to consider whether to file a lawsuit or not or what can be done. When the lawyer receives the documents, the lawyer must look at the facts that have occurred and consider first whether the case has expired or not. If the statute of limitations has expired, the lawyer must express an opinion to the client to close the case immediately. However, if the case has not expired, the lawyer must express an opinion to the client and must inform the client when the statute of limitations will expire. Because if the client wants to file a lawsuit, time must be allowed for the client to find additional documents and allow time for the lawyer to file a lawsuit, approximately one month before the statute of limitations expires. Therefore, there should be a notification of when the case will expire.

The lawyer gives the opinion of the case to the client (both opinions: cannot sue / not worth suing / can sue). In the case where the lawyer is of the opinion that the case cannot be sued, but the client still wants to issue a notice, the lawyer will proceed to issue a notice. After that, the lawyer will wait for the debtor to contact back. If no contact is made, the case will be closed. However, if the lawyer still contacts back, the lawyer will coordinate to see if the debtor agrees to pay the damages or not, to what extent, or what documents the debtor needs to consider paying additional damages. If the lawyer can claim damages for the client at this stage, then the lawyer will collect the legal fees for the proceedings. In the case where the lawyer is of the opinion that the case is not worth suing, the client will be the one to consider whether or not to continue the lawsuit. If no one wants to sue, the case will be closed. However, if the lawyer wants to continue the lawsuit, the lawyer will issue a notice of demand to the debtor in the case first. Then, the lawyer will prepare a lawsuit to submit to the court and proceed with the court process.

In the case where the lawyer is of the opinion that the case can be sued, the lawyer will let the client consider it. If the client wants to sue, the lawyer will issue a notice of demand to the debtor in the case first, and then the lawyer will prepare a lawsuit to submit to the court and continue with the court process. When the case has been filed with the court, on the day of filing the lawsuit, the court will inform you of the mediation date for 1 day and/or the hearing date for 1 day (the name of the first appointment date can be many, depending on what each court has scheduled to do on the first day. Therefore, you should leave a space for the lawyer to specify the appointment date himself and what the court has scheduled to do). After filing the lawsuit, firstly, within 7 days of filing the lawsuit, the lawyer must call the court to ask whether the court has accepted the lawsuit, if there are any problems with the lawsuit or if the statement requesting to close the warrant has any problems. Secondly, within 14 days from the filing of the lawsuit or if it has exceeded 14 days, the lawyer must

continuously call the court to ask whether the court has sent the warrant to the defendant or not. The lawyer must call the court to ask whether the court has sent the warrant to the defendant and by what method, usually by posting a summons to the defendant. The lawyer must ask the court what date the court posted the summons. Then, counting another 30 days from the posting of the summons, the lawyer must call the court again to ask whether the defendant has filed a statement or not. However, if it is a case of posting a subpoena on behalf of the defendant, it means that the summons must be sent abroad.

This will be counted differently, that is, counting another 60 days from the posting of the summons. When 60 days have passed, call the court again to ask whether the defendant has filed a statement or not. After that, proceed with the court process as usual until the verdict. There should be no limit on the number of appointments because each case has different appointment dates, and the names of the appointment dates are different.

However, the appointment should be specified as follows: appointment date/time, which court/case number/name of the plaintiff, defendant or petitioner / and what is the appointment for (e.g. mediation appointment, mediation appointment / testify/examine plaintiff's witness, preparation appointment, trial appointment, appointment to determine the two places and determine the issues of dispute, examination of plaintiff's witness, examination of defendant's witness, hearing of the verdict). In addition to the appointment date set by the court, during this court process, there will be other dates set, such as in the case where the case cannot be mediated, so there must be the examination of witnesses.

In this case, the court will order that a record of testimony must be submitted to the court and the parties in the case 7 days in advance before the examination of witnesses. The lawyer must allow time to prepare the case before the examination of witnesses for about 1 month because he must talk to the client about who will testify in court.

He must schedule a meeting with the client and relevant persons to inquire about the facts and put them in the record of testimony. When finished, it must be submitted to the court within the specified time, 7 days before the examination of witnesses. - The client contacts him to be their lawyer.

In the case where the client is the defendant in the case, the lawyer must send the lawyer's appointment document to the client. The lawyer must request the case file from the client. The client will then send the lawyer a copy of the lawsuit and other documents received from the court. When the case file is received, there will be a legal deadline: the first is the due date for filing the defense. The second is the court date. The court will specify this in the summons. The lawyer must prepare the defense to submit to the court within 30 days

from the date the defendant received the summons by posting. Most lawyers will file a request to extend the time to file the defense. Mostly, they will request an additional 30 days. However, for every requested date, the lawyer must note down the legal deadline for filing the defense and ask the court for an extension. The court will grant the extension until the date specified because the lawyer cannot file documents past the specified deadline. Anything must be filed at least 1 day in advance to prevent mistakes. Then, go to court.

2.3. Literature Review

[5] Using Design Thinking to Develop a Web Application for a Legal Consulting Business: This research presents the development of a web application for a legal consulting business, using Design Thinking principles to create a prototype system consisting of 6 main systems, such as a case record system, a contract management system, and a new law reporting system, which helps increase operational efficiency and supports the legal consulting business's transition into the digital age.

[6] Development of a Legal Learning Management Information System for Processed Agricultural Product Manufacturers in Nakhon Si Thammarat Province: This research focuses on developing a legal learning management information system for processed agricultural product entrepreneurs, using the SDLC (System Development Life Cycle) principles and developing it as a web application accessible via mobile phones, tablets, and computers, so that users can easily search for relevant legal information.

[7] Using Design Thinking to Develop a Web Application for Customs Brokerage Businesses: This research presents the development of a web application for customs brokerage businesses, employing design thinking principles in conjunction with Optical Character Recognition (OCR) and Artificial Intelligence (AI) technologies to enhance operational efficiency and meet the needs of users in the customs brokerage business.

3. Materials and Methods

SDLC, or Software Development Life Cycle, is a process used to plan, create, test, and improve software for maximum efficiency. Generally, SDLC consists of 7 main steps, as follows Planning, Requirement Analysis, System Design, Development / Implementation, Testing, Deployment and Maintenance and updates.

JavaScript is a computer language for programming on the Internet with a structure similar to the C language. The working method is to interpret and execute one command at a time. The goal is to design and develop programs on the Internet for writers using the HTML language. It can work across platforms by working with the HTML [8] language and the Java language on both the client and server sides. JavaScript was developed by Netscape Communications

under the name LiveScript to create web pages by connecting to the LiveWine server. It has been improved and renamed JavaScript. It can make creating web pages have many features and interact with users immediately. JavaScript allows developers to create web pages that meet their needs and are interesting. It is an open language that can be used and has been set as a standard by ECM. JavaScript must be interpreted. The browser handles this step. Therefore, JavaScript can only work on browsers that support it. Currently, all browsers support JavaScript.

REET is a JavaScript library or JavaScript framework. The highlight of REET is that it has a built-in cache system that makes our web pages respond quickly and is suitable for SPA. When writing REET, we can also separate the components of our web pages into parts called components and then assemble them into a web page.

This allows us to reuse our components elsewhere without wasting time writing them again. REET Native Framework is a tool that can build mobile applications for both iOS and Android, which is the development of hybrid or cross-platform applications.

It uses JavaScript as the main development method. The Facebook team created REET Native. It is an open-source licensed framework that can access native and has a very popular community today [9] [10]. REET Native is an implementation of REET, which is Facebook's JavaScript framework. Used on websites, it can be extended to mobile devices so that you can use the various advantages of REIT.

[11] NodeJS is a free and open-source cross-platform JavaScript runtime that can run on various web applications. The JavaScript language is suitable for creating applications that require a lot of data and is popularly used to develop real-time data applications. [12] It can run on all operating systems, such as web servers. It works in a single-process manner with an event loop to help in asynchronous work, which is a form of working with a set of written instructions. It works without sequential steps because the instructions work together, and when any instruction is completed, the result will be displayed first.

[13] Visual Studio Code or VS is a code editor program used to edit and customize code from Microsoft. It has been developed so it can be used for free. For those who want to be professional, Visual Studio Code is suitable for developers who want to use it across platforms. It supports Windows, macOS, and Linux. [14] It supports JavaScript, TypeScript, and NodeJS. It can connect to JIT.

It is easy to use and not complicated. There are many extension tools to choose from. The reason for choosing this software is because it has a simple UI. It can be written in many languages and can be connected. It has a simple and easy-to-use interface. Methodology Enhancement System Architecture Describe the architecture used for the Web application and Mobile Application. Use diagrams to illustrate data flow and system components. Technology Stack Front-end: React, Angular, or Vue.js (for web), React Native or Flutter (for mobile). Back-end: Node.js Database: MySQL Security Measures: SSL encryption, JWT authentication, and GDPR compliance. Data Management & Case Handling How litigation case data is stored, retrieved, and processed.

Deployment & Testing Deployment on AWS testing strategies: Unit Testing, Integration Testing, and User Acceptance Testing (UAT). Performance Metrics Include benchmarks on response time, accuracy, and efficiency improvements.

4. Results and Discussion
4.1. System Analysis Results
The researcher studied and collected data from Siam Barristers Co., Ltd. and analyzed the problems of the web and mobile applications of the Marine Insurance Litigation Management Support System. The developer analyzed the requirements (Function Requirement) and designed the diagram in Figure 1.
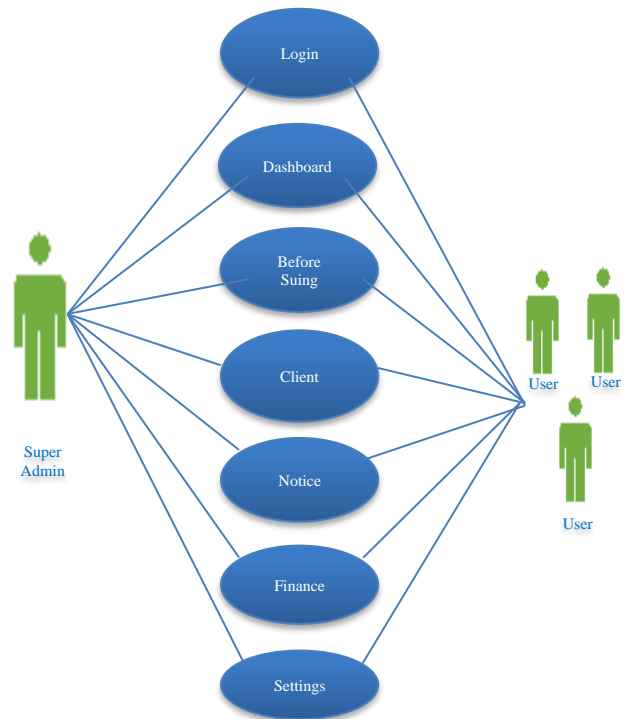

Fig. 1 Use case diagram web application and mobile application support system marine insurance litigation management

4.2. ER Diagram Design
In designing a web and mobile application for a marine insurance litigation management support system, an ER diagram can be designed as shown in Figure 2.
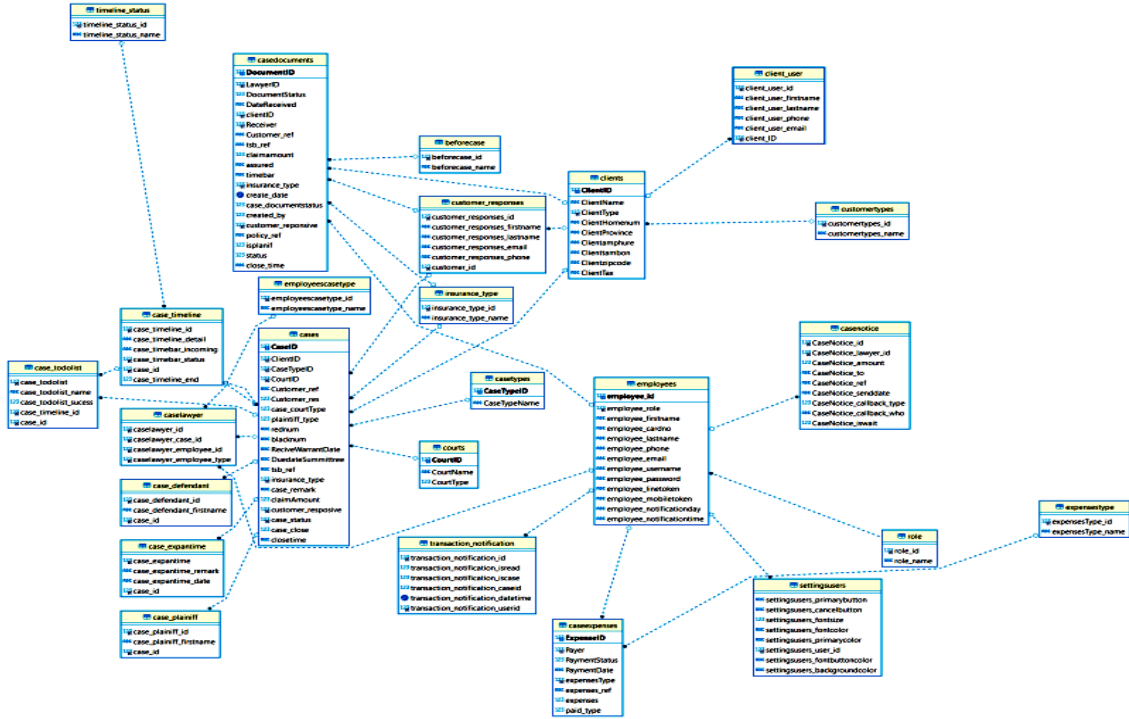
Fig. 2 ER diagram web application and mobile application system support system marine insurance litigation management

4.3. System Development Results

Design of the functional window of the web application and mobile application of the marine insurance litigation management support system. The various functions of the system are specified in detail as follows.

4.3.1. Registration Page

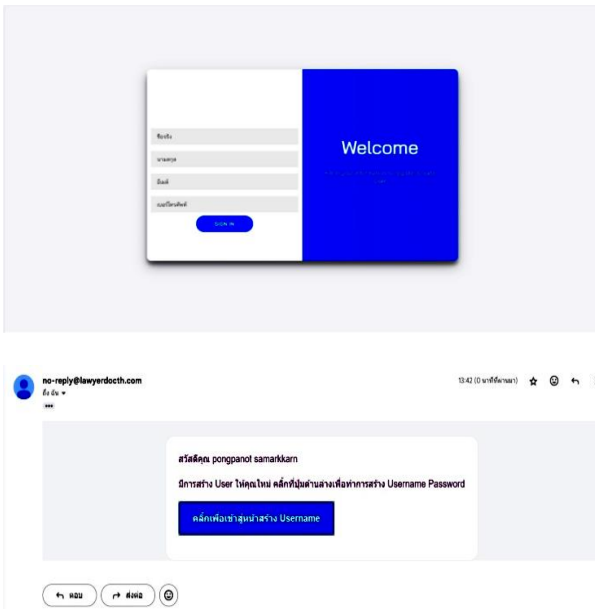Registration window to receive a login code will be sent to the user via email.

Fig. 3 Registration page

4.3.2. Login Page

Login window in the web application by entering the username and password from the web application registration.
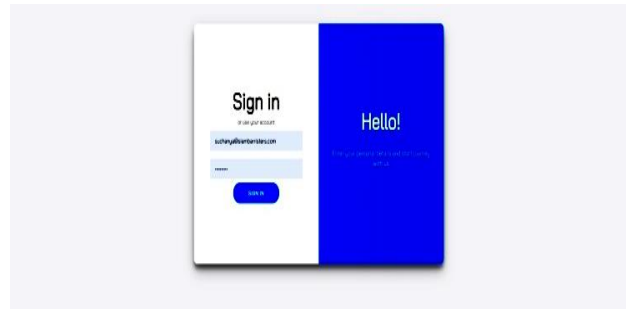
Fig. 4 Login page (Web Application)

4.3.3. Home Page

The first window after successful login is a page showing the total number of jobs related to the company.
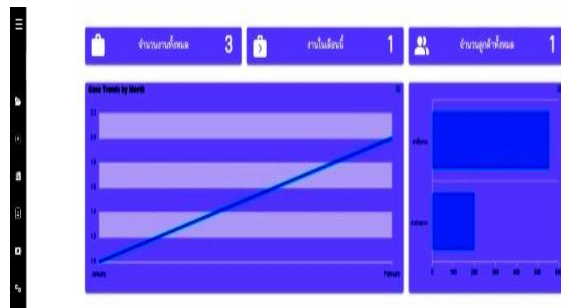
Fig. 5 Home (Web Application)

4.3.4. Work Schedule Page

The table shows the monthly work for that year and the annual expenses.

Fig. 6 Task schedule page (Web Application)

4.3.5. Page Before Filing the Lawsuit

The Pre-litigation page is a page that initially lists the case information received from clients. It shows the total number of cases before the lawsuit. You can choose to create a pre-litigation page.

Fig. 7 Pre-litigation page (Web Application)

4.3.6. Pre-Litigation Details Page

Pre-litigation details page When the pre-litigation page is created, the pre-litigation details will be displayed, including the ability to update the lawsuit. If you are a defendant, you will not be able to add a notification. If you are a claimant, you can add a notification.

Fig. 8 Pre-litigation details page (Web Application)

4.3.7. Notification Update Page

Update the notification page to show who has been sent and how much.

Fig. 9 Notification update page (Web Application)

4.3.8. Notification Summary Page

A collection of all company notifications, case status notifications, and actions that clients and lawyers must take step by step.

Fig. 10 Notification summary page (Web Application)

4.3.9. Case Page

The case page can view case information. Data can be sent to the system as an Excel file of case information.

Fig. 11 Case page (Web Application)

4.3.10. Client Page

The client page allows you to view and add customer and contact information.

Fig. 12 Client page (Web Application)

4.3.11. Finance Page

The financial page creates expenses and exports data to Excel files.
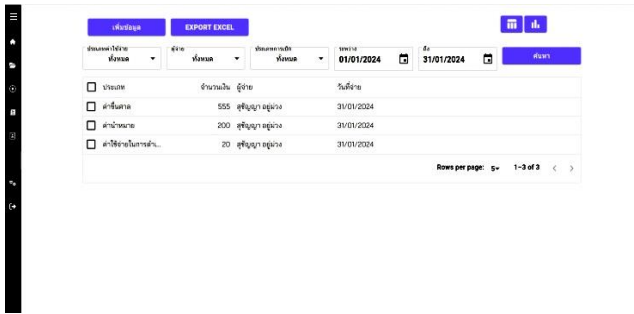

Fig. 13 Finance page (Web Application)

4.3.12. Settings Page

Settings page Users can set their usage preferences to suit their individual usage.

Fig. 14 Settings page (Web Application)

4.3.13. Login Page

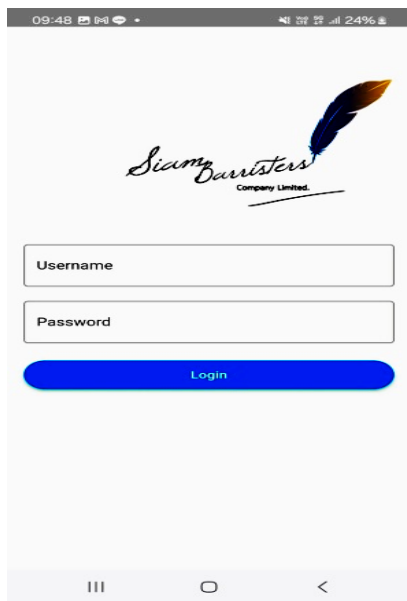Login window by entering username and password from registration in web application.

Fig. 15 Login page (Mobile Application)

4.3.14. Home Page

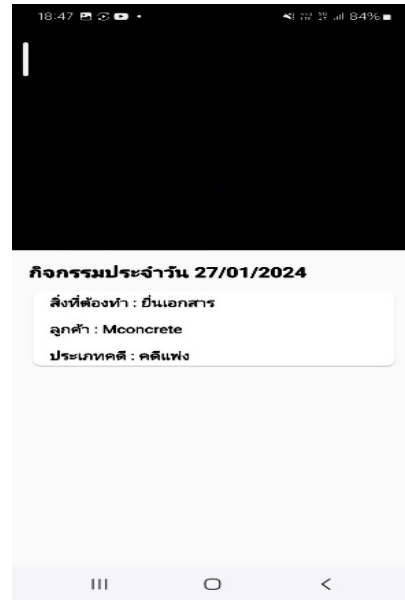The home page, after login shows the user's lawsuit information.

Fig. 16 Home page (Mobile application)

4.3.15. Case Details Page

It is a window where you can create a new work status.

Fig. 17 Case details page (Mobile Application)

4.3.16. To-Do Calendar

The calendar in this window is a part that is connected to the to-do list. It records the user's daily work schedule, with notifications via the mobile application.
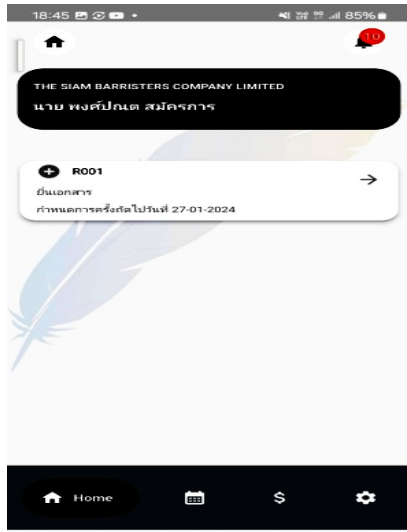
Fig. 18 To-Do calendar (Mobile Application)

4.4. Satisfaction Assessment

Web application and mobile application system for supporting management of marine insurance litigation. In evaluating satisfaction in terms of ease of use, ability to perform duties and efficiency, there were 10 respondents in total, divided into 1 system administrator and 9 system users.
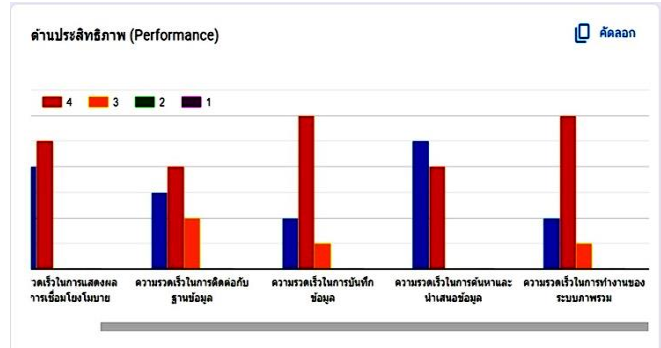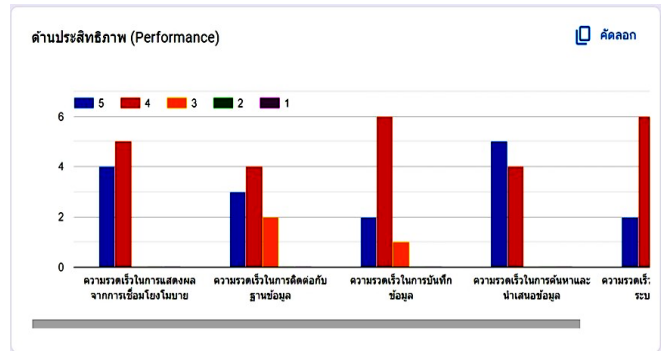

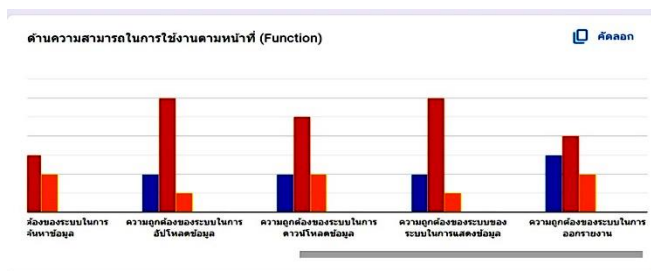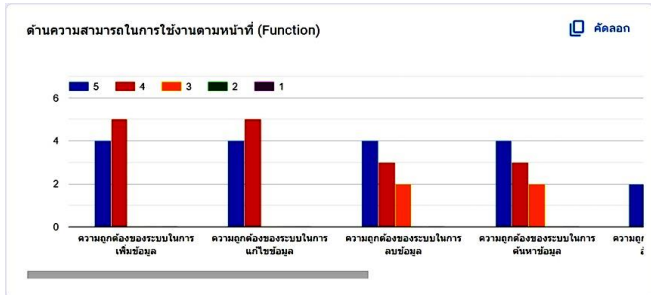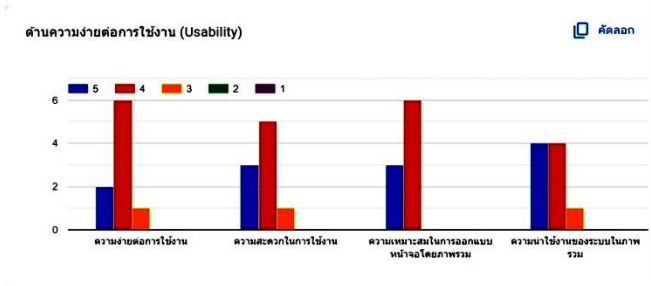

Fig. 19 User satisfaction assessment graph

Table 1. System administrator satisfaction assessment

Satisfaction Measurement Issues	Result	
	Average	S.D.
Usability		
Ease of use	5.00	0.00
Ease of user	4.00	0.00
Overall suitability of screen design	3.00	0.00
Overall usability of the system	4.00	0.00
Sum	4.00	0.00
Function		
Accuracy of the system for adding data	4.00	0.00
Accuracy of the system for editing data	5.00	0.00
Accuracy of the system for Deleting data	5.00	0.00
Accuracy of the system for searching data	5.00	0.00
Accuracy of the system for uploading data	5.00	0.00
Accuracy of the system for downloading data	4.00	0.00
Accuracy of the system in displaying data	5.00	0.00
Accuracy of the reporting system	5.00	0.00
Sum	4.75	0.00
Performance		
Speed of display from the mobile link	5.00	0.00
Speed of database connection	5.00	0.00
Speed of data recording	4.00	0.00
Speed of searching and presenting information	3.00	0.00
Overall system performance speed	4.00	0.00
Sum	4.20	0.00
Summary of satisfaction assessment	4.31	0.00

From Table 1, the satisfaction assessment results of the administrators were as follows: the mean was 4.31, and the standard deviation was 0.00.

Table 2. Evaluation of system user satisfaction

Satisfaction Measurement Issues	Result	
	Average	S.D.
Usability		
Ease of use	4.11	0.60
Ease of user	4.22	0.67
Overall suitability of screen design	4.33	0.50
Overall usability of the system	4.33	0.71
Sum	4.24	0.09
Function		
Accuracy of the system for adding data	4.44	0.53
Accuracy of the system for editing data	4.44	0.53
Accuracy of the system for Deleting data	4.22	0.83
Accuracy of the system for searching data	4.22	0.83
Accuracy of the system for uploading data	4.11	0.60
Accuracy of the system for downloading data	4.00	0.71
Accuracy of the system in displaying data	4.11	0.60
Accuracy of the reporting system	4.55	0.78
Sum	4.26	0.13
Performance		
Speed of display from the mobile link	4.44	0.53
Speed of database connection	4.11	0.78
Speed of data recording	4.11	0.60
Speed of searching and presenting information	4.55	0.53
Overall system performance speed	4.11	0.60
Sum	4.26	0.10
Summary of satisfaction assessment	4.25	0.02

Table 3. Summary of satisfaction assessment results

Satisfaction Assessment	Average	S.D.
1. Administrator	4.31	0
2. System users	4.25	0.02
Summary	4.28	0.01

From Table 2, the satisfaction assessment results of the User were as follows: the mean was 4.25, and the standard deviation was 0.02.

From Table 3, the satisfaction assessment results of the administrators were as follows: the mean was 4.31, the system users were as follows: the mean was 4.25, and the standard deviation was 0.02. The sum of the mean values of the user groups in both statuses was as follows: the mean was 4.28, and the standard deviation was 0.01. This indicates that the developed system has the same opinion that the system is suitable for actual use.

5. Conclusion

The researchers have designed a Web Application and Mobile Application Support System for Marine Insurance Litigation Management. The implementation results have been summarized according to the steps of the Software Development Life Cycle (SDLC) as follows.

5.1. System Planning
Implementation can be completed within the specified time frame in accordance with the project goals and objectives.

5.2. System Analysis
The researcher analyzed the requirements by collecting data used to develop a web application and mobile application for a marine insurance litigation management support system by using use case diagrams and ER diagrams to analyze the system requirements.

5.3. System Design
Web application and mobile application system for marine insurance litigation management support system uses Visual Studio Code program for design as follows:

5.3.1. Web Application
Registration page, Login page, Home page, Schedule page, Pre-litigation page, Pre-litigation creation page, Pre-litigation details page, Update notification page, Pre-litigation details page, Create case page, Case page, Case details page, Client page, Create client page, Finance page and Settings page.

5.3.2. Mobile Application
Login page, Case details page, Create Case Activity page, To-Do details page, Calendar page, Finance page, Create Finance page, Settings page, and Theme selection page.

5.4. System Development
System development can create a database and store data, including user database, lawsuit data, client data, financial data, notifications from web applications to mobile applications, and settings suitable for all users.

5.5. System Testing
System testing, software functionality and satisfaction. There were 10 evaluators.

The system testing results can work according to the objectives designed by the researcher.

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