International Journal for Housing Science and Its Applications
Publish August 10, 2025. Volume 46, Issue 4 Pages 3680-3690

https://doi.org/10.70517/ijhsa464493a

Study on the Legal Adaptation of Intelligent Trial Platforms in Civil Litigation of Housing Rights Disputes

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Abstract With the increasing development of network technology and multimedia technology, it is difficult for the traditional approval mode to meet people's needs, in view of such circumstances, this paper builds a digital court system to meet the requirements of the intelligent trial platform in the new era. Firstly, combining the results of system demand analysis and system design principles, the overall structure of the digital court system is determined, and the functional modules of the digital court system are all realized by using the software development language, and the legal adaptability of the system in civil litigation of housing rights and interests disputes is discussed in detail. The test environment, condition parameters and research samples are set to explore the system performance and its legal adaptability. The system performance indicators are all within the allowable range, and all functional modules of the system can operate stably, which summarizes that the practical application of the system has a positive impact on economic and social effects. After the intervention, the two groups have significant differences, compared with the traditional method, the digital court system constructed in this paper has a higher priority of legal adaptability in civil litigation of housing rights disputes, and also shows the legal adaptability of the digital court system in civil litigation of housing rights disputes, which is conducive to the development of the economic and social effects of the construction industry.

Index Terms digital court system, legal adaptation, housing rights disputes, civil litigation, social effects

I. Introduction

The right to housing refers to the right of citizens to obtain a home or the right to have adequate housing conditions, is widely recognized as a human right in the world, the subject of its rights is a special group of people with housing difficulties, and the subject of its obligations is to ensure that this group of people have a fixed place to live in the country and the government [1]-[3]. The protection of citizens' housing rights and interests depends on both the macro-control of the central government and the implementation of specific measures by local governments, such as housing development and construction, housing transactions, guaranteed housing rental, and the supervision of the housing rental market. The construction of a diversified dispute resolution mechanism for housing rights and interests and a perfect legal system for housing protection are important measures to strengthen the protection of housing rights and interests.

Civil litigation system existing or extant norms in the social awareness of the rule of law continues to grow, the case acceptance conditions continue to relax, the results of the decision tend to be consistent, there is an urgent need to move towards the development and transformation of litigation intelligence [4]-[7]. This is both the objective requirements of social development to a certain stage, but also the current civil litigation system transformation of the new needs. With the increasingly wide application of computer and intelligent technology in the field of justice, more and more cases began to involve the need for intelligence, so it is necessary to realize the intelligent operation of online prosecution, online filing and other common matters in civil litigation [8]-[11]. The change of court mode will bring convenience, but it will also challenge the protection of the rights and interests of the parties in civil litigation. Generally speaking, in order to realize the machine can accurately predict the adjudication results, must have a huge, high-quality, diversified data support, and the existing adjudication documents data is difficult to support the machine learning to form the algorithmic model required, which is difficult to avoid causing the legal adaptability problem in the process of intelligent trial [12]-[15]. Therefore, promoting the research of legal adaptability of intelligent trial platform will promote the intelligent construction of a big stride forward, which is of great significance to enhance the credibility and efficiency of civil justice [16]-[18].

General intelligent trial is through a third-party platform (WeChat, QQ, Facebook) to implement online trial. This paper is different from the traditional method, is the use of software development language independent research and development of digital court system, to meet the needs of users of intelligent trial platform, compared with the

third-party platform, the system is particularly significant autonomy management privileges. According to the results of the digital court system requirements analysis and design principles, the overall design structure framework of the digital court system is proposed. The software development language is used to realize all the functional modules of the system, finally completing the design and realization of the digital court system, and discussing the legal adaptability of the system in civil litigation of housing rights and interests disputes. Based on the purpose of the study, test tools, environment, and condition parameters are selected based on the research samples to investigate the performance of the system and its legal adaptability in civil litigation of housing rights and interests disputes, aiming to safeguard the housing rights and interests of users, and then to promote the development of the construction industry's economic and social effects.

II. Design and realization of the digital court system

With the increasing development of network technology, multimedia technology, there are applications in various fields of construction. Intelligent trial platform construction has achieved work results, this paper through the construction of digital court system to meet the requirements of the intelligent trial platform in the new era.

II. A. System Requirements Analysis and Design Principles for Digital Courts

II. A. 1) System requirements analysis

Digital court construction, the use of the people's court system of computer network information platform, the use of computer networks and multimedia computer technology, built to trial stenography, evidence display, digital image recording, storage, playback and query control of integrated management system and online remote arraignment, remote trial as the main application of the digital court system, to achieve the people's courts on the trial of information technology of the overall management of the [19].

The digital court makes systematic and complete records of trial activities (including court preparation, court investigation, court debate, deliberation and sentencing process), realizing the trial-centered trial work informatization management [20], [21]. Judges, plaintiffs, defendants, public prosecutors, defenders, suspects, witnesses in the trial process of voice information, video information, text information and various types of evidence, cross-examination information for digital acquisition, storage, transmission and display.

The digital court lays the foundation for applications such as remote arraignment, remote trial, remote trial on-demand and live broadcast. Providing a platform for remote trial, parties who have difficulties in appearing in court for trial can utilize the platform of digital court system to conduct remote trial over the network, reducing judicial costs and facilitating litigation for the public. To realize the function of remote trial, the defendant can be directly remotely arraigned and remotely tried in the remote court (e.g., lower court) or detention center without escorting, which reduces the investment of police force and the risk of escorting on the road. The digital court can also realize the trial observation and online broadcasting, and can truly reproduce the trial process through on-demand broadcasting.

II. A. 2) System design principles

The design of digital court involves computer technology, network communication technology, text image and audio and video multimedia technology, centralized control technology, system integration technology, comprehensive wiring technology, etc., is a system is quite complex, the integration of difficult system engineering, so the system design should follow the following principles:

(1) the principle of advancement: the digital court system should adopt advanced, open system architecture, the use of the most advanced technical means, and ultimately be able to realize the trial process of real-time acquisition, real-time storage, real-time recording, after the fact, burning, generating high-definition images and audio information, to get a high compression rate of the image file format, and according to the business needs of the court system to be able to the court's internal local area network, the court's wide-area network for the private Large-scale live and on-demand trial image broadcasting, and selective on-demand broadcasting on the Internet.

(2) Principle of practicality: real-time collection and encoding of trial audio and video information, trial transcripts, evidence presentation image information, etc. generated in the course of trial; automatic packaging of encoded trial image files, text overlay, watermark encryption, electronic signatures; synchronized composite of trial transcripts and audio and video; centralized storage and network distribution of trial information; support for multimedia trial data and information. Rapid data retrieval and statistical analysis.

(3) Principle of expandability and maintainability: the rationality of the system structure design can be fully considered, and space and communication interfaces can be reserved for further upgrading and expansion of the system in the future.

(4) The principle of economy: to realize the most economical digital court system design goal of low construction cost, low use cost, low maintenance cost and low management cost.

(5) the principle of openness and standards: can be compatible with the existing court system running business information management and office system software interfaces, for the existing internal business systems to provide open and standardized interfaces, follow industry standards and national and international standards.

(6) Reliability and stability principles: digital court system after completion of the industry standard time after the test and operation, can achieve the maximum average failure rate, with a variety of practical use of the adaptability of the environment.

(7) Security and confidentiality: It is capable of encrypting the data and information generated by the court hearing, utilizing technical means to ensure that the data is not tampered with and the authenticity of the court hearing content is ensured.

II. B.Analysis of basic system functions

II. B. 1) Stenographic recording of court hearings

Trial process transcript information transcription is an important part of the trial activities, should take the necessary technical means, the clerk for trial transcript transcription to provide convenient operation, and to ensure the stability and reliability of the text information is not easy to lose, the specific functional requirements are described below:

(1) with the trial transcript information template function, according to the different types of criminal, civil, administrative and other cases, the system can be pre-set with different transcript templates, to facilitate the clerk's entry, improve work efficiency.

(2) with the trial transcript information automatic preservation function, the trial process of the transcript information must be synchronized in the clerk's computer, the trial server or disk array, to ensure that all the data and information in the trial process synchronization, and to prevent accidents when all the data is not lost.

II. B. 2) Capture, storage and playback of audio and video of court hearings

In the digital court, the video signal of the front-end cameras and the audio signal of the pickups are input to the courtroom equipment including audio and video codecs, audio and video matrices, digital audio processors, etc. Through these courtroom equipment, digital synthesis of data, voice excitation, video tracking and real-time CD-ROM burning are carried out to ensure the synchronization, completeness and smoothness of the whole courtroom process of audio and video recording and the use of advanced It also adopts advanced audio and video data compression algorithms to compress the image information and store it on the server, so that authorized users can watch the live trial on the application network. Trial screen display can realize a variety of screen division, superposition, according to the court of large, medium and small courts in the actual installation of the number of cameras and display output devices to set up different screen division mode, can support two screens, four screens, six screens, eight screens and other display modes, the digital court screen division display mode as shown in Figure 1.

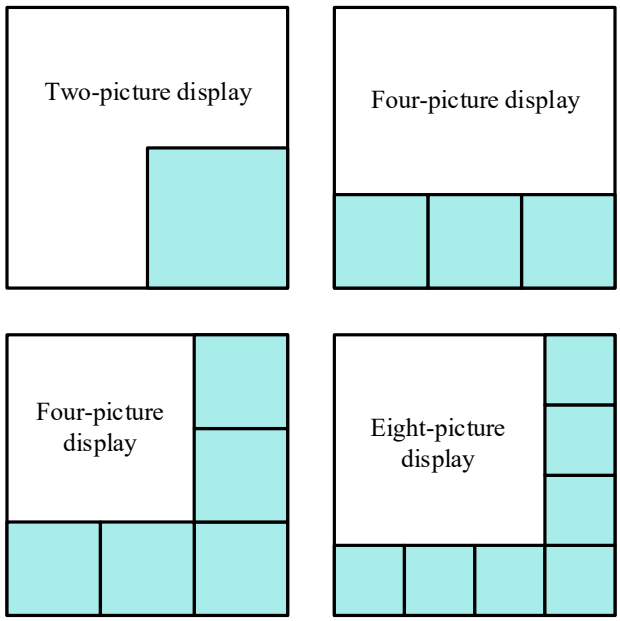


Figure 1: Digital court screen segmentation display mode diagram

II. B. 3) Centralized control and management

Digital court system can realize the centralized control function, the whole system for unified management and real-time monitoring, in order to protect the smooth progress of trial activities; the court peripheral equipment using intelligent centralized control, professional and technical personnel and clerks can be realized through the authorized network terminal to the court peripheral equipment in real-time control. Each digital court should use intelligent centralized control system, clerks and technicians through the system can conveniently operate all the equipment in the entire digital court, including DVD, VCR, projector, electric projection screen and other equipment, Figure 2 for the digital court centralized control system diagram. The control function includes the state of various input and output signals, the state of the matrix, input and output selection; projector, TV, LCD monitor and other equipment power switch, projection screen lift, volume adjustment and so on.

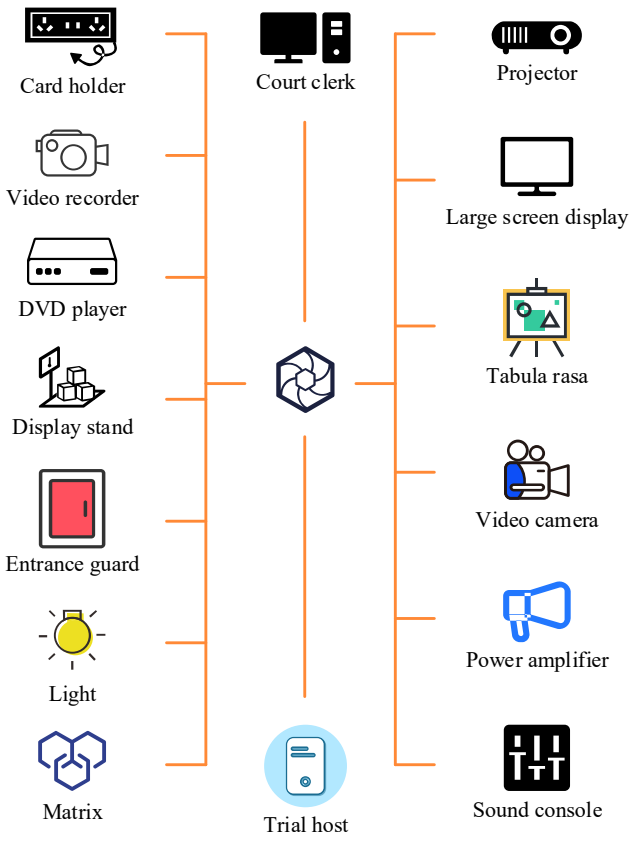


Figure 2: Schematic diagram of digital court centralized control system

II. C.Design of the digital court system

II. C. 1) Artificial Intelligence Design

Due to the computer network platform in the court system is more complex, for the network broadband quality requirements are higher, so the digital court in the system design work should be more consideration of the video transmission performance. Through the court of multiple cameras automatically recorded to DVD multi-angle video track, and the use of human voice recognition function, the main stream of video to the microphone detects the main audio of the speech as a command, automatically switch to the current speaker's footage; and at the same time on the microphone audio voice recognition automatically conference transcripts are saved. The application of this artificial intelligence design can make the current digital court construction more humane and intelligent, and help users better solve the management of information and query search.

II. C. 2) Management platform design

The design of the management platform is based on the construction of information technology, multimedia and information technology applied to the overall design of the digital trial system, and then make the court in the trial record, can use the current multimedia technology to record the trial transcripts, trial video, trial debates, and other information compilation and collection. And then in combination with WEB technology based on the summary into

text information and audio as one of the multimedia files, generate the trial of the final database, more convenient information collection and retrieval, conducive to the trial observation.

II. C. 3) System communication design

The system communication method is to synthesize a variety of multimedia information transmission channels, the use of the court communication network for trial information multimedia dissemination, such as trial information in the image, text information, and so on, so that these multimedia information want to be able to realize the efficient integration of the network processing, so that the trial is carried out more smoothly. In addition, the system communication method can also help the trial participants to realize the information exchange communication with the digital court system.

II. C. 4) Courtroom storage system design

Trial storage design will usually use data compression CD-ROM real-time burning as well as trial data retrieval and other ways to facilitate the subsequent information retrieval management. Considering the special nature of the digital court work, in the trial session need to all the audio data, transcript exhibits and other information for electronic file storage and management, especially all parties witnesses, clerk's table, the plaintiff and defendant, and other people's multiple audio data. In order to make the system's network communication channel more smooth, should use more effective data processing to ease the network's disk memory pressure, can be compiled in the court of mass data information compression, the use of audio collector in the digital audio information to save disk space, and effectively reduce the system maintenance costs in the later stage, so that the communication medium between the information transmission is more convenient, but also for the court's multimedia information processing, information bandwidth and so on have more assurance.

II. C. 5) Database design

Considering the database software used in the digital court, with powerful functions, simple operation and other advantages, in the daily use of the court process, the database can automatically save the index information, and in accordance with the administrator set up a work plan for real-time information transfer, thus making the data more secure. And the court's database design can realize the opening of multiple ports, in the upper and lower courts can also be carried out between the sharing of resources, and thus make the digital court system office trial work more helpful, so that the judge in the acceptance of the case trial, the parties to the lawsuit and other work is more convenient, to achieve the court trial work of the grid management.

II. D.Study on Adaptation in Civil Litigation of Housing Rights Disputes

II. D. 1) Civil Litigation for Housing Rights Disputes

In the trial practice, housing disputes caused by housing reform, there are mainly the following manifestations, the original tenants refused to vacate their housing reform to others all the houses caused by disputes, seize the housing reform unit has been sold to others all the houses caused by disputes, did not protect the original tenants of disputes caused by the right of first refusal, due to the dismissal of employees dismissal caused by the reform of housing disputes, the transfer of capital construction of disputes caused by the eligibility of disputes, the husband and wife divorced housing disputes, to participate in the housing reform subject to disputes, and so on. Disputes over housing, disputes over the eligibility to participate in housing reform, etc. What is the nature of the housing disputes arising from the housing reform mentioned above and whether they are admissible in court. Whether they all have jurisdiction.

At present, there are two main types of disputes over housing rights and interests in the housing reform: one type is civil disputes over housing that need to be adjusted by civil law, and the other type is disputes over housing administration that need to be adjusted by administrative law.

Article 3 of the Civil Procedure Law stipulates that: “This Law shall apply to the acceptance by the people's courts of civil claims brought by citizens, legal persons, other economic organizations and each other in respect of property and personal relations.” This provision is compatible with Article 2 of the General Principles of Civil Law, which stipulates that civil law regulates the property relations between citizens of equal subject matter, between legal persons, and between citizens and legal persons, which is the scope of civil cases accepted by the courts. From this, the court accepted the housing disputes, the civil legal relations adjusted by the case, should be the legal relations between equal subjects, rather than due to administrative subordination of the rights and obligations of the relationship. In addition, citizens, legal persons and other organizations of the people's government or other competent authorities on the housing management issues of administrative penalties, according to the law, administrative litigation, the court may as administrative cases. Therefore, in the trial practice, the author advocates: because of the housing reform caused by vacating the house disputes, property rights clear infringement disputes,

not protect the right of first refusal caused by disputes, divorce litigation involving housing reform housing division disputes, unit employees to participate in the housing reform after the death of purchasing a house, heirs on the reform of the preferential housing requirements for inheritance, due to the current housing reform policy on the staff to standard price of purchasing a house allowed to inheritance, so the court shall as civil cases.

II. D. 2) Digital courts for housing rights disputes

In order to ensure the smooth running of online trials in the digital court, the following tasks will also need to be carried out before the start of the case:

(1) Re-confirmation of the defendant

After deciding to apply the online trial program, the court must make the “Online Trial Program Rights and Obligations Notice and Confirmation”, and promptly deliver it to the relevant parties to the case, the defendant. In the notice and confirmation letter should be a detailed introduction to the online trial of the various operating procedures, processes, as well as the corresponding rights and obligations, should pay attention to matters and so on. If there are any questions about the notification and confirmation letters, the relevant personnel will help to answer them. Under the premise of fully understanding and comprehending the notice and acknowledgement, it is necessary to sign, and without the signature, the online trial mode cannot be applied.

(2) Announcement of court sessions

For cases that are heard online, an announcement of the hearing of the case should be made 3 days before the hearing date, not only in the court of the hearing, but also at the remote trial site. The content of the announcement will involve the time of the hearing, the parties involved in the hearing, the cause of the case, the platform of the hearing, the access key, and the site of the main trial and the remote trial site. Not only should the announcement be posted, but it should also be published on the web portal of the court of the main trial and the court of the remote trial site. For major cases, it should be posted on a larger portal.

(3) Equipment Testing

Two days before the case starts, the relevant technicians should test and maintain the equipment related to the online trial to guarantee the normal use of the equipment in the trial process.

(4) Production of electronic files

In the case of the trial 3 days before the trial, the relevant personnel, should be related to the entire content of the case, made into an electronic dossier, labeled with the page number, in order to be used in the trial.

(5) “Arrival” of the parties involved in the case

In the case before the trial, to ensure that the relevant parties to the case can appear in the prescribed time to participate in the trial in the corresponding trial location, for the case of the defendant, also need to be escorted to the corresponding trial location on time, to accept the trial.

(6) Strengthening the Judge's Judicial Subject Position

The use of the system for civil litigation must be based on the premise of respecting the judge's personal experience and subject position. As mentioned above the system will predict the outcome of the judgment and deviate from the warning. Such systems may conflict with the judge's discretion and weaken the judge's subject position. Therefore, the court should respect the judge's personal experience in the system design, the purpose of intelligent court construction is to realize the modernization of the trial capacity, the main body should be “people” as the core, so the alarm of the system, the judge should be allowed to make corrections and decisions.

III. System Testing and Legal Adaptation Analysis

III. A. System Detection and Analysis

III. A. 1) Testing tools

The test tool used is WAST designed and developed by Microsoft, WAST is an effective simulation test tool to simulate concurrent access to a Web site (or Web page) by multiple users. The tester can set the number of simultaneous connections at a given time according to the number of potential visitors to the Web site, and utilize one or more clients to conduct the simulation test, and at the end of the test, a detailed test report will be generated, which describes the values of various performance indicators in a test.WAST can measure the main performance parameters:

Socket Connects: the total number of connections generated by the client.

Number of hits: the number of hits, i.e. the number of stable connections generated.

Requests per Second: number of requests per second, this parameter reflects the throughput characteristics of the system.

Total Bytes Sent (in KB): the total number of bytes sent by the client to the web server during a test.

Bytes Sent Rate (in KB/s): the rate at which the client sends bytes.

Total Bytes Recv (in KB): the total number of bytes received by the client from the Web server during a test.

Bytes Recv Rate (in KB/s): the rate at which the client receives bytes.

TTFB Avg (inms): the average time from when the client makes a Web request to when it receives the first byte of the complete page.

TTLB Avg (inms): the average time taken by the client from issuing a Web request to receiving the last byte of the complete page, this parameter reflects the average response time of the Web service.

Compared to other testing tools, WAST has the following features:

WAST is free software and can be downloaded directly from the WAS Web site.

WAST is easy to use and can generate test scripts in a variety of ways.

A test script can be used on one or more test clients, all controlled by a master client. The master client communicates with the other clients and is responsible for distributing test data, initializing all clients, and collecting test results from all clients.

WAST based on HTTP1.0 or HTTP1.1 protocol standards, can emulate the browser access to any Web server, with cross-platform.

Allows cookies and ASP session information storage for each virtual access user. Supports bandwidth suppression and randomized think time to produce more realistic access scenarios.

Provides an actionable object model that allows test scripts to be programmatically configured, started or stopped using VBScript or other programming languages.

III. A. 2) Test environment

Due to constraints, we only use two machines for testing the Web Learning System website. One is used as a web server and database server, the basic configuration is: Intel P IV 1GHz, 2G RAM. Windows Server 2016 Server is used for web servers and SQL Server 2000 is used for database servers. The other machine is used as a client and the basic configuration is: Intel P IV 1GHz, 512M RAM. The operating system is Windows 2010 Professional, running the WAST software.

III. A. 3) Test condition parameter setting

Before conducting the test, you have to create a test script, in which the test input conditions are set up with some of the following parameters:

(1) URL to be accessed

In our system, most of the users are browsing the content, in order to facilitate the test, we choose a representative ASP. net web page, the web page program is executed, the display of a section of the contents of a section of the display, there are textual descriptions, as well as teaching illustrations produced with FLASH.WAST according to the specified web page URL, the web page is broken down into a number of test items, we filter the ASP. net web page and the We filter the ASP.net web page and the slide file PPT two test items for testing.

(2) Think Time is the delay time before executing an access, which includes the time it takes the browser to analyze the HTML page and establish a new TCP connection for the objects embedded in that page (e.g., images) and the time it takes the user to navigate the page. If this parameter is set to 0, i.e., there is no thinking time, WAS will be as fast as possible per access thread. We set the think time to 30 seconds.

(3) The number of users accessed by Concurrent Connections, out of Stress level (threads) (the number of threads in the guest operating system) and Stress multiplier (sockets per thread), the relationship between them is: Total Concurrent Requests = Stress level × Stress multiplier=Total Number SocketsIn our test, let the Stress multiplier be a fixed value of 1, and the value of Stress level should be 50, 100, 150, 200, 300, 400, 500, 750, 1000, 1500 for continuous testing. Let's start with a 1000 thread test.

(4) Test Run TimeTo avoid biased test results, the test should run for at least a few minutes to produce a sufficient number of connections. Typically a test run time of 7 - 10 minutes will produce stable results. We have set the test run time to 10 minutes per test.

(5) Request Delay is the delay time for request generation. Each request waits a random time before it is generated. The delay time is generated randomly between a set maximum (1000ms) and minimum (Oms) to avoid generating peaks and valleys in access to the web server. The total delay to generate a new request is: Request Delay +Think Time.

(6) Bandwidth is the test simulation bandwidth. In order to make the test both universal and to ensure a large number of simultaneous connections, we set the emulation bandwidth to ISDN Dual Channel (128K).

III. A. 4) Test results and analysis

A set of consecutive tests is performed by constantly varying the number of users connected. Some data describing the performance of Web Server is given in detail in the test report generated by WAST. After organizing, filtering and counting the test results are shown in Table 1. From the test results, it can be seen that in the 25-minute test

time, WAST generates a lot of random socket connections based on the number of connected users, and with the increase in the number of users, the number of connections generated, the number of valid connections (throughput) also increases, but the connection hit rate decreases, which indicates that the greater the network load, the greater the possibility of connection failure, the throughput rate and the number of stable connections with the number of users is shown in Figure 3 shows, and the relationship between response time and throughput is shown in Figure 4. As more users connect simultaneously (within 300 users), the number of stable connections per second increases, and the network data rate increases. Within the bandwidth tolerance, the average response time tends to increase but the difference is not significant. Access to 15K static text page only 450ms compared to access to ASP.net web page response time of about 28 seconds (the actual operation, it is not possible to generate multiple ASP access per second, so the access time will be a little smaller), which includes the processor to run the ASP.net program time and the database to connect to the processing time, when the number of simultaneous connections more than the number of connections allowed by the database (eg. When the number of simultaneous connections exceeds the number of connections allowed by the database (e.g., 300), the response time for some of the connections is extended by one ASP.net execution time, and the average response time grows. When the load exceeds the server-side connection capacity (e.g., 10000), the response time increases rapidly. Overall the system's performance indicators are within acceptable limits and meet the needs of the user experience.

Table 1: System test results

N	50	100	150	200	300	400	500	750	100	1500
Socket connects	1128	2207	2256	2408	2439	2502	2439	2653	2716	2844
Number of hits	1127	2114	2226	2236	2216	2103	2066	2054	2004	1816
Connection hit half	0.9871	0.9551	0.9672	0.9012	0.8692	0.8533	0.7706	0.7752	0.7354	0.6051
Requests per Second	19.16	34.73	36.77	36.17	36.11	35.38	34.76	34.57	32.74	29.75
Bytes Recv Rate	5815	10368	11199	11215	11248	11226	11183	11238	11241	11238
The average response time of the power point file is (ms)	50	179	1295	2209	4327	6925	9124	14052	18063	27051
Average response time for ASP.net files (ms)	476	3011	5546	8044	12184	16221	19415	25267	27412	29072

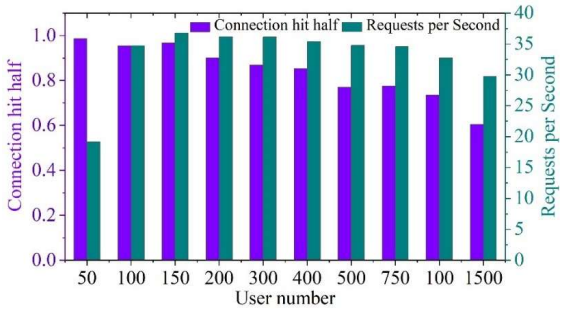


Figure 3: Changes in throughput and stable connections with the number of users

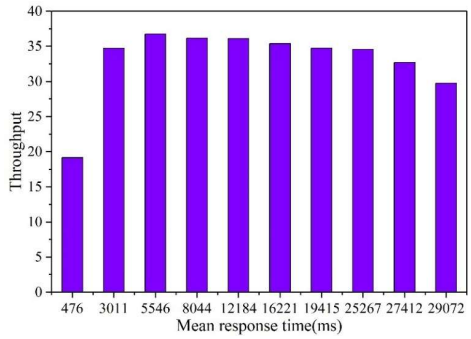


Figure 4: Relationship between response time and throughput

III. A. 5) Social effects of the digital court system

Under the conditions of socialist democratic politics, this paper takes the digital court system as the main litigation channel, which has an important impact on political, economic and social life. At present, the intelligent trial platform is becoming more and more mature, exposing and criticizing all kinds of abuses of power without mercy, in order to satisfy the public's right to know, and to form a strong pressure of public opinion on the abusers of power and power behaviors. The power of the public is utilized to make the responsible persons concerned have to take relevant measures or certain actions to satisfy the will of the public or to calm down the emotions of the public. The digital court system effectively protects the legitimate rights and interests of vulnerable subjects in civil litigation of housing rights and interests disputes, maintains social justice, promotes social harmony to a certain extent, and promotes the economic effects of society at the same time. Demonstrate the digital court system in the housing rights and interests disputes civil litigation practical application of the effect, which in turn has a positive impact on society and the economy.

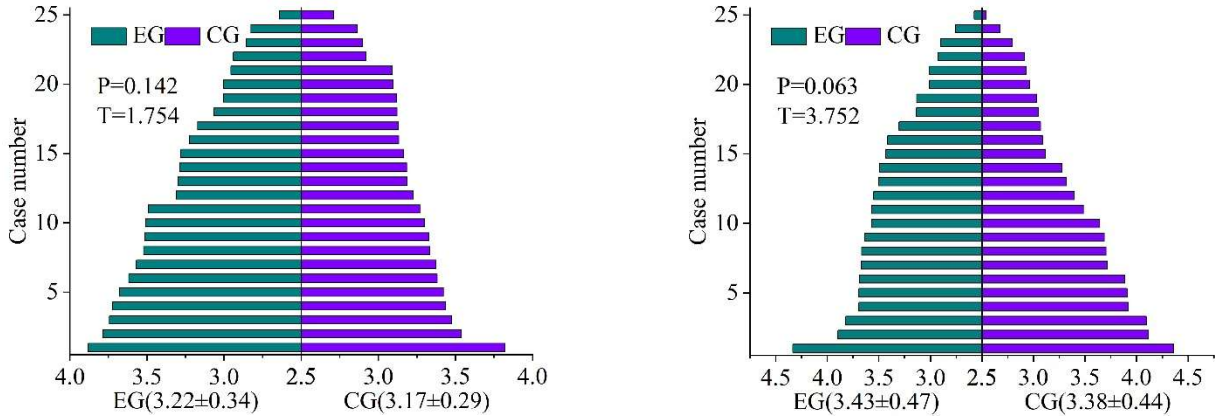
III. B. Analysis of the legal adaptation of the system

III. B. 1) Research sample

Fifty civil litigation cases of housing rights and interests disputes are selected as the research samples in this subsection, and the samples are divided into experimental group (25 cases) and control group (25 cases), the experimental group adopts the system of this paper to deal with civil litigation cases of housing rights and interests disputes, while the control group adopts the traditional method to deal with civil litigation cases of housing rights and interests disputes, so as to reflect the legal adaptability of the system of this paper in civil litigation cases of housing rights and interests disputes in the dimensions of both efficiency and quality. The experimental group adopts the system of this paper to deal with civil litigation cases of housing rights disputes, while the control group adopts the traditional method to deal with civil litigation cases of housing rights disputes. The detailed analysis process is as follows:

III. B. 2) Comparative analysis of pre-intervention legal adaptation

Based on the questionnaire to obtain the research data, and then with the help of independent samples t-test, the difference between the legal adaptation before intervention was analyzed, and the difference analysis results are shown in Fig. 5, where (a)~(b) are efficiency and quality, and EG and CG in the figure represent the experimental group and control group, respectively. Based on the data in the figure, it can be seen that the system of this paper and the traditional method do not have significant differences in the two dimensions of efficiency and quality of civil litigation cases of housing rights and interests disputes before the intervention, and the specific data are shown in 0.142 and 0.063, which do not satisfy the condition of $P<0.05$ significance judgment. In addition the difference between the mean value of efficiency (3.22-3.17=0.05) and quality (3.43-3.38=0.05) of the two is not very large, which further indicates that both of them are at the same level before the intervention, to ensure the rigor of the results of the research and analysis of the research, the following will be the analysis of the differences in the legal adaptability of the post-intervention.

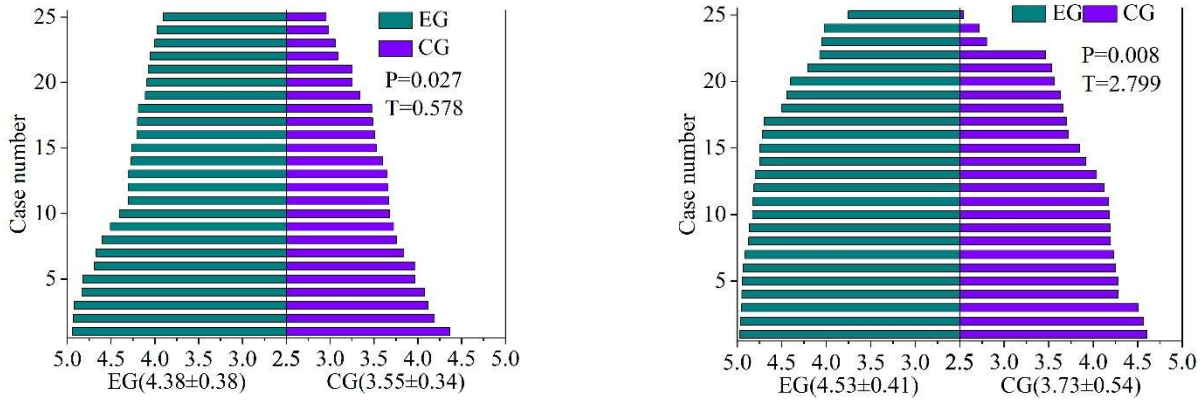


(a) efficiency (b) mass

Figure 5: Differential analysis results

III. B. 3) Comparative analysis of legal adaptation after intervention

The data for the comparative analysis of post-intervention legal adaptation came from the user experience test, and under the premise of obtaining the research data, as above, the independent samples t-test was used to conduct a comparative analysis of variance between the post-intervention experimental group and the control group's legal adaptation, and the results of the comparative analysis of variance are shown in Fig. 6, in which (a) to (b) denote the two dimensions of efficiency and quality in that order, and P in the figure denotes the value of the test of significance, and the T-value is a statistical measure of the size of the difference between the means of two independent samples relative to their variability. Based on the performance of the data size in the graph, in terms of efficiency, the difference between the means of the experimental group and the control group is 0.83 (4.38-3.53=0.83) and P=0.027<0.05, i.e., there is a significant difference between the experimental group and the control group. As for the quality, the mean difference between the experimental group and the control group was (4.53-3.73=0.7) and P=0.008<0.05, which means that the two possessed a significant difference relationship in terms of quality. In summary, compared with the traditional method, the digital court system constructed in this paper has a higher priority of legal adaptation in civil litigation of housing rights disputes, and also confirms the legal adaptation of the system in civil litigation of housing rights disputes.



(a) efficiency (b) mass

Figure 6: Difference comparison analysis results

IV. Conclusion

Based on the results of system requirements analysis and system design principles, this paper determines the overall design of the digital court system, designs and implements the digital court system with the help of software development language, and analyzes the application of the system in civil litigation of housing rights and interests disputes in detail. Determine the research samples and testing tools, respectively, the system performance and its legal adaptability in the civil litigation of housing rights and interests in the research and analysis. With the increase in the number of users, the number of connections generated, the number of effective connections (throughput rate) also increased, the system's various performance indicators are within the acceptable range of values, can well meet the basic needs of users, the practical application of the system has a certain positive impact on the society and the economy, the system of this paper and the traditional method of dealing with housing rights and interests disputes civil litigation cases in the efficiency and quality of the existence of a significant difference between the system, p<0.05, and the system of this paper and the traditional method of dealing with housing rights and interests disputes civil litigation cases. Validated the legal adaptability of the digital court system in civil litigation of housing rights and interests disputes, and has a guiding reference value for dealing with civil litigation cases of housing rights and interests disputes.

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