Hindawi
Wireless Communications and Mobile Computing
Volume 2023, Article ID 9814727, 1 page
https://doi.org/10.1155/2023/9814727

Retraction

Retracted: The Indoor Space Layout of University Laboratories Based on Wireless Communication and Artificial Intelligence Decision-Making

Wireless Communications and Mobile Computing

Received 3 October 2023; Accepted 3 October 2023; Published 4 October 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] L. Xia, "The Indoor Space Layout of University Laboratories Based on Wireless Communication and Artificial Intelligence Decision-Making," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 5121762, 7 pages, 2022.

Hindawi
Wireless Communications and Mobile Computing
Volume 2022, Article ID 5121762, 7 pages
https://doi.org/10.1155/2022/5121762

Research Article

The Indoor Space Layout of University Laboratories Based on Wireless Communication and Artificial Intelligence Decision-Making

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Received 24 December 2021; Accepted 10 February 2022; Published 4 March 2022

Academic Editor: Mohammad Farukh Hashmi

In recent years, people have found that the use of contactless wireless communication can be more quickly interactive information transmission, which greatly facilitates our daily life. However, in the past, wireless communication is generally large-scale regional information dissemination. In recent years, with the further development of closed scenes, people are thinking about whether wireless communication can be used in closed scenes to do small and fast information transmission. The purpose of this paper is to study the indoor space layout of university laboratories based on wireless communication and artificial intelligence decision-making support. We are looking at the information about wireless communication to learn that wireless communication was often used in military transmission of signals and information; it has been vigorously developed and popularized, is now mainly used for civilian use, and can be combined with artificial intelligence to implement rapid information transmission transfer, in the data processing volume at a certain time basically achieving second transmission. Wireless communication and artificial intelligence decision-making can be used to conduct research on the indoor layout of college laboratories. In response, after data query and data comparison, we applied to the school for a computer lab and several idle laboratories to cooperate in experiments to facilitate the completion of the architecture of wireless communication and artificial intelligence systems, as well as subsequent data processing analysis. After a period of time of experiments, according to the results of the experiment, the use of wireless communication and artificial intelligence decision-making can help college laboratories according to their own functions, the installation of intelligent equipment, and the indoor layout of better arrangements.

1. Introduction

At the beginning of the founding of new China, the whole country was in economic difficulties. At this time, laboratories were generally built-in scientific research institutes, and some universities had a small number of laboratories [1]. However, after decades of development, in order to meet the training requirements and development of various colleges and universities, not only have been laboratories built in scientific research institutes but also today's colleges and universities have basically built their own laboratories. With the injection of funds and the development of time, the laboratories of major colleges and universities are becoming more and more sophisticated [2, 3]. At the beginning, the laboratories are generally shared. For example, the whole biochemistry discipline or physics discipline shares one laboratory, but now, the laboratories are generally divided into various disciplines. Generally, a small branch discipline uses one laboratory, and the laboratory of a chemistry discipline may have several floors [4–9]. Therefore, after years of development, our laboratory has developed very well [10]. However, due to the different functions of each laboratory, we need to replan and design the current laboratory to better cooperate with the laboratory to complete its functional utility, which is the importance of laboratory layout [11–15].

Artificial intelligence is the most widely used computer system [16]. However, due to the problem of construction, AI generally needs tens of billions of funds to start construction and also needs huge computing resources, server group cooperation, and a large amount of funds, equipment, and manpower for subsequent maintenance and update [17–20]. Therefore, up to now, there are not many enterprises with AI, only a few cutting-edge high-tech. Only Internet companies have artificial intelligence systems [21–24]. However, the current artificial intelligence is not real artificial intelligence. It is only a pseudoartificial intelligence composed of learning algorithms and huge computing resources to learn people's behavior habits through big data analysis and then make the analysis results most conducive to the current situation [25–27]. Since the situation generally conforms to people's behavior habits, people can think of it as an intelligent performance [28–31]. But in fact, real artificial intelligence should be a system with self-thought that can speculate and make self-choices, rather than a code that makes preset choices according to the set code. Therefore, the road of artificial intelligence is still far away [32–35]. However, the use of pseudoartificial intelligence can handle most things now, but even pseudoartificial intelligence is not owned by ordinary enterprises. Therefore, when we conduct artificial intelligence experiments, we generally use a section of pseudoartificial intelligence based on the artificial intelligence algorithm shared by the network to cooperate with the owned computing resources and service units [36–40]. Therefore, the experiment carried out in this paper uses the artificial intelligence system to cooperate with the wireless communication technology to carry out the laboratory layout, which can help us deal with the signal conversion problem more efficiently and eliminate the wrong results caused by the long response delay [41, 42].

2. Photo-Phase Control Algorithm

Wireless communication generally includes a complete set of equipment such as data terminal, signal transmitter, signal receiver, processor, and information transmission equipment [43]. Wireless communication mainly uses the data terminal to collect information and store it in the equipment through sound and image acquisition, then converts the data into electrical frequency signal through the signal transmitter, transmits it to the signal receiver with a unique frequency, and uses the processor to reconvert the electrical frequency signal into sound, image, and other information. Finally, the information transmission equipment is used to convert the information into drawings for storage and transmission, which is the whole wireless communication mode [44]. However, due to the problem of signal switching, wireless communication is generally suitable for small-area closed scenes or large-area open scenes. Because the signals are easy to be disturbed, signals with moderate strength are generally used in closed scenes, but in open places, strong signals are generally used to transmit all information to avoid interference by other signals or magnetic fields [45, 46]. Therefore, for closed scenes and open scenes, we adapt two different wireless communication methods: in closed scenes, private information is generally transmitted, and information is exchanged between instructions and terminals through wireless communication methods, such as voice control processing and gesture sensing, so as to achieve the purpose of information processing. On the other hand, in an open scene, the public signal is generally transmitted by using large signal transmitters and transmission towers. For example, the public large signal transmitters such as data base stations and radio and television signal towers are used to transmit the signal to all people who can receive such signals, so that individuals can process the signal through the personal mobile device terminal and convert the signal into information and complete the process of wireless communication [47–50]. In our experiment, because the scene is in a closed environment, we generally use the first method for information transmission and use the communication method we need to use to cooperate with wireless communication to transmit information [51].

The light field generated by the nth fiber can be represented as Q_n:

$$Q_n(x, y, z) = \exp\left[-ik\frac{r_n^2(x, y)}{R(z)} - i\phi_n(z)\right], \tag{1}$$

medium: $r_n^2(x, y) = (x - x_n)^2 + (y - y_n)^2$, beam width $\theta(z)$ expression is

$$\theta(z) = \omega_0\sqrt{1 + \left(\frac{\lambda z}{\pi\theta_0}\right)^2}. \tag{2}$$

3. Experiment

3.1. Experimental Purpose. Artificial intelligence decision-making is currently the most efficient and useful decision-making method, and in experiments over and over again, artificial intelligence has played a great role in helping us to play a big role in the layout of the laboratory, so we can better use wireless communication in the laboratory to install interactive equipment, to help the laboratory become more intelligent and modern, while for all kinds of functions, the layout of the laboratory is redesigned so that the experimenter can be convenient. Use equipment and communication while making better use of indoor space for experiments. And because of the improvement of modern laboratory function and the high degree of refinement of various disciplines, we need to reexamine the various types of laboratories that need to be built in planning and reexamine with the relevant person in charge, so that we can get better help in the follow-up work.

3.2. Experimental Process. We first used the Photo-Phase Control algorithm to analyze the indoor layout with artificial intelligence, projected the overall lab environment layout into 3D modeling, and then simulated the experiment based on the characteristics of wireless communication. Each wireless device is placed in each easy-to-access location without interfering with the experiment and according to the function of various laboratories to make a reasonable arrangement, and then, for the laboratory according to their own functions of the layout, the various instruments are placed

Table 1: About the analysis and processing of data by artificial intelligence systems and general systems.

	Data processing per million	The number of errors	Time consumption (s)	Average data processing speed (10,000/s)
Artificial intelligence systems	1000	24	9.14	109.479
The original system	1000	1762	13.76	72.598

in a safe and reasonable location and can contact other laboratories, so that all laboratories are an independent individual, which can also be integrated at critical moments to form an organic whole. Finally, the results of the simulation experiment are analyzed, the advantages and disadvantages are evaluated, and the next step of the repeated experiment is carried out, knowing that a more satisfactory result is obtained.

3.3. Survey. After the experiment, in order to observe the success of the experiment, we invited relevant laboratory personnel, construction personnel, and safety personnel to evaluate and analyze the layout of the laboratory, then collect data, get the results, and consult industry practitioners for related matters in order to obtain an evaluation and develop a follow-up experimental protocol. Among them, 100 laboratory-related personnel were mainly investigated, including 85 ordinary students, 10 teachers, and 5 cleaning staff.

4. Experimental Results

4.1. Artificial Intelligence Data Processing Analysis Results. Before we do the experiments in this article, we will do what we need to do by comparing the artificial intelligence we applied with the differences in data processing and speed of the original processing system. As shown in Table 1, artificial intelligence is 1.5 times faster than the original system under the same amount of data processing, and the error situation of data processing is much smaller than that of the original system, which is only 13%, indicating that we can use artificial intelligence for the next experiment on wireless communication.

4.2. The Fit between Artificial Intelligence and Wireless Communication. After the first round of experiments on the analysis of artificial intelligent systems and general systems for data processing results, it was learned that artificial intelligence systems can be calculated using larger computing resources, so we conducted a second round of experiments, that is, to test the coordination of artificial intelligence and wireless communication.

After experimentation, we publish the data in Tables 2 and 3. According to experimental data, artificial intelligence has made considerable breakthroughs in information reception, except for the use of light velocity at this stage of signal propagation and self-service decision-making, and the rest of the data such as terminal interaction, signal transmission, signal transfer information, and information processing are all equivalent to a reduction of 1/3 of the time on the original basis, which is great progress. So, we decided to conduct a third round of experiments to get the results of the experiment on the layout of the laboratory.

Table 2: About the time spent on autonomous wireless communications.

The procedure	Time consumption (microseconds)
Information is received	872
Computer interaction	3311
Signal emission	1722
Signal propagation	0
Signal transfer information	2033
Information processing	2118

Table 3: Wireless communication that makes decisions about artificial intelligence system time consumption.

The procedure	Time consumption (microseconds)
Information is received	172
Data terminal interaction	2322
Signal emission	1245
Signal propagation	0
Signal transfer information	1326
Information processing	1431

4.3. Experimental Results on the Relayout of Laboratories Using Wireless Communications and Artificial Intelligence Decision Support Technology. When we used wireless communication and artificial intelligence decision support technology to relayout the laboratory and then compared with the original layout results, we made Table 4 and Figure 1. It can be seen from the figure that after the replanning of the layout, not only the main center increased by 1 and the computer group increased by 20 but also the space utilization efficiency is higher, indicating that our replanned layout is a scientific and reasonable laboratory layout. And this is only one of the most obvious computer laboratory layouts. Other laboratories, such as biochemical laboratories and physics laboratories, due to the complexity of experimental instruments, experimental equipment, reagents, and consumables, will not be repeated here, and only the most obvious transformation will be selected here, the computer room as the research object.

4.4. Results of the Questionnaire. By looking at the data in Figure 2, you can see that there is a high level of satisfaction with the level of laboratory layout that is made after

Table 4: About the distribution results of reallocating laboratories using wireless communications and artificial intelligence decision support technology.

	The number of computer groups (tables)	Number of central units (units)	The experimental instrument covers an area (m^2)	Remaining available area (sqm)
Replan the layout	81	2	41	21
The original layout	59	3	46	16

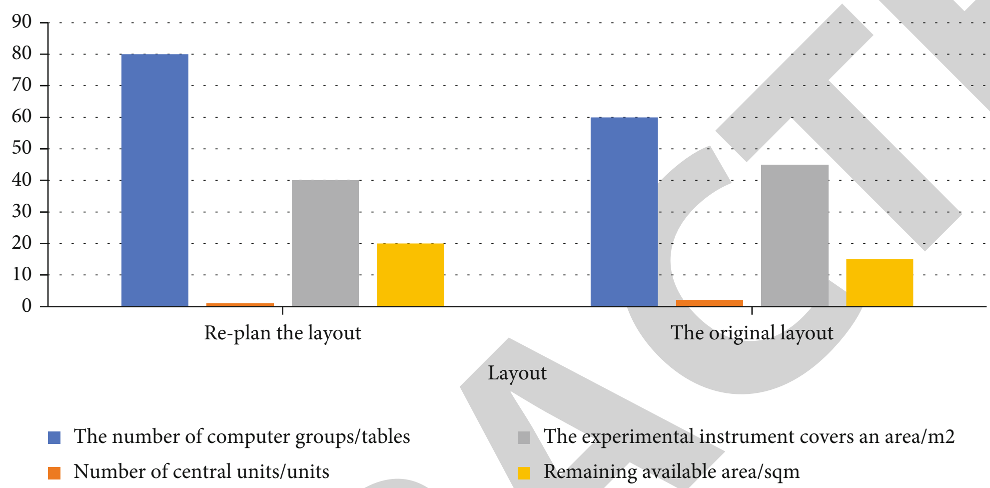

Figure 1: About the distribution of the distribution results of the relayout of laboratories using wireless communications and artificial intelligence decision support technology.

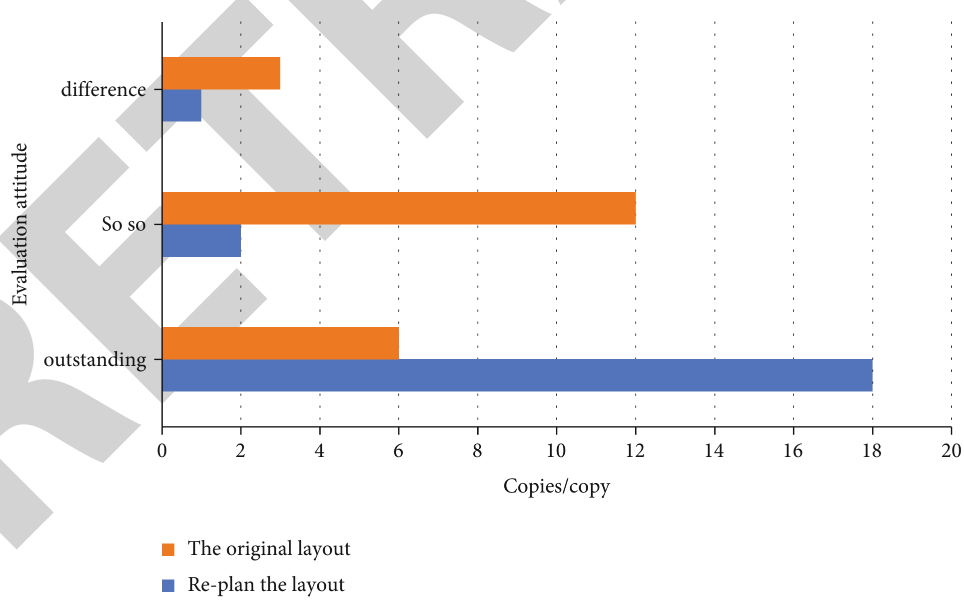

Figure 2: Evaluation results of the questionnaire.

decisions based on wireless communication and artificial intelligence, far more than ever before, showing that our experiments are very reasonable and reliable, so we should continue to maintain a scientific and rational planning concept for design. For this, we follow up the return visit of several relevant industry senior practitioners and also gave some valuable experience; the most useful point I think is a scholar put forward, which should be appropriate to meet the needs of the individual situation to make a few necessary sacrifices for a reasonable layout. I began to understand this sentence, and then, I thought about it to find that the laboratory sometimes produced some unexpected experimental results; the experiment is also in need of inspiration; if you have been focused on the rational use of space which is not possible, it is also needed to add some plants and other personal preferences according to the individual situation of the experimenter; perhaps, this can help people to complete better and more exciting experiments, so that the experiment is not only an experiment but also a kind of enjoyment (Table 4).

The future indoor layout should be designed in combination with the characteristics of wireless communication protocols, such as ZigBee and Bluetooth communication for devices with a short transmission distance, RS485 communication for devices with a long transmission distance, and some devices that need to be combined with artificial intelligence technology. Footprint and technical features are designed.

5. Conclusion

Artificial intelligence is not short-lived, but there is not much time to actually get started. But it is in these years of development, with the computer hardware updates, such as chips, processors and graphics, and other types of hardware further updates, which make the development of the entire artificial intelligence more and more rapid, especially in the last decade the entire computer processing speed showed exponential growth. And in it, artificial intelligence has changed dramatically. Even though artificial intelligence is still an immature technology, it is still of great practical value at this stage. So, I think we should continue to follow up and use artificial intelligence to participate in more industries, to help complete a new industry change, to free up the workforce, to use artificial intelligence with computing resources and databases and algorithms, and then to plan to form the tasks we need to achieve, as shown in this article: design planning. The indoor space layout of university laboratories is supported by wireless communication and artificial intelligence decision-making. After many experiments and questionnaires, according to the experimental data and results obtained, it can be shown that the replanned layout is still a considerable part of the original improvement, so I think we can continue to make broader improvements on this basis, such as the use of artificial intelligence decision-making with experimental instruments to complete the indoor space layout of college laboratories and subsequent experiments. Of course, the above is only for some of the author's personal ideas; the author believes that specific implementation with the future development of science and technology will certainly be achieved.

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest

It is declared by the author that this article is free of conflict of interest.

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