

On the Application of GIS Technology in the Construction of Smart Campus in Colleges and Universities

Liping Huang

Department of IT Development & Management, Huaqiao University China Fujian 361021

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Abstract: With the continuous development of the economy and the progress of the times, the development of information technology has become more mature. In recent years, as a new technology, GIS technology has also been developed in our country, and the scope of application is becoming more and more extensive. The application of GIS technology has had a tremendous impact on all areas of society. Nowadays, more and more attention has been paid to the application of GIS technology in the construction of colleges and universities. The introduction of GIS into universities can promote the construction and development of universities and build smart campuses. This paper discusses the application of GIS technology in the construction of smart campus in colleges and universities, to better promote the development of colleges and universities and make better contributions to socialist education in China.

1. Introduction

As the core of the development of science and technology, colleges and universities in China have always been in the leading position in the society in accepting and promoting the development of new technologies. The application of GIS in colleges and universities has not been fully popularized. But from the daily teaching of colleges and universities, as well as school administration and logistics services, GIS technology can be applied. The application of GIS technology can improve the teaching quality of colleges and universities, help to strengthen the management of each work, and enhance the overall image and comprehensive strength of the school. This paper mainly popularizes the knowledge of GIS technology, discusses the application practice of GIS technology, so that GIS technology can play a role in the construction of wisdom, and is conducive to promoting the better use of science and technology.

2. Overview of GIS Technology

GIS technology mainly analyzes information through graphical data. It can manage its complex data and is able to calculate many complex spatial relationships. The working principle of GIS is to collect, organize, analyze and apply the geographic information effectively by using computer hardware, software and other information processing data.

At present, the development of GIS in China started late. With the growing maturity of information development technology, GIS technology has been applied in many aspects. For example, it has been developed in various fields such as land resource management, transportation and communication, and financial insurance. GIS technology can detect the environment, manage resources, and also play a role in detecting and predicting, which can be applied to the construction of smart universities. Collecting data and making full use of the data to promote the construction of colleges and universities to be more intelligent and more convenient. At the same time, it will also help to make science and technology more mature through colleges and universities.

3. Application of GIS Technology in the Construction of Smart Campus Colleges and Universities

GIS technology is mainly used in the teaching of college construction. The teaching link is the

basic link of college construction, and it is also the basic task. The requirement of China's education reform is that colleges and universities can continuously improve the quality of education. The application of GIS technology can open up a wider path for the development of education in Chinese universities and find new ways of development.

3.1 Since China's Reform and Opening Up, China's Market Economy has Developed Very Well, and China has Begun to Seek Ways to Make Education Develop Better.

Among them, cultivating comprehensive talents is one of the goals of implementing education reform, so that the talents trained by colleges and universities can adapt to social development and can be cultivated to be comprehensive high-quality talents. The application of GIS technology is conducive to achieving this goal. Teachers can build a teaching platform through GIS technology, so that students can deepen social practice while learning theoretical knowledge, and can also practice the knowledge through electronic devices. The application of GIS technology can timely count the use of classrooms, rationally allocate classrooms, manage resources effectively, and improve teaching quality. At the same time, it is also possible to view the use of the classroom online through GIS technology, and avoid the manual labor consumption of the classroom.

In addition, GIS technology can play an active role in students' exam management. The use of GIS technology in the examination can monitor the cheating of students in a wide range and in all aspects, which is unmatched by the camera. Applying GIS to the examination management of colleges and universities can effectively improve the efficiency of management of examination room and reflect the fairness of examination discipline in colleges and universities.

3.2 GIS Technology Can Also be Applied in the Daily Study Life of College Students.

The main lifestyle of college students on campus is campus consumption, and the daily consumption of college students can be realized in colleges and universities. In fact, colleges and universities are a small society in which students live and learn. Therefore, the necessary infrastructure and application of GIS technology are essential. GIS technology can be applied to the use of college students' cards. With the continuous development of information technology, many colleges and universities in China now have a card which can be used in canteens, supermarkets, school hospitals, libraries and some supermarkets in colleges and universities. Even a part of college cards can be used for off-campus facilities, such as traffic, banking, and hospital registration. This is a convenient life brought by information technology.

However, there are some problems in the use of the card, students are easy to lend the card to others, which is not conducive to the construction of colleges and universities. The use of the card was originally intended to benefit the lives of students. If a card is borrowed at will, it will not only lead to unnecessary friction, but also easily bring hidden dangers to the safety construction of colleges and universities. Therefore, the application of GIS technology to the construction of college smart campus and to the card can monitor the use of card for teachers and students, which is conducive to the rational use of resources, and the security construction of colleges and universities.

3.3 GIS Technology can Also be Applied to the Construction of Resources Management in Universities.

The waste of resources caused by universities is serious, and many resources are not fully utilized or overutilized. The office learning places, such as classrooms and offices, often have the phenomenon that the lamp is lit on when people leave the office, which is a waste of resources. In the management of colleges and universities, it is necessary to save and reasonable control the cost. The application of GIS technology in the construction of resource management in universities can monitor the use of resources in administrative office areas such as classrooms in an all-round way. If the waste of resources is found, universities can manage the classroom or other places through the unified management of GIS technology, and timely interrupt the waste of resources.

At the same time, the use of GIS technology can also be applied to water resources and air conditioning in university dormitories. When air conditioning is used in dormitories, water resources should be controlled by temperature and measurement. Therefore, GIS technology can

play a great role in the management and control of air conditioning resources and other resources. These resources can be centrally regulated by GIS technology and automatically regulated by automatic switch, which is of great significance for improving the management ability of schools, reducing waste of resources and saving high-efficiency. Through GIS technology, the goal that even if nobody is at dormitory, resources can be stopped to be used can be achieved, which is an extremely effective measure to build a smart campus.

4. Application Strategies of GIS Technology in the Construction of Smart Campus

In order to better apply GIS technology in colleges and universities, we should also take some effective methods to promote the construction of smart campus.

4.1 Universities Need to Strengthen the Investment of Infrastructure.

At present, colleges and universities in China are not investing enough in construction of GIS technology, and the situation that colleges and universities do not pay attention to is still widespread. This requires managers to fully understand the trend of the times, take the initiative to understand the relevant technologies of development of GIS technology, strengthen the investment of infrastructure in technology, and highlight the status of GIS technology in the construction of colleges and universities. At the same time, universities should strengthen the research and development of GIS technology-related technologies and constantly adapt to the needs of social development.

4.2 Universities Need to Introduce Talents.

The introduction of talents is conducive to the improvement of scientific research and technology. With the development of the times, GIS technology has gradually developed, and the introduction of smart campus has made GIS technology have room for development. The development of technology needs to be driven by talents. But the lack of talents makes many problems in the application of GIS technology, which makes GIS technology not fully utilized. Therefore, colleges and universities need to pay attention to talent development. First of all, it is necessary to cultivate comprehensive talents within the university, improve the quality of talents, encourage talents to stay in school and contribute to the development of the alma mater after graduating from the school. At the same time, colleges and universities need to introduce talents from the outside, give talents certain preferential policies from all aspects, so that the talents can retain and play a role.

4.3 Colleges and Universities should Strengthen the Research and Development of Technology.

With the rapid development of science and technology, colleges and universities can not slack off. Colleges and universities should attach importance to their own construction, innovate constantly, provide new ideas for the development of GIS technology in China from theory and practice, and make due contributions to the development of science and technology in China. At the same time, the research and development of new technology in colleges and universities can also purify the scientific research environment of our country.

5. Conclusion

In today's rapid development, GIS technology has been applied in many fields, and has a certain impact on the development of all aspects of society. However, the development of GIS technology is not yet fully mature, and there are still many problems in the application of GIS technology to the construction of smart colleges and universities, which is an inevitable problem in the construction of smart colleges and universities. It is undeniable that the application of GIS technology in smart campus is the most direct reflection of the development of GIS technology, which has a tremendous impact on the life and teaching of colleges and universities, as well as the implementation of relevant policies and policies in China. With the passage of time, the development of GIS in colleges and universities will be more mature, and it will also play a more active role in the

construction and development of colleges and universities. In addition, GIS technology is bound to be applied to a wider range, so that people can enjoy a more convenient and efficient life. With the continuous development of science and technology, the construction of smart universities will go further.

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