ISSN : 0974 - 7435 Volume 10 Issue 14

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(14), 2014 [7713-7718]

Application of MapABC api in food safety supervision and enforcement system

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ABSTRACT

The application of MapABC API is crucial in the building process of food safety supervision and enforcement system. Viewed from today's science and technology development, the traditional mapping tool plays a smaller role in the building process of food safety supervision and enforcement system. However MapABC APC can intuitively reflect the basic information about food production enterprises, so that you can get more accurate data from information processing. The relevant analysis process can accurately analyze existing problems and achieve the ultimate goal about effective forewarning on food safety supervision and enforcement.

KEYWORDS

MapABC API; Food safety; Executing supervision; Effective use.

INTRODUCTION

As one of visualized spatial information products, network electronic map is widely used in public and industrial areas various forms and different levels. However, from the view of existing strengths in MapABC API building process, information's transmission and collection can be effectively guaranteed, so that food production enterprises' basic information can more intuitively displayed in front of supervision and management department. However, in this process, the system can effectively handle basic information and the resultant data is more scientific and targeted. This article describes the method of sharing quality supervision information through the network electronic map technology, and introduces the application of web electronic map in quality supervision.

THE CHARACTERISTICS OF NETWORK ELECTRONIC MAP GOOGLE MAPS API AND FOOD SAFETY SUPERVISION

The characteristics of network electronic map

The production of network electronic map fuses the relevant technology about traditional map and computer; it is a fusion of tradition and modern. As related geographic information, modern electronic map is specifically reflected on internet in the form of symbols, so spatial information reality can combine with each other, and thus traditional mapping techniques can be transformed, creating effective geographic platform for public information service. Judging from the current information technology development situation, network electronic map broke the inevitably bound existed in traditional maps, and can effectively improve the map with the purpose of dynamic supervision and management, so that web electronic map's own advantages can be better exploited. Food safety supervision process needs to dynamically monitor the food production and inspection process in a certain way. However network electronic map combined Multimedia information technologies, such as images, graphics, sound source and animation, monitoring effectively on food production and inspection process through relevant symbol information[1]. The information feedback is rapid, in the meantime you can effectively analyze the relate data towards food production and inspection process and make relate production process simulation, reasoning the future development of food production and inspection in effect. It plays a huge role for food safety supervision, and adjusts the existing problems in food safety supervision, providing safeguard for supervision in the future. This is the concrete representation of network electronic map's own characters, providing support for the effectiveness of food safety supervision, laying a solid foundation for the improvement of the initiative and effectiveness of food safety supervision.

The characteristics of google maps Api

API is a special call interface reserved for application by operating system; instruction can be delivered and executed during application's running process through API. Then Google software combines electronic map with this program, setting API into electronic map by internet technology, and monitoring the operation program by electronic map. However, API can also have an enormous impact in the food safety supervision process, through the application of API in web electronic map, delivering and implementing application program quality by API, the entire food production and inspection processes can be monitored all the time, providing effective protection for food security. In this process, Google Maps API has certain advantages; through the application program food production and inspection process can have effective data processing and make corresponding data analysis on pictures and tables, making food safe production and inspection process more intuitive[2]. API can give a more accurate analysis on the existing problems during the production and inspection process, and effectively transmits image data, perfecting food safety supervision and enforcement system. Seeing from data collection and analysis, based on its dynamic supervise for the production and inspection process, Google Maps API analyzes relevant data by data analysis software and integrate the analysis results, making monitoring process more scientific. Meanwhile it provides effective scientific and technical support for the construction of the enforcement system. However, in this technology development and application process, the application is not able to reach maximum value. There are some limitations; hereafter the article will specifically discuss these limitations.

① If the page view of map services exceeds more than 50,000 pages a day, Google should be initiatively notified.

② Address resolution request number is limited each day. Interval of Sending Address Resolution can not be too short.

③ Google Maps service must be free and open for general user.

④ You may not alter or obscure logos or attribution content on the map.

⑤ Google has the right to place ads on the map, and the developer can not change or destroy these ads.

⑥ Google does allow any suspected illegal map service.

⑦ Google will aperiodically update API; developers have a responsibility to update their web API when Google updates API.

⑧ Gmarker restrictions: If you only intend to display the map markers, in general, the maximum mark number for each user to open is 100. However, if you do not use the latest computer hardware configuration, then run performance will not be satisfactory, and if you use Gpolyline at the same time, the simultaneously displayed number will be less.

INTRODUCTION OF IMPLEMENTATION METHOD

During the application process of MapABC API in food safety supervision and enforcement system, the first thing is to understand the corresponding language process. During the process of building the system application interface, you should make corresponding programming process with the combination of JavaScript language, thus forming a bond between quality supervision information and Map API. Through the link, the data during the process can be analyzed effectively, and you can show the analysis result in front of the supervision managers. The second thing is to constantly upgrade their software functions, ensuring the quality of transmission data continuously improving, and providing good protection for the accuracy of the data analysis process[3], so that quality information can be directly reflected in the monitoring process of web map.

GOOGLE MAPS SATELLITE IMAGE DATA'S PARTITION TECHNOLOGY AND FEASIBILITY ANALYSIS

The partition technology of google maps satellite image data

During the process of establishing Google Maps satellite image data, firstly you should regard the pyramid model for specific reference, zoom and store data in different levels. It should be consistent with the process of the traditional electronic map data. Its data class is divided into a total of 18, in order to zoom and storage. However, you should also effectively slice the image data during the process. the rated pixel shall be 256 ×256; image slicing format is PNG, encoded correspondingly by QRTS. The schematic diagram is shown in Figure 1.

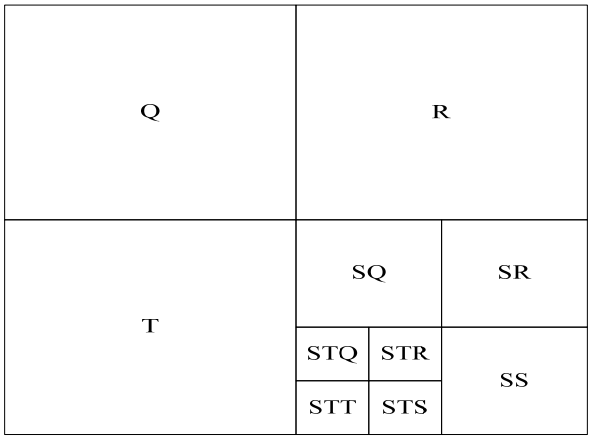

Figure 1 : Quad-tree coding schematic

Google Maps can meet the practical needs of food production enterprises' management and supervision, including two aspects. First is that the video images can be sliced for processing, thus the data analysis process can be effectively integrated to provide good data support for monitor procedure. The second is that server webinterface of system can be processed clearly; making the analysis clearly expressed in data transfer process, so that the data resource can be fully reflected which is also conducive to more clearly analysis of image data in food production and monitoring process. It ensures the operation process can not be affected by other applications and benefits for the better execution of monitor procedure[4].

Feasibility analysis

The feasibility analysis of MapABC API in food safety supervision and enforcement system mainly aims at aspects like technical conditions, system software and hardware resources. Seeing from the current system hardware and software resources, the requirements for the server are not high, and the requirements for report processing software、statistics and analysis software are also reasonable. In this way, the feasibility of MapABC API in food safety supervision and enforcement system is higher. And data processing and data collection can be better reflected during the process, providing strong support for the further improvement of food safety supervision and enforcement system. The product quality requirement is shown as TABLE 1.

TABLE 1 : Product quality requirement

The main quality attributes	Detailed requirements
Correctness	correctly complete Users' operation
Fault tolerance	Prompting message appears when users input wrong data, with good fault tolerance
Reliability	Prompting message appears when users input wrong data, with good fault tolerance
Performance, efficiency	Able to respond to users' operation (in 3s) within the time range user can accept
Usability	Operation interface is humanized and easy to understand
Closure	The closure of users is better, users basically input data with prompting message
Safety	Try to provide safe data transmission, and use secure link to strengthen confidentiality, improve the security of the site through firewall
Scalability	Can easily extend new functions on current function to meet users' need
Compatibility	Website's subsequent updates can be compatible with existing version
Flexibility	Support system configuration parameters, change business mode

During the operation process of MapABC API system, the basic is to combine food production enterprises safety manage department's own need. Then it makes effective research on basic data and collects basic geographic information, forming effective early warning towards food safety supervision by three-dimensional visualization technology. Through the running process MapABC API makes accurate judgment about the potential safety issues existing in the enterprises, and makes valuable forecasting and assessment for its development trend, achieving the ultimate goal of system applications[5]. This is the ultimate purpose of food safety supervision and enforcement system, and also the reason of effective monitoring and precaution technology. The Monitoring data requirements is shown as TABLE 2

TABLE 2 : Monitoring data requirements

Name of requirements	Detail requirements
Data of disease prevention organization	Basic information about organization, Distribution Information of organization
Basic data of infectious disease	Classification code of infectious disease, Infectious disease
Monitoring data of infectious disease	Infectious disease notification

By Google GIS platform, you can make a more thorough data analysis、 efficient coding and comprehensive analysis. Among this you can combine data analysis process and conduct real-time monitoring for specific disadvantages during the food safety monitoring process, benefiting for continuous improvement of food safety supervision and enforcement system. Then you can conduct targeted upgrade of monitoring system by theory and data, achieving comprehensive process monitoring and making "forward-looking" explore about the potential problems during the monitoring process. In this way the strong scientific nature of MapABC API can be ensured.

APPLICATION PRACTICE: DYNAMIC REGULATION ELECTRONIC MAP FOR FOOD PRODUCTION ENTERPRISES

We can clearly find out that Dynamic Regulatory map effectively collect basic information of food production enterprises during the running process of MapAPI system and clearly present them in front of supervision and management department, laying solid foundation for the quality assurance of food production process. At the same time the system can effectively share their information and create files for storage, which provides a strong evidence for food production enterprises' assessment process in the future[6]. For basic information collecting process, the system can accurately capture the real basic information and make effective early warning of food safety issues with combination of data statistical software. Therefore food safety concern can be excluded in the first time.

The application of information technology achieves three-dimensional food production enterprise security supervision and enforcement. From a traditional point, it breaks the single form of enforcement process, and achieves remote supervisory and control of enterprises. In this way the desired effect of monitoring process can be improved continuously. The safety concerns of food production enterprises can be solved fundamentally, achieving the ultimate goal which is the monitoring process is based on image and data as well as comprehensive analysis. When traditional food safety supervision and enforcement system handle the problem, they usually only do corresponding research after problem appears to arrive at solutions. However MapABC API system operation is focused on the potential prevention of food safety concerns, reducing the chance of security problems; so it can form an effective early warning system to provide strong support for the upgrade of supervision and enforcement.

The system is effectively docked with data through digital platform of supervision and management, making effective analysis and study about food production enterprise's basic data. The system apply electronic map for dynamic supervision, so that food safety supervision and the regulatory process can form regional macroeconomic trends. This not only upgrades food safety supervision and enforcement system, but also provides effective technology infrastructure for the improvement of supervision quality.

The development prospects of web map in food safety supervision system are broad. Meanwhile accompanied by vigorously development of science and technology, data analysis process has been the major power to improve food safety supervision and enforcement system. Through data collection, collation and analysis, supervision and enforcement process can be three-dimensional and omni-directional implemented, thus highlighting the scientificity and rationality of data analysis.

Seen from the development process of time, network information development has become a trend. As for food safety supervision and enforcement system, the use of network information technology has become the major trend. However, MapABC API system should be continuously strengthened, so that food production enterprise infrastructure information can be shared. MapABC API should continuously improve soft wares like information collection, collation, analysis and overall processing, in order to make food security supervision and law enforcement forming digitization and informatization development pattern. Therefore the supervision and enforcement can be more scientific[7]. During the process, the main problem for food safety supervision and enforcement is how to conduct a more comprehensive collection of information. Therefore MapABC API system should be upgraded comprehensively. So the information -collecting function of system can be improved continuously, providing a solid foundation for processing and analysis of information data.

CONCLUSION

The above is the specific research process about MapABC API's application in food safety supervision and enforcement system. With combination of MapABC API, the article specifically studies food production enterprises basic information's collection, transmission, collation, analysis, record and integration process, and makes relevant arrangement towards slicing and storage process of image data, providing a strong technological foundation for the construction of food safety supervision and enforcement, meanwhile achieving "forward-looking" exploration purpose for the potential safety concerns in food production enterprises.

ACKNOWLEDGEMENT

Sustentation fund:

1. Jiangsu province university laboratory seminar research subject: Construction and Management Research of Higher Vocational College Experimental Technical Personnel (JS2012-2);

2 The 2010 subject of Jiangsu modern educational technology: Jiangsu University Computer Rank Examination Web-based Training's Development and Research (16866);

3. Zhenjiang science-technology support program: Fire Reconnaissance Rescue Specialized Robot (GY2012041).

REFERENCE

[1] Liu Jutang; Food Safety Supervision and Management Deficiencies and Countermeasure Analysis, Realistic, **S2**, 78-80 **(2010)**.

[2] Li Xiaohua; Design and Research of Food Safety Supervision System, Food and Machinery, **29(4)**, 269-272 **(2013)**.

[3] He Meng; Development Trend Research of China's Food Safety Supervision System, Food Science and Technology, **33(21)**, 30-32 **(2012)**.

[4] He Zhihua; Current Situation of Japan's Food Safety Supervision and Management System, Agricultural Economy, **6**, 93-94 **(2010)**.

[5] Zhou Haiyan; Investigation and Application of Rapid Detection Technology in Food Safety Supervision and Management, Chinese Journal of Food Hygiene, **22(2)**, 147-149 **(2010)**.

[6] Fang Yi; Research of Food Safety Supervision and Management at Home and Abroad, World Agriculture, **3**, 36-39 **(2011)**.

[7] Zhang Zhihong, Tian Yongsheng, Zhang Zhiying; Theory Research Status of Food Safety Issues Abroad, Social Sciences Abroad, **4**, 44-51 **(2014)**.