Design and Implementation of Examination and Approval Management for Urban Regeneration in the Pearl River Delta

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Abstract. In this paper, we use a wide range of grassroots institutions visited to obtain data and use of scientific analysis to summarize a series of “the approval, supply, use, replenishment, and examination” in examination and approval management system approval process implementation methods. The examination and approval administration system of the San Jiu Gai Zao which is developed on Flex will promote the “San jiu” construction land redevelopment healthily in orderly and steady manner.

Introduction

The Pearl River Delta (PRD) region is one of the most prosperous metropolitan regions in China as a result of production globalization. It is certainly the driving force in Southern China [1]. High speed industrialization and urbanization leads to the loss of valuable agricultural land [2]. Land use issues are becoming more and more serious. Land development strength in the Pearl River Delta region is about 16% in average, in Shenzhen, Dongguan it has reached 40%, even higher than some developed countries or regions which also has integrity land use problem, such as Japan's three major metropolitan areas which is only for 16.4%, Hong Kong's land development strength is about 21% [3]. The state endow the Pearl River Delta with greater autonomy and lend support to its pioneering exploration into the new ways and new measures for the transformation of economic development patterns and balanced development between urban and rural areas, so that it can carve out a road of civilized development which promises economic growth, well-off life and good ecology, and become a model of scientific development for the country.
Demand Analysis

The management of the system refers to “the approval, supply, use, replenishment, and examination” of the land for construction as the horizontal principle line and refers to the management of “country, province, city, district, town, village and project” as the longitudinal principle line so as to achieve open, fair, transparent and efficient reconstruction and redevelopment as well as to promote the healthy, standardized, orderly and steady development of the San Jiu Gai Zao construction land. So the system to some degree should be able to be customized to add or reduce the approval procedure. Moreover, the supervision cameras set by villages and towns should be linked to provide the all-weather real-time image of the approval target area. The system allows users to analyze single San Jiu Gai Zao transformation and also provides monthly, quarterly and yearly analysis functions. The overall architecture diagram is shown in figure 1. The internal system function is supported by map service, spatial data engine, workflow engine, business processing middleware, data access business and data transmitting business in the supporting layer. The data needed by the supporting layer are provided by the resource layer.

Figure 1. The Overall Architecture Diagram.

The business handling subsystem is employed in the registration, approval and status management of the San Jiu Gai Zao transformation. The business system is linked to the portal website so as to achieve the electronization of the project registration and the real-time information release of the project status. Besides, the detail of registration and the concrete case action can be referred to, and thus the materials of the project archive can be electronically and synchronously pigeonholed by achieving dynamic project management. There are a large number of staff in the San Jiu Gai Zao transformation business, the works of which can be classified according to their working state. Meanwhile, works can also be classified according to the type, such as user management, project creation, project data audit, plotting library
database adjustment, history land sorting, project examination and approval, and analysis of statistics.

Function Module Design

According to San Jiu Gai Zao transformation examination and approval process, this system is made up of seven models, daily office module, map database module, models, old village transformation module, state-owned old factory transformation module, query statistics module, spatial data management module. Each model is independent of the program, share a master database. Because the system uses B / S model, the application is deployed on the server and the user's browser as a client. Implement the user interface through the browser, no software other than Adobe Flash Player needs to be installed for easy maintenance upgrades.

The Daily Office Module

Corresponding information is provided to users by the system according to the given authority after the authentication, which includes the to-do list left by the users, the San Jiu Gai Zao transformation business waiting for the approval of users that are forwarded according to user's permission, the approved transformation business and settled transformation business. All the transformation business includes the information of the approval process, title, application department, figure number, time, and the current link.

The Map Database Module

It provides users with the application information of plotting library database for every San Jiu Gai Zao transformation business, including the basic information of the business, receipt material, review and verification letter and attachments. It also can be used to search for the plotting library database automatically.

The Old Village Transformation Module

It is used to implement the content of “the comprehensive transformation process of the urban village in the Pearl River Delta (PRD) region (draft version)”, which can help the staff of
the San Jiu Gai Zao transformation to examine and approve application materials in advance as well as provide users with application materials. The materials required include transformation plan, land red line, site coordinates and application report of rebuilding and transferring.

The System Test and Operation

When you begin self-defined search, you can achieve quick classified search by inputting classified information such as display field, the table name, value, query conditions, relationships and order. The query syntax should conform to the SQL Server query syntax [4].

When query the map, the record spot can be located based on the incoming coordinate if the map is in the information query module. Meanwhile, if the map is not in, then the record spot will be located to the administrative position it belongs to[5]. Moreover, users can conduct some other operations such as statistics and query on the map as well as switch between different types of maps so as to contrast information or recording area such as the topography. Map query sketch is shown as Fig. 40.

Figure 3. Query Page.

Figure 4. Map Query Sketch.
Conclusions

This system can assist the implementation of the *San Jiu Gai Zao* transformation in the technical sense, which can upgrade the original manual work to the paperless officering. Therefore, the implementation of the *San Jiu Gai Zao* transformation can be significantly more standardized and promoted. Since the *San Jiu Gai Zao* transformation is a systematic project and it involves important adjustment of major interests such as building demolition and land ownership, it is the guarantee of the smooth implementation of the project to make sure that the policy mechanism and means are legal and rational. Based on the B/S architecture and combined with the FineUI control libraries and the development libraries of ArcGIS API for Flex, this *San Jiu Gai Zao* transformation examination and approval management system can provide real-time visualization environment based on real map image, condition query with high freedom and strict examination and approval process. Fully taking the requirements such as science, security and efficiency into account, it can orderly promote the examination and approval of the *San Jiu Gai Zao* transformation business and thus guarantee the successful implementation of the *San Jiu Gai Zao* transformation business.

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References


