

Design of Video Feature Positioning System Based on Embedded Technology

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Abstract: With the great development of science and technology in China and the popularization of the Internet, intelligent positioning system is an advanced stage of automobile positioning development. Through the use of embedded technology, human wisdom to the extreme, with more stable and good technology to complete the exploration of automobile positioning in China, through the GPS of satellite navigation and positioning system to achieve automobile positioning services, rapid development of urban intelligent transportation system, enhance the social development process of our country.

1. Introduction

Rapid economic development at the same time drive people's material life, so that more and more car purchases, through the car to carry on the substitute step. With the increasing change of urban traffic, it is necessary to design an automatic and integrated positioning service system which integrates the reading of road information and other service contents. Through the positioning system, it can solve the user's demand for fine reading of road and other vehicle information. make the positioning system more intelligent.

2. Background of Video Feature Positioning System Design Embedded Technology

With the rapid development of mobile Internet information technology, in the course of driving, it is necessary to use the information technology that integrates the perception of the surrounding environment, planning decision and multi-level auxiliary driving, and improve the setting of video feature positioning system by using a large number of computer, modern sensing, information fusion, artificial intelligence and automatic control technology (see figure 1). Different from the development of the traditional Internet, the video feature positioning system pays more attention to the service, the traditional positioning system can only carry out the interaction between users, through the user authorization, the system end sends the real-time information collection content to the user, while the video feature positioning system setup emphasizes the system content differentiation service, continuously enhances the user's sense of use, then provides the second service to the user based on the user's different needs, its service content is more personalized, belongs to the private custom-made service, brings the user better interaction experience, the user's use degree, enhances the user's stickiness, enhances the user's use, makes the user's seed development becomes the user's stickiness, makes the user's development becomes the user's development[1].

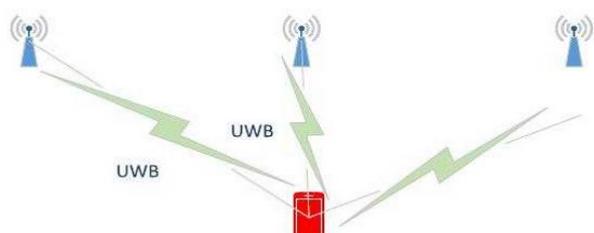


Figure 1 Video feature positioning system

Based on the above theory, the video feature positioning system needs to provide users with more intelligent, humanized and differentiated services, add the information reminder and push function of the system, make accurate operations according to the user's preferences, provide users with more accurate push information, and enhance the interaction between the two sides. The system makes judgment and analysis on the environment, through decision-making ability and accurate road driving control ability, innovates the public driving mode, avoids the accident situation caused by human factors, thus alleviates the urban traffic pressure. Enhance the accuracy of the original navigation system so that the system works according to human will.

3. Design of Video Feature Positioning System Embedded Technology

Compared with the traditional positioning system, the video feature positioning system is more modern and scientific, and the use of sensors is more abundant. First, it is a complete set of information navigation database, including road conditions, infrastructure, tourist attractions and other information throughout the country, to provide more suitable route protection for car owners (see figure 2). Secondly, it is based on the GPS positioning system, accurate satellite positioning for the car, combined with different road information content in the database, reasonable planning of the owner's travel plan. The video feature positioning system also has the corresponding ability of real-time information supervision and notification of road conditions. Through the real-time monitoring of road condition information by traffic management center, it provides real-time information for vehicle owners on the road ahead. In the event of traffic jam, collision, road repair and other problems ahead, the content will be upgraded to guide other routes for vehicle owners[2].



Figure 2 Video feature positioning system

Looking at the domestic and foreign positioning service systems, they still have many shortcomings: first, the content of positioning service only provides general geographical location setting, can not provide fine, real-time reporting, and can not achieve early warning services for road changes. Second, most positioning systems can only provide short-range information content, and can not send video content according to the user's real-time location. Third, the geographic information content is single, the loading is too slow, can not carry on the real-time service content according to the burst content. In this context, based on the technology of mobile Internet and the needs of users, a higher quality service system is designed to improve the service quality of traffic positioning, make the system have more expansibility, provide more service support for people's traffic travel, realize the concept of integration of traffic positioning services, and provide security for more users.

The overall idea of video feature positioning system design should be based on mobile Internet technology, through the network transmission of service data to the user, in order to more secure and stable rich content, to achieve less manual operation, user interface simple and easy to operate and other requirements. Combining the content of the service with the geographic information data of many provinces and cities, the real-time traffic situation is displayed in the form of pictures and texts, and the location content of the vehicle owner's real-time driving is used to broadcast the real-time content of the location along the way, such as weather, road condition, etc.[3].

4. Design Structure of Video Feature Positioning System Embedded Technology

According to the needs of different users, the video feature positioning system should have four parts, such as road condition information, road monitoring, meteorological early warning and historical data. These four parts can provide real-time traffic meteorological service for travel users by video and voice warning mode, and truly provide intelligent service information for users to travel.

4.1. Improved Positioning Grabbing and Voice Tips

According to the coordinates within 30 km ahead, we can match the real-time traffic data content, satellite cloud map, radar map and so on. Among them, the traffic condition content can include the following points: the front road condition, traffic jam, accident and so on. The setting of this service system is to sort out the road condition content data according to the basic items of daily driving, constantly excavate the traffic condition in different areas, broadcast according to the real-time road condition content, set up automatic voice alert, realize real-time voice broadcast system alert, design different prompt words according to different road condition influence, and carry on active voice upgrade content according to different road influence (see figure 3).

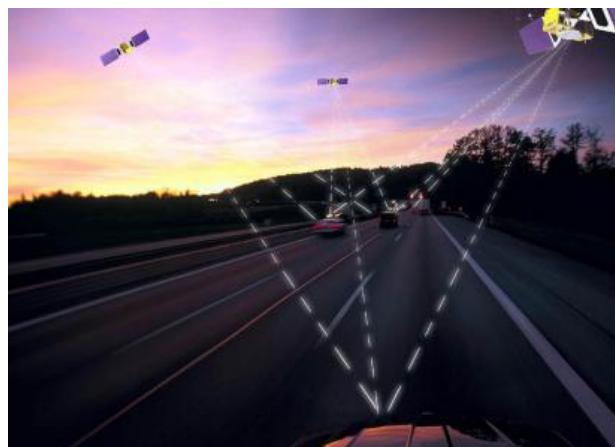


Figure 3 Video feature positioning system

4.2. Comprehensive Road Information Presentation and Services

This service system is based on real-time road monitoring, service reminders to traffic users, judging traffic indicators according to existing road conditions, calculating the impact of traffic congestion and road maintenance on user travel in our province, advanced processing of different data content, and displaying the processing results on the service system. Such as: to carry out the site in the road repair, bypass other roads, will be more than xxx km, delay of xx minutes. Service content can be based on the front of the real-time road surface, such as: road information, weather conditions and so on, and according to the actual weather display road precipitation, fog weather visibility, highway closure information. The video feature positioning system upgraded the real-time traffic information to display the threshold of the near-warning information in different colors and accompanied by the warning function of voice broadcast[4].

4.3. Intelligent Services for Information

The display of video feature positioning system depends on the system module setting of the terminal. Through the multi-module interaction, completes the real-time road condition, the weather and so on content carries on the grab, with the video and the voice reminder pattern, serves the user. The intelligent navigation content of information is broadcast in real time based on the content of the road. Because of different planning paths, there are also differences in road conditions and weather in the paths. According to the different paths, we can judge the weather information around us, grab the weather information around us, and then use traffic and weather as the basis to warn the weather data. The problem that can not make reasonable plan for user, bring better travel experience to user[5].

5. Design and Implementation of Video Feature Positioning System Embedded Technology

Video feature positioning system should be combined with real-time meteorological content, using embedded technology, data acquisition, data content control, data monitoring and other content placed in the video feature positioning, constantly provide users with accurate video services. Service systems should also continuously improve information transmission and resolution capabilities[6]. With the increase of users, the server side of the system will gradually run slower, to clear the cache in time, improve the speed of dynamic content display. In addition, it is necessary to do a good job in the early warning service of the system, achieve distributed storage, one server problems, immediately map the service content to other servers, maintain the normal operation of the system, enhance the sense of user use.

6. Conclusion

Video feature positioning system is the product of the development of the times, but also the witness of the development of the times and technology. The design and application of the system need to analyze the actual demand according to the characteristics of different regions and industries, to improve the design scheme continuously, as well as to improve the fusion mode, video feature positioning system design, and constantly provide more specialized services for traffic travel.

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