Map Design Proof for News Live Reporting Command System

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Abstract

In a news field dispatch command platform, the intuitive display of geographical positions for clues, personnel, equipment, and venues is of significant importance. A map-based presentation of the relative relationships among various resources facilitates dispatch and route planning, enables efficient interaction between the command center and the field, enhances operational efficiency, and supports militarized command and dispatch.

Full Text

News Field Reporting Command System Map Design

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Abstract: In news field dispatch command platforms, intuitively displaying the geographic locations of clues, personnel, equipment, and venues is crucial. Maps effectively illustrate the relative relationships among various resources, facilitating scheduling and route planning while enabling efficient interaction between command centers and field operations. This improves operational efficiency and supports militarized command dispatch.

Keywords: Dispatch command; News field; Geographic information; WeChat; National Digital Composite Publishing System Engineering; Media Collaborative Work System

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The dispatch command platform represents a core component of the "central kitchen" construction model, enabling interactive communication between command centers and news field sites while facilitating timely adjustments to personnel and equipment deployments. The map view offers the optimal solution for these requirements and has been widely adopted across numerous industries such as transportation and public security with proven effectiveness. Its intuitive visualization saves considerable communication time and enables rapid response to emerging events. Drawing from participation in the National Digital Composite Publishing System Engineering—Media Collaborative Work System project, this paper discusses the map design approach for the command reporting platform from multiple perspectives.

2. News Field Dispatch Command System Design

Based on an understanding of current technologies, combined with reporting requirements and practical usage experience, we designed the news field dispatch command system from multiple functional perspectives. Trial implementation has demonstrated that the design closely aligns with actual operational needs.

2.1 Map Display Design

For the server side, while numerous map service providers exist, strictly speaking only AutoNavi and NavInfo can provide raw map data. Following comprehensive evaluation of API capabilities, network performance, and usability, AutoNavi was selected as its free services fully satisfy system requirements. AutoNavi maps enjoy widespread adoption, offer intuitive APIs that meet all project functional needs, and employ display conventions familiar to users, ensuring high acceptability. Utilizing AutoNavi's online maps eliminates local data downloads and enables automatic synchronization with provider updates.

Regarding client-side implementation, mobile positioning functionality has become a standard smartphone feature, facilitating convenient location acquisition within applications. Although H5 pages can obtain location information, they require frequent refreshing. WeChat's in-app web pages can also access geographic location data, offering the advantage of not requiring separate app installation. In practice, different methods may be selected or combined based on specific scenarios. It should be noted that when an app transitions to background mode, programming must accommodate location data uploads, and update frequency should be carefully controlled to prevent excessive battery consumption.

2.2 Resource Positioning Design

The map displays administrative regions, streets, buildings, and other geographic information while simultaneously presenting personnel, vehicles, equipment, and clues at their corresponding positions. This enables users to intuitively view resources of interest and clearly observe surrounding conditions and inter-resource distributions (such as journalists located near a specific clue). The

system supports interactive functions including dragging, zooming, scrolling, and searching.

1.2 Implementing Resource Positioning

Resource positioning represents a fundamental map view function, encompassing real-time transmission of geographic locations for on-site journalists, logistics personnel, interview equipment, incident sites, and key interview subjects.

1.3 Implementing Fast Location Search

Physical locations displayed on the map are determined by the timestamp of the last server transmission. Significantly outdated data can compromise command decisions, necessitating color-coded identification of expired resource positions. This enables commanders to identify the most current locations and notify relevant personnel to update their positions promptly.

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2.3 Binding Location and Resources

Resources requiring location tracking include newly reported clues, field journalists, vehicles, and major reporting equipment. Each requires separate binding of location information for map display. For clues, users can input approximate locations or landmark buildings during submission, then utilize AutoNavi's search function to identify precise coordinates for entry into the clue database. Once established, clue locations typically remain fixed. For field journalists, location data obtained from installed apps or WeChat pages on their mobile devices is bound to their login accounts. For vehicles and major equipment lacking continuous coordinate transmission capabilities, the location of the equipment custodian serves as a proxy for the equipment's position.

2.4 Other Map Functionality Design

Map applications encompass diverse functions including location-based work check-ins, visual confirmation of dispatched journalists' arrival at scheduled events, intuitive display of journalist distribution around breaking news, emergency redeployment of journalists from nearby venues during major events such as sports competitions, provision of traffic and evacuation routes, and tracking of resource movement trajectories. These capabilities can be readily implemented using the aforementioned map display, positioning, and resource binding technologies.

Drawing from practical design experience, this paper discusses map view design for the reporting command platform from multiple functional perspectives. In

practical applications, particularly on large screens in dispatch command centers, the map's impact is highly pronounced, providing headquarters command personnel with a stronger sense of on-site atmosphere while supplying frontline journalists with comprehensive situational awareness to facilitate coordinated reporting.

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Note: Figure translations are in progress. See original paper for figures.