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Development of Environment Spatial Information Service Utilizing Mobile Location-Based Technology

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ABSTRACT:

Rapid implementation of mobile devices and significant development of communication technology lead diverse changes over the society at large. Especially, Location-Based Technology of mobile devices is recognized as an important tool to improve task efficiency of tasks that requires on-site investigation and management. The research develops the way to improve environmental administrative work by utilizing Location-Based Technology of mobile devices and environmental geographic information towards tasks for both instruction and inspection of environmental pollutant discharge industries. In addition, it defines function and improvement direction of environment monitoring tasks via test bed implementation to developed mobile application and spatial information database.

KEYWORDS: Environment Monitoring; Mobile; Location-Based; Environmental Geographic Information

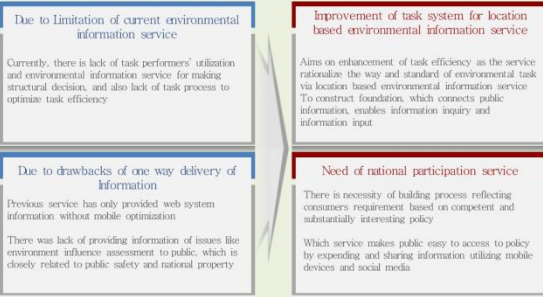
Environment spatial information service utilizing mobile location base technology



1. Research summary

❖ Research Background & Necessity of Development

- Improvement of Location Based Service market
- Need of creditability of public information



❖ Research Target

- Service model development of environmental spatial information
- Platform development of environmental spatial information
 - To construct service platform and optimize service model, which suits for previous Environmental Geographic Information System(EGIS, EIASS, etc.) development
- Constructing service platform and model development
- Service App. development of environmental Geographic Information
 - Environment Influence Assessment/Environment monitoring Information service App. development(Task supporting App.)
 - Two way communication App. for environment information(Nationwide service App.)

2. GeoServer based GIS system

❖ GeoServer

- Opensource based GIS software server developed with Java enabling editing and sharing geospatial data



- GeoServer aims on role as a node inside free and open type Spatial Data Infrastructure
- GeoServer performs a role as an Apache HTTP server, which provide open and free type web server for HTML expression, toward spatial data

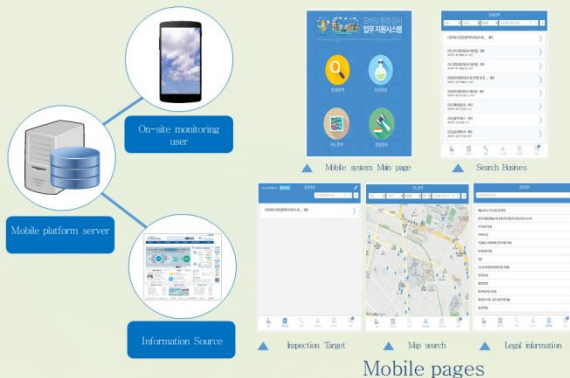


❖ Key features of GeoServer

- Providing user-friendly UI
- No regard to OS (JAVA, WEB Interface based)
- Cache support (GWC, Cache-Control)
- Real-time transformation to diverse coordinates
- Data Processing

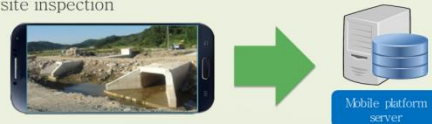
3. Research achievement

- Providing data selection and service, and public data analysis utilizing Open API
- Development environment construction accessible via Smart environment(iOS, AndroidOS) by utilizing Open API in relation to environment information
- Development of two way communication App. for environment spatial information



4. Research application plan

- Replacement of actual image via mobile input of location information
 - Grasp of fulfillment history and date/place information via mobile input of content of agreement
 - Enhancement of record of follow-up management via on-site inspection



- On-site application of location analysis and inquiry
 - On-site application of location analysis and inquiry App. for environment assessment by utilizing contents of environment assessment information supporting system

