

## Development of Intelligent Construction Management System Using Web-Camera Image and 3D Object Image

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**Abstract :** Recently, a construction project has been large in the size and complicated in the site work. The web-cameras are used to manage the construction site of such a large construction project. They can be used for monitoring the construction schedule as compared to the actual work image of the planned work schedule. Specially, because the 4D CAD system that the construction appearance is continually simulated in a 3D CAD object by work schedule is widely applied to the construction project, the comparison system between the real image of actual work appearance by web-camera and the simulated image of planned work appearance by 3D CAD object can be an intelligent construction schedule management system (ICON). The delayed activities comparing with the planned schedule can be simulated by red color in the ICON as a virtual reality object. This study developed the ICON and it was verified in a real bridge construction project in Korea. To verify the developed system, a web-camera was installed and operated in a case project for a month. Because the angle and zooming of the web-camera can be operated by Internet, a project manager can easily monitor and assume the corrective action.

**Keywords :** 4D CAD, web-camera, ICON (intelligent construction schedule management system), 3D object image

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