

Location-Based Sabo Infrastructure Monitoring

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Abstract. Although we often generate a three-dimensional (3D) geometrical model as a base map in infrastructure asset management, it is difficult to acquire details of asset attributes in 3D measurement. Therefore, we focus on field-based investigation and inspection using mobile devices, and aim at assisting investigators in Sabo infrastructure monitoring with location-based applications. In this paper, we propose and evaluate our location-based investigation application as follows. First, we propose an inspection flow suitable for field-based monitoring. Second, we develop an HTML5-based Web GIS application for field-based investigation. Third, we clarify the most suitable combinations among location, angle, azimuth, elevation, image, movie, and voice data acquired with mobile devices. We conduct an experiment in a sediment-retarding basin consisting of dikes, bridges, and debris barriers, and explore some issues in Sabo infrastructure monitoring using mobile devices.

Keywords. Sabo infrastructure management, Mobile device, Construction information modeling