Integrated Remote Sensing and Visualization (IRSV) System for Transportation Infrastructure Operations and Management

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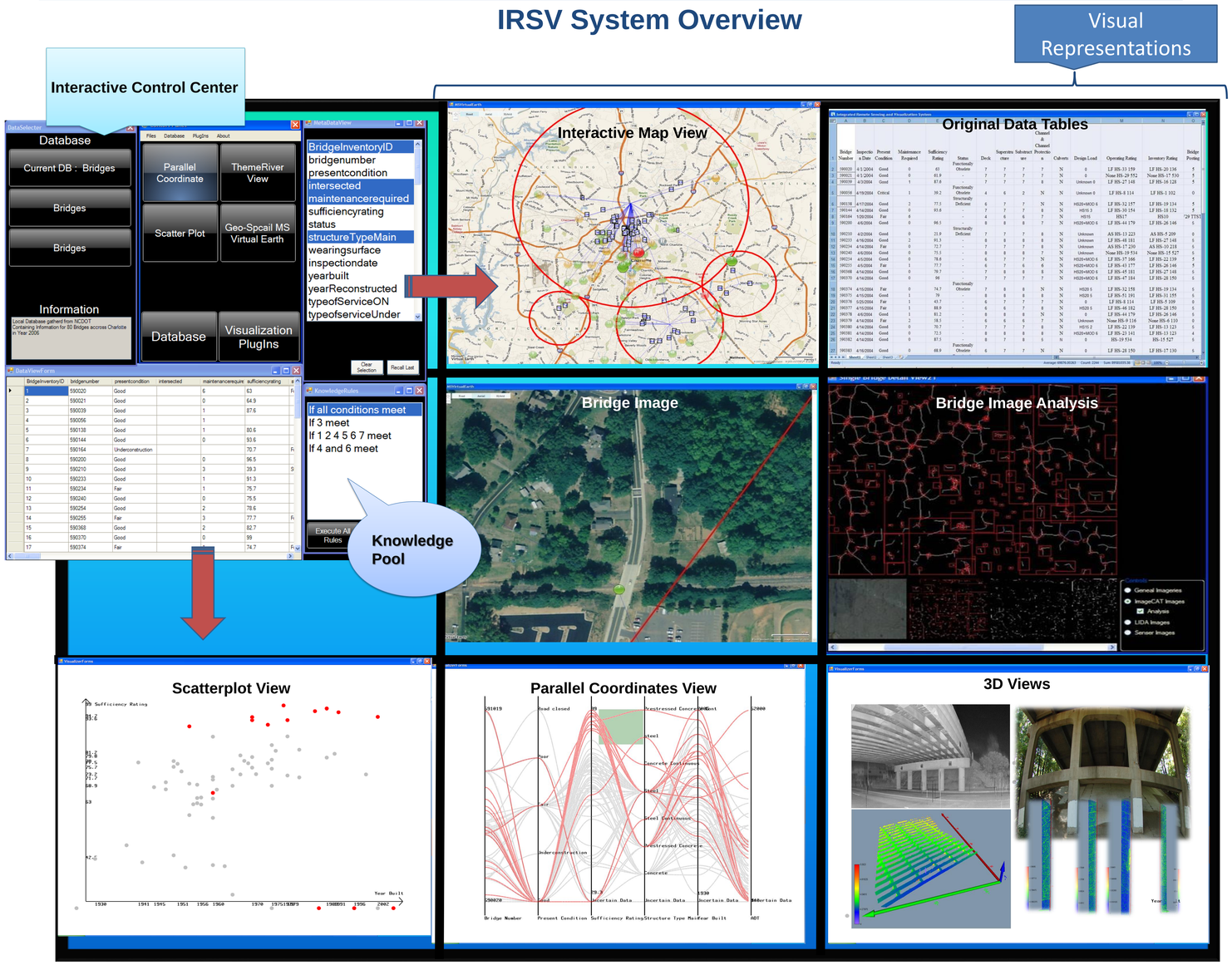
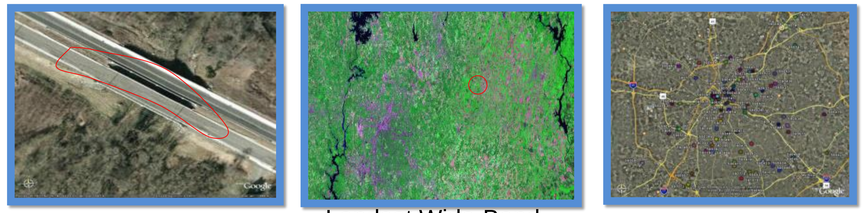
This research is focused on validation of Commercial Remote Sensing (CRS) and Spatial Information (SI) applications for Bridge Infrastructure Assessment and Management (BIAM). As part of the research, a prototype Integrated Remote Sensing and Visualization (IRSV) system has been developed, which acts as a remote sensing data visualization/management protocol as well as a multiple-site data sharing tool. It contains a large visualization, bridge inventory database and remote sensing data (LIDAR, sub-inch aerial photography and Infrared thermography) residing on a SI platform that allows management and interpretation of bridge data. The IRSV brings large scale, heterogeneous data and analyses from multiple sources together in a way that has not been possible before.

In the Phase I study, the ***potential impacts*** of the proposed IRSV and associated CRS technologies were recognized as:1) enhancement of BIAM - the IRSV concept can provide DOTs the insight to develop the visualization and system requirements for their BMS; 2) appreciation of bridge temporal transformation; 3) possible continuous bridge monitoring; 4) provision of more precise damage assessment; 5) Better data interpretation and development of insights for management and problem-solving through parallel data displays.

IRSV System Overview



Multi-Source Bridge Data Integration



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