

Ontario Structure Inspection Management System (OSIMS): Users Manual

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Location-based Mobile Bridge Inspection Support System

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ABSTRACT: Location-Based Computing (LBC) is an emerging discipline integrating geoinformatics, telecommunications, and mobile computing technologies. LBC utilizes geoinformatics and tracking methods in a distributed real-time mobile computing environment. In LBC, elements and events involved in a specific task are registered according to their locations in a spatial database, and the activities supported by the mobile and wearable computers are aware of these locations using suitable positioning devices. In this paper, we propose a new LBC approach to support the data collection activities of bridge inspectors. The proposed prototype system is equipped with a 3D detailed model of the bridge, and all the inspection results are registered on the 3D model. The system navigates the inspector to the locations he/she needs to inspect, provides information about the results of previous inspections as augmentation of the 3D model, and allows the inspector to add new information and to specify the location of a new defect simply by clicking on the point of the model where the defect has been found and then selecting the type and level of the defect from available menus. Furthermore, the system has a rule-based expert system that is used for data analysis and probabilistic diagnosis based on the location and the context of the inspection tasks in order to give the inspector suitable support. The system is implemented in Java language and a case study about Jacques Cartier Bridge is demonstrated.

1. INTRODUCTION

Bridge Management Systems (BMSs) are used to manage information of bridges and to assure their long-term health under budgetary constraints (Czepiel, 2004; Ryall, 2001). The core part of a BMS is the database which is built up of information obtained from the regular inspection and maintenance activities. Among various tasks of bridge management, field inspection is essential in evaluating the current condition of a bridge. Bridge management departments have come to realize that in order to make sound infrastructure management decisions, they need to base their decisions on predictive models developed from accurate condition data collected in the field. Effective bridge management is thus heavily dependent on field inspectors to collect detailed condition information on all of the individual elements of a bridge and enter this data into a BMS database.

Recent BMSs are introducing new information technologies to integrate multimedia information and to facilitate mobile data collection and manipulation using pen-based tablet PCs (Fujitsu, 2004) and Personal Digital Assistants (PDAs). For example, a system developed by the University of Central Florida for the

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It is the responsibility of the user to verify its currency and The Ontario Structure Inspection Manual has been used for bridge . An essential component of structure management system involves the systematic inspection .. The following structures shall be inspected every two years (Biennially).It is the responsibility of the user to verify its currency and The Ontario Structure Inspection Manual has been used for bridge inspections in Ontario To avoid such failings, an effective structure management system is required. .. The following structures shall be inspected every two years (Biennially).Ontario structure inspection management system (OSIMS) user's manual. Author. Reel, Ranjit S. Conte, D.F.. Chung, C. Fernando, P. Call Number.Ontario Structure Inspection Manual (OSIM). Inspection Form Owners. COUNTY OF PETERBOROUGH. Heritage. Not Consid: x. Cons/not App. List/n.d. . Limited Inspection. Protection System: Count (items). Deck. Poor.Ontario Structure Inspection Management System. (OSIMS): Users Manual by Ontario. Ontario structure inspection manual download - Google Docs to remain in.'Manual S'. 'For use with the Ontario structure inventory system - OSIS and Ontario structure inspection management [sic] system - OSIMS'. Subject(s).The Ontario Structure Inspection Manual (OSIM), developed by province of Ontario, is the most .. Provincial/Territorial Bridge Management System (BMS). municipal bridge owners are facing when managing their bridges. Routine Inspections (visual): This inspection is undertaken by BC MoT's in-house Area.Remarks on Ontario Structure Inspection Manual (OSIM). Published is needed; ; A basis for a structure management system. The following structures shall be inspected every two years (Biennially): User Agreement Privacy Policy Community Guidelines Cookie Policy Copyright Policy Unsubscribe.TIR had selected the Ontario Structure Inspection Manual (OSIM) as the standard for inspection for all structures in the Provincial Highway System and had.The Department found that the Ontario Bridge Management System . Inspection Manual (2) and the Ontario Structure Rehabilitation Manual (5). In the future user groups could be set up between Ontario, Nova Scotia, and other Training Course was provided along with Bridge Inspection Training to the OSIM and BMS .e) Provide sound Asset Management to maintain long-term structural integrity. Asset . Ministry for their corporate Asset Management information systems. . bridges). . Assets should be grouped firstly on asset type, then by location along the highway; Ontario Structures Inspection Manual (OSIM) User Guide;.Inspection information from the six Canadian agencies is presented in this appendix. of Alberta's Transportation Infrastructure Management System (TIMS). Ontario province publishes the Ontario Structure Inspection Manual (OSIM) (C3).opments in Short and Medium Span Bridge Engineering'90, Toronto, Ontario . " Bridge Management in Europe (BRIME): Modeling of Deteriorated Structures," 4th .. Ontario Structure Inspection Management System (OSIMS) User's Manual, .The Provinces of Ontario, Nova Scotia, Prince Edward Island, Manitoba, and have adopted the Ontario Structure Inspection Manual (OSIM), while Quebec has Like many element-based bridge management

systems, Quebec's Strategic The model was demonstrated in a user-friendly Excel spreadsheet, which has.of the Ontario Structure Inspection Manual (OSIM). It summarizes for structure management . Defects in Good condition state include. (see Tables in Appendix C for complete list): .. erall bridge painting operation. 5 .. rainage system plu.City of Kitchener Constructed Asset Data Submission User Manual for Engineering. 2 . bridges or culverts 3m or greater, which will require an Ontario Structure Inspection Manual (OSIM) .. Assets part of the groundwater management system (GWMS) shall be . Spatial Data Files (SDF): New Format.City of Kitchener Constructed Asset Data Submission User Manual for .. New bridges require pages 1 and 4 of the Ministry of Transportation's Ontario Structure Inspection Manual (OSIM) Assets part of the groundwater management system (GWMS) shall be . Spatial Data Files (SDF): New Format.and conclusions contained in the Report (collectively, the Information): . Appraisal Manuals and the Ontario Structure Inspection Manual. .. Ontario Structure Inspection Manual (OSIM) on the results of the Bridge Management System are also shown. . Not Adjusted for Owners Share (\$).OVERVIEW OF EXISTING BRIDGE MANAGEMENT SYSTEMS Inventory information of the principal user, The following was reported on the element level (Table 9): Ontario Structure Inspection Manual (OSIM).All bridge management decisions require inspection data to identify current to Bridge Inspection Manual of Alberta Transportation, the condition . construction documentation, operation and maintenance records. Ontario Ontario structure inspection management systems (OSIMS) Share link (DOI).Asset management systems are part of the solution but innovative financing and finding Ontario Structure Inspection Manual (OSIM) reports. . Regulations exist to ensure the safety of the users of public infrastructure. o Public-Private Partnerships (P3): A P3 involves the direct participation of the private sector.The Ontario Structure Inspection Manual (OSIM) 16 . Appendix (A): Seismic Zoning Factors for the Canadian Province of Quebec IX .. successful operation of any infrastructure-management system (Hudson et al.).

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