بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

INTERACTIVE REPORTING FRAMEWORK FOR CONSTRUCTION PROJECTS USING WEB-BASED BIM APPROACH

By

Ahmed Mohamed AbdEllatif Zakzouk

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfilment of the
Requirements for the Degree of
INTERDISCIPLINARY - MASTER OF SCIENCE
in
Integrated Engineering Design in Construction Projects

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Professor of Construction Engineering and Management
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Faculty of Engineering, Cairo University

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Title of Thesis:
Interactive Reporting Framework for Construction Projects using Web-based BIM Approach.

Key Words:
Building Information Modelling, Business intelligence, Cloud Solutions, Visual Analytics, hand-held devices.

Summary:
This research provides a conceptual interactive reporting framework for construction projects, which consists of three main components: BIM viewer, data visualizer, and bi-directional Synchronization connector. Additional supporting components are integrated into the framework to support its functionalities. The developed framework allows project stakeholders to access the system better and extract required information easily using hand-held devices. The objective is to get the project team members more involved in BIM by providing user-friendly solutions at fingertips. A prototypic web-based application is developed using up to date technologies. The developed application adopts the software architecture developed for the 3D BIS and maintained basic features like the ability to integrate different data formats. Also, it can be used to work in parallel with the in-house system. The developed web-based application provides more accessibility and usability from hand-held devices in addition to being independent of specific platforms and specific software systems. Further, new technology and modern computers, cloud technologies, graphical engineering applications make the visualization of such data a simple and more straightforward task. These technologies could assist site managers in generating such reports independently. This research investigates the best approach of BIM-based data-driven visualization. It helps to find the best solution architecture for construction projects. It will develop in a way that can be easily accessible from hand-held devices and responsive to ongoing questions on construction sites.

Disclaimer

I hereby declare that this dissertation is my own original work and has not been submitted before to any institution for assessment purposes. Further, I have acknowledged all sources used and have cited these in the reference section.

…….. ……

Ahmed Zakzouk Date

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Foremost, I would like to express my sincere gratitude to my supervisor, Prof. Mohammed Mahdy Marzouk, for his continuous support of my master's study, for his expertise, patience, immense knowledge, motivation, and enthusiasm. His guidance assisted me a lot in all the time of research and writing of the thesis.

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Finally, I would like to dedicate my thesis to my grandmother, who died four years ago.

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