



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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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

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Under the Supervision of

Prof. Mohamed Mahdy Marzouk

Professor of Construction Engineering and Management
Structural Engineering Department
Faculty of Engineering, Cairo University

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Approved by the Examining Committee

Prof. Mohamed Mahdy Marzouk

Thesis Main Advisor

Professor of Construction Engineering and Management - Structural Engineering
Department - Cairo University

Prof. Dr. Mohamed Hassanien Sorour

Internal Examiner

Professor of Structural Engineering - Structural Engineering Department - Cairo
University

Prof. Ayman Ahmed Ezzat Othman

External Examiner

Head of Architectural Engineering Department – British University in Egypt

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2021

Engineer's Name: Ahmed Mohamed AbdEllatif Zakzouk
Date of Birth: 27/03/1993
Nationality: Egyptian
E-mail: ahmed.zakzouk@outlook.de
Phone: 01093549355
Address: Ahmed Abdallah St, Damanhur – Egypt
Registration Date: 1 / 10 / 2015
Awarding Date: .. / .. / 2021
Degree: Master of Science
Department: Integrated Engineering Design in Construction Projects



Supervisors: Prof. Mohamed Mahdy Marzouk – Cairo University

Examiners:

Prof. Mohamed Mahdy Marzouk – Cairo University (Thesis main advisor)
Prof. Mohamed Hassanien Sorour – Cairo University (internal examiner)
Prof. Ayman Ahmed Ezzat Othman – BUE (external examiner)

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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