بسم الله الرحمن الرحيم

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بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

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AUTOMATED SPACE LAYOUT PLANNING USING CONIX SOFTWARE

BASED ON A CASE STUDY IN EGYPT

By

Alaa Hassan Mohamed AlGhannam

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Architectural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:
Automated Space Layout Planning Using Conix Software Based on a Case Study in Egypt

Key Words:
Automated Space Layout Planning, Generative Design, Architectural floor layout, Design methodologies, Computer-aided design.

Summary:

The designing of the floor plan is one of the most important design steps, which is the post-conceptual design stage. Manual design is done through a trial-and-error process, in return a lot of time and effort is consumed. This thesis explains the concept of automating the design of floor plans, and the approaches of using automation in design in terms of dealing with spaces, relationships, and others. Then clarifying the digital tools that help to produce floor plans automatically with high efficiency that meets the designer's desire. The first Egyptian digital tool is chosen to automate the floor planning and analyzing it in terms of the floor planning automation approaches on which the tool relied. Then applying the tool to two design projects in Egypt to compare the manual design with the automatic design, and the unified design with the multiple design.

Disclaimer

I hereby declare that this thesis is my original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Alaa Hassan Mohamed AlGhannam Date: ../../2022

Signature:

Dedication

This study is wholeheartedly dedicated to my beloved parents, who have been my source of inspiration and gave me strength when I thought of giving up, who continually provide their moral, spiritual, emotional, and financial support.

To my brothers who shared their words of advice and encouragement to finish this study, who have been a constant source of support and encouragement during the thesis's challenges.

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