

# Mahmoud Samir Fayed

Creator of the Programming Without Coding Technology

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## Summary

(1) Started computer programming in 1997 at 10 years old. (2) Open source general-purpose visual programming language design and implementation. (3) Open source natural programming language design and implementation. (4) Open source GUI Library (Windows, Controls, Event-Driven & Form Designer). (5) Client-server database applications. (6) Applications for Research, Simulations, Image Processing and Network Programming. (7) Writing books and recording movies about programming.

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## Experience

### **Researcher/Software Developer at King Saud University**

August 2012 - Present (2 years 7 months)

1 - Developing PWCT 1.8 (Smart) 2 - Developing PWCT 1.9 (Art) <http://sourceforge.net/projects/doublesvsoop/> <http://doublesvsoop.sourceforge.net/> 3 - Distance Learning (PWCT Course) <http://doublesvsoop.sourceforge.net/giftphp/main.htm> <http://www.youtube.com/user/PWCTMaker> 4 - Support for PWCT users through PWCT Group (Facebook) <http://www.facebook.com/groups/doublesvsoop> 5 - Developing the Critical Nodes application using PWCT (Research & Simulation) <http://sourceforge.net/projects/criticalnodes/> 6 - Developing the Resource Allocation application using PWCT (Research & Simulation) 7 - Developing the People Counter application using PWCT (Network Programming), C++ & OpenCV (Image processing) <http://sourceforge.net/projects/peoplecounter/> 8 - Helping students in their projects (Mobile & Web applications) 9 - Support for ERP system developed using Python

### **PWCT Development Team (Open Source Project) at Programming Without Coding Technology**

December 2005 - Present (9 years 3 months)

Writing over 250,000 lines of code to develop a visual programming language with the next features \*

- General Purpose.
- \* Visual Programming (More than one dimension, No Syntax Errors, Time Dimension and Colors).
- \* Visual Editor (Keyboard shortcuts, Customization, Cut, Copy, Paste, Search and Replace)
- \* Syntax Directed Editor (Avoid Errors).
- \* Free Editor and VPL Compiler.
- \* The programmer can see and edit the generated source code.
- \* The programmer can change the step name and the steps colors.
- \* Support code generation in C, Python, C#, Harbour and Supernova programming languages.
- \* The programmer can play programs as movie to learn how to create the program step by step
- \* Don't force a programming paradigm.
- \* Extension (Create new components) using built-in domain-specific language called RPWI.
- \* Run programs at any point in the past during the development process.

### **Researcher/Software Developer at Riyadh Valley Company (RVC)**

June 2011 - June 2012 (1 year 1 month)

- 1 - Technical review for projects proposals. 2 - Developing Client-Server Information System using PWCT 3
- Help in developing database application using C# & ASP.NET

**Part-time Programmer at Jeddah Municipality #### #####**

January 2011 - February 2011 (2 months)

Little improvements and maintenance for web application developed using VB.NET & ASP.NET

**Part-time Programmer at Izdehar Training Center**

July 2010 - December 2010 (6 months)

Developing Client-Server Courses Management System using PWCT & SQL Server.

**Solider (Information Systems) at Egyptian Armed Forces**

January 2009 - March 2010 (1 year 3 months)

1 - Developing new database applications using Programming Without Coding Technology (PWCT).

This was the first practical use of PWCT in real world client-server database applications. 2 - Developing the Supernova natural programming language using PWCT <http://supernova.sourceforge.net> <http://www.kutub.info/library/book/6346>

**Demonstrator at Faculty of Electronic Engineering FEE**

September 2008 - January 2009 (5 months)

1 - C & Data structures. 2 - C++ & Object-Oriented Programming (OOP)

**Part-time Programmer at Faculty of arts menofia university**

August 2007 - August 2008 (1 year 1 month)

Developing database application for storing and calculating students results Using Visual FoxPro & ASP

**Part-time programmer at Faculty of Electronic Engineering FEE**

September 2006 - August 2008 (2 years)

Developing Timetable database application using Visual FoxPro.

**Part-time Programmer at Future company - Menouf**

October 2007 - March 2008 (6 months)

Developing database application using Visual FoxPro for sales and warehouse management.

**Programmer at GUI Library for FGLib (Open Source)**

January 2005 - June 2006 (1 year 6 months)

Creating GUI Library for CA-Clipper language for MS-DOS The library contains support for multiple-windows, nested menus, desktop, icons, buttons, textbox, editbox and many GUI controls. Also the library comes with visual form designer. The event-driven system is very powerful and the controls are modern (can take input from the keyboard or the mouse at the same time with flexible switching between controls and windows) Applications developed using this library gives the user the feel of Microsoft Windows GUI

environment while working and running under MS-DOS All of these features and the library contains only 17,000 lines of code written in CA-Clipper & C <http://sourceforge.net/projects/fglib/files/FGLGUI/>

### **Part-time programmer at Aljazeera Hospital - Jeddah**

February 2000 - July 2000 (6 months)

Developing Invoices database application using CA-Clipper I was 14 years old

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## **Certifications**

### **GRE**

Educational Testing Service (ETS)

### **TOEFL**

Educational Testing Service (ETS)

### **The principles of the feasibility study**

Riyadh Valley Company (RVC)

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## **Publications**

### **Localized Algorithm for Segregation of Critical/Non-critical Nodes in Mobile Ad Hoc and Sensor Networks**

Procedia Computer Science, 2013 - Elsevier 2013

Authors: Muhammad Imran, Mohamed A. Alnuem, Mahmoud Samir Fayed, Atif Alamri

Timely segregation of connectivity-centric critical/non-critical nodes is extremely crucial in mobile ad hoc and sensor networks to assess network vulnerabilities against critical node failures and provide precautionary means for survivability. This paper presents a localized algorithm for segregation of critical/non-critical nodes (LASCNN) that opts to distinguish critical/non-critical nodes to the network connectivity based on limited topology information. Each node establishes and maintains a k-hop connection list and employ LASCNN to determine whether it is critical/non-critical. Based on the list, LASCNN marks a node as critical if its k-hop neighbor's become disconnected without the node, non-critical otherwise. Simulation experiments demonstrate the scalability of LASCNN and shows the performance is quite competitive compared to a scheme with global network information. The accuracy of LASCNN in determining critical nodes is 87% (1-hop) and 93% (2-hop) and non-critical nodes 91% (1-hop) and 93% (2-hop).

### **Formal Specification and Validation of a Localized Algorithm for Segregation of Critical/Non-critical Nodes in MAHSNs**

hindawi.com June 9, 2014

Authors: Mohammed Alnuem, Nazir Ahmad Zafar, Muhammad Imran, Sana Ullah, Mahmoud Samir Fayed

Timely segregation of critical/noncritical nodes is extremely crucial in mobile ad hoc and sensor networks. Most of the existing segregation schemes are centralized and require maintaining network wide information, which may not be feasible in large-scale dynamic networks. Moreover, these schemes lack rigorous validation and entirely rely on simulations. We present a localized algorithm for segregation of critical/noncritical nodes (LASCNN) to the network connectivity. LASCNN establishes and maintains a k-hop connection list and marks a node as critical if its k-hop neighbours become disconnected without the node

and noncritical otherwise. A noncritical node with more than one connection is marked as intermediate and leaf noncritical otherwise. We use both formal and nonformal techniques for verification and validation of functional and nonfunctional properties. First, we model MAHSN as a dynamic graph and transform LASCNN to equivalent formal specification using Z notation. After analysing and validating the specification through Z eves tool, we simulate LASCNN specification to quantitatively demonstrate its efficiency. Simulation experiments demonstrate that the performance of LASCNN is scalable and is quite competitive compared to centralized scheme with global information. The accuracy of LASCNN in determining critical nodes is 87% (1-hop) and 93% (2-hop) and of noncritical nodes the accuracy is 91% (1-hop) and 93% (2-hop).

### **Programming Without Coding Technology (PWCT)**

<http://www.codeproject.com> November 23, 2013

Authors: Mahmoud Samir Fayed

Introduction to Programming Without Coding Technology

### **Using Python inside Programming Without Coding Technology (PWCT) environment.**

<http://www.codeproject.com> December 10, 2013

Authors: Mahmoud Samir Fayed

In this article we are going to learn how to use Python inside Programming Without Coding Technology (PWCT) environment through PythonPWCT. We will learn how to create our first application using PythonPWCT, how to see/edit the generated source code and how to play with the environment to get more productivity and get advantages from customization.

### **Using C#.NET through Programming Without Coding Technology**

<http://www.codeproject.com> March 17, 2013

Authors: Mahmoud Samir Fayed

The ideas and technology behind Programming Without Coding Technology

### **The Time Machine and the PWCT Visual Programming Language**

<http://www.codeproject.com> March 17, 2013

Authors: Mahmoud Samir Fayed

The idea behind using the Time Machine inside Programming Without Coding Technology

### **Supernova Programming Language**

<http://www.codeproject.com> April 12, 2010

Authors: Mahmoud Samir Fayed

Supernova is a modern scripting language for Microsoft-Windows released as Freeware

### **Supernova programming language**

[kutub.info](http://kutub.info) July 18, 2010

Authors: Mahmoud Samir Fayed

Free Arabic book The Supernova programming language 255 pages, downloads over 12,000 Chapter (1) : Introduction to Supernova Chapter (2) : Expressions Chapter (3) : Do statements Chapter (4) : Date & Time Chapter (5) : Strings Chapter (6) : Arrays Chapter (7) : Files Chapter (8) : Delivery Application Chapter (9) : Macro Chapter (10) : DLL Functions Chapter (11) : Sound player library Chapter (12) : Sound recorder

library Chapter (13) : Movie player library Chapter (14) : Programming With Fiction Description Chapter (15) : GUI Chapter (16) : ADO & COM Chapter (17) : Using Notepad++ Chapter (18) : Message from the Author

### **Programming Secrets - Part (2)**

kutub.info

Authors: Mahmoud Samir Fayed

Free Arabic book Programming secrets - part (2) 211 pages , downloads over 47,000 Chapter (4) : The philosophy of the art of programming Chapter (5) : Programming Without Coding Technology Chapter (6) : About Applications Development

### **Programming Secrets - Part (1)**

kutub.info April 7, 2007

Authors: Mahmoud Samir Fayed

Free Arabic book Programming secrets - part (1) Part (1) - 191 pages, downloads over 40,000 Chapter (1) : Event-Driven System - Creating new EDS based on electrical circuits Chapter (2) : Programming Paradigm - How to create a new paradigm Chapter (3) : User Interface Levels - (DMA, Graphics Library, GUI Environment, Form Designer & Wizard)

### **Fastest way to learn programming using Visual FoxPro**

kutub.info 2006

Authors: Mahmoud Samir Fayed

Free Arabic book Introduction to computer programming and software development using VFP 81 pages, downloads over 94,000 Chapter (1) : Introduction to programming Chapter (2) : Database Files Chapter (3) : Object-Oriented Programming (OOP) Chapter (4) : Forms Files Chapter (5) : Menus Files Chapter (6) : Project Files

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## Skills & Expertise

**Programming**

**Research**

**Software Development**

**C**

**C++**

**OOP**

**C#**

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## Languages

**English**

**Arabic**

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## Education

**Faculty of Electronic Engineering (Menofia University - Egypt)**

Bachelor of Science (BSc), Computer Science, 2003 - 2008

Activities and Societies: I was a member of the University Student Union (USU) for three years (Social Committee and excursions)

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## Interests

Software development and new technologies.

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[Contact Mahmoud Samir on LinkedIn](#)