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**College of Engineering**

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# **Drug Distribution Information System**

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## **Abstract**

One of the most important parameters in the process of assessing the public health care systems is the availability of medicines. In the process of distributing the drugs, in one area sometimes a very important drugs reach their expire date with no need for them while in other areas the same drugs at the same time is available in large quantities with vital need for them. The main goal of this software is to be a monitoring system for the availability of drugs.

It have several general advantages such as helping patient to know the drugs location easily, help pharmacist to manage his pharmacy and help distribution center to manage and monitor any process.

## المستخلص

مدى توفر الأدوية وكيفية الحصول عليها هو واحد من أهم المعايير في عملية تقييم جودة أنظمة الرعاية الصحية. تكمن المشكلة الأساسية في طريقة توزيع الأدوية حيث نجد أنها تتوفر في بعض المناطق بكمية كبيرة جداً حتى أن صلاحيتها تنتهي وتصبح مهدداً للصحة بدلاً من الحفاظ عليها بينما وفي نفس التوقيت نجد مناطق أخرى تحتاج هذه الأدوية بشدة. يهدف هذا البحث إلى تصميم برنامج يقوم بمراقبة النظام الدوائي بصورة عامة.

وهذا البرنامج يحتوي على العديد من الميزات حيث أنه يقوم بمساعدة المريض لمعرفة مكان الدواء بسهولة، يساعد الصيدلي على إدارة الصيدلية وتنظيم عمليات البيع ومراقبة الكميات لديه أما بالنسبة لمركز التوزيع الدوائي الرئيسي فإنه يمثل مركز مراقبة لجميع العمليات المتعلقة بالأدوية.

# **CHAPTER ONE**

## **Introduction**

### **1.4 1.1 General overview**

Drug is any substance used in healing or mitigation of pain and is one of the life support matters. It has a very great importance for humans so that most people in different environments cannot live without it also has significance for the rest of the organisms of not less than its significance for humans. Therefore, it was imperative interest in design pharmacies since ancient times and gives its high priority after hospitals.

The lack of drugs at the right time for the patient is considered one of the greatest problems facing the world in general by an estimated 30%, and Africa in particular, by an estimated 50%, according to a report published by the World Health Organization [1]. This is due to two things, either its totally absence due to the industrial and financial reasons or absence due to a random distribution. In the conducted research, the problem is for this second reason by up to 92% [1]. so the global organizations specialized in the field of health, especially the World Health Organization competed to resolve this problem and has made strenuous efforts in order to ensure the abundance Pharmaceutical. In Sudan, the Federal Ministry of Health, represented in the form of central medical supplies public corporation (CMSPC) tracked efforts to improve the ability of pharmaceutical services, on top of this efforts is the search service for medicines via their web site or by phone. However, despite these efforts whether local or global level the patient is still suffering too much.

One of the most important branches of the Biomedical engineering is the pharmaceutical Biomedical engineering because it considers the relationship between chemical and organic substances one hand and the human body, on the other hand to

produce of medical drugs suitable for human health. In the same direction, the relationship between biomedical engineer and drug distribution process is a very close, as he is the only one who capable of connecting the distribution process with the modern technology by design an integrated pharmaceutical network that serve all involved parties, whether servants or served persons.

This research try to design software program able to control the distribution of drugs that facilitate interaction between all parties and linked them strongly which make it difficult for an error in this complex process. Thus, ensure the availability of the drug in the right place and right time.

## **1.5 1.2 Problem Statement**

Distribution of drugs to pharmacies is done randomly as requested by the pharmacy, and it is totally absence due to the industrial and financial reasons which leads to lack of access to drugs at the right time for the patients. That required designing software program able to control the distribution of drugs that facilitate interaction between all parties and linked them strongly which make it difficult for an error in this complex process. Thus, ensure the availability of the drug in the right place and right time.

## **1.6 1.3 Objectives**

### **1.3.1 General objectives**

To Building a network program based mechanism to control the distribution of medicines, monitor and ensure availability in every moment and ease of arrival for the needy.

### **1.3.2 Specific Objectives is to:**

- a- Design system overview which show system Phases, used software and materials, system inputs, system outputs and system constraints.
- b- Database analysis, enters specific data, and regulates it in tables.
- c- Specify user's permissions and analyzing the whole system parts.
- d- Designing the distribution mechanism.
- e- Designing the web application.