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Electronic - Medicine Monitoring System

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Abstract—Pharmaceuticals are one of the most profitable business today, being unsatisfied with this profit, many of them have involved in sale of fake and expired medicines. The usage of these bogus medicines are high in developing countries and this has been constantly increasing to a very large number resulting in the death of many innocent people because of ineffective medicines. The number of deaths has been quite increasing because of lack of adequate knowledge about solving these issues. In an attempt to put an end to this problem, we have proposed a methodology in our paper. This system can be implied around the globe to solve the present problems, its prerequisite is centralization of the medicine manufacturers. A connecting link is formed between the manufacturer and the customer, which prevents the dealer's illegal activities. This link is achieved by providing customers with e-bills generated from the company. This method helps in monitoring the prices of the various drugs and preventing the usage of outdated medicines.

Keywords-Electronic –Medicine Monitoring System (E-MMS); Medicodes (medicine-codes);

INTRODUCTION

At present the growth rate of various countries are increasing, due to globalization. The life span of an average human has been increased over the years due to the advancements in medical field. The field of pharmaceuticals has become one of the fraudulent prone businesses all over the world. All medicines have been counterfeited, from medicines for the treatment of life-threatening conditions to inexpensive generic versions. The drugs which were developed to help humans have become as indirect harmful agents

for mankind. This is due to assurance of overwhelming profits by sale of fake drugs. The system put forward in our paper ensures price linearity in various regions of globe and prevents the sale of expired drugs.

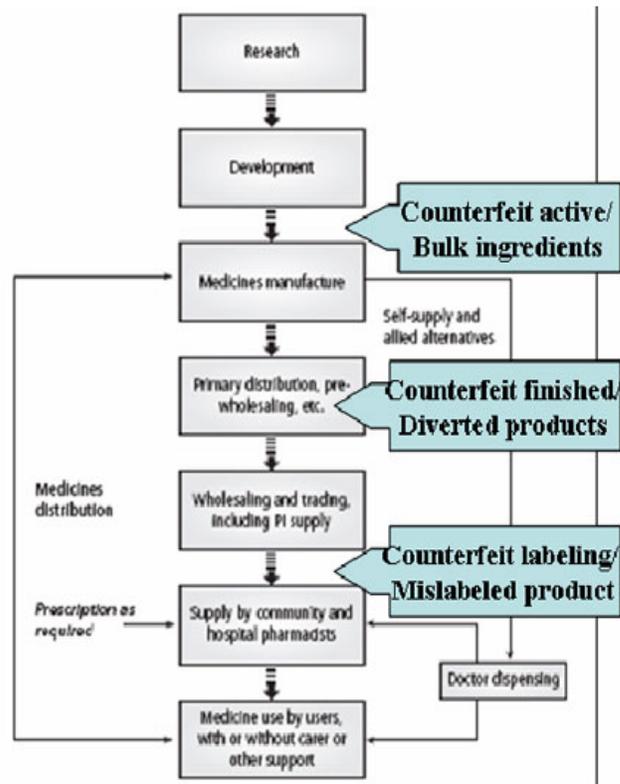


Fig No-1

Many people who are affected by increased drug prices can be helped by this system, this can be monitored by WHO and other NGO's to make sure

that the system is functioning properly. The major advantage of adapting to this system is that any illegal activities such as attempts to sale of expired drugs and fake medicines can be traced easily.

OBJECTVES

The main aim of our system is to prevent the usage of counterfeit medicines, and to identify the source of it. This system can play a major role to help the officials in supervising the detection for the presence of fake drug in various regions. At present the system in existence is to detect the duplicate drugs by direct inspection, which is difficult task involving man power and a time consuming one. The major constraints in the present system are ineffective detection of fake medicines which are manufactured similar to the originals and also corruption is involved to stop officials from reporting. The proposed system overcomes all these barriers by enabling direct monitoring of each drug store and the prices of medicine from a central server. This helps to detect the sources of fake medicines in less time, so that valuable human lives can be saved.

EXISTING SYSTEM

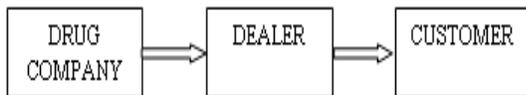


Fig No-2

The present system is shown in fig-1, it does not help the manufacturer to have direct control with the customer due to which many the faults at the customer end are not known to the company. The proposed system is capable of solving these issues.

PROPOSED SYSTEM

In our proposed model a link is established between the company and customer, so that the entire information to the customer is provided from the company. This prevents the dealer and retailer from

increasing the price of the medicine and offering expired or fake drugs. The link is established by means of internet, the data exchange is a full duplex process as shown if fig-2.

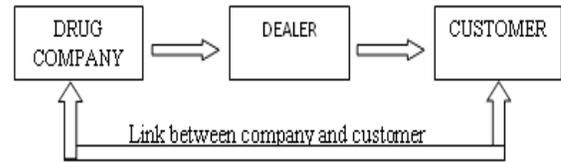


Fig No-3

METHODOLOGY

The electronic medicine monitoring system depends mainly on the basis of the specific codes referred as medicodes and a barcode scanner. The scanner serves as the input device and printer as the output device. The manufactured medicine strips are printed with barcodes and a special code number through which this detection process is being performed. The functioning unit at the retailer end is using a barcode reader for detecting each medicine automatically and the quantity and specific code in the strip has to be entered by the shopkeeper. The code helps to get details of the medicine on the internet by checking in website with the barcode value as the input to it. This value checks to the online server and finds whether the medicine is appropriate. These details are sent to the server for getting the e-bill, the specific code is helpful in finding out the zone region of the medicine to where it has been distributed.

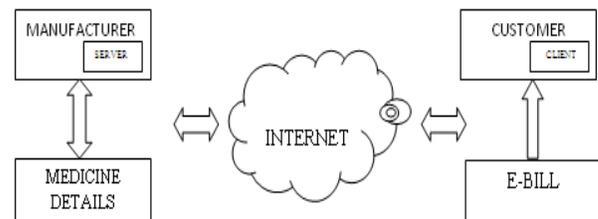


Fig No-4

Then it generates the price and details for bill from its database, so that billing is made from the company's end. The data transmission is done using secured links so that security of data is maintained. The data transformation is being shown in fig-3, the generated e-bill provides various details to the customer like name of medicine, price, mfg date, exp date, etc. The EMMS has to be established at each retailer shops it serves as a monitoring agent for preventing counterfeit medicines sales and also this system helps indirectly to monitor the amount of drugs being purchased and sold by the retailer.

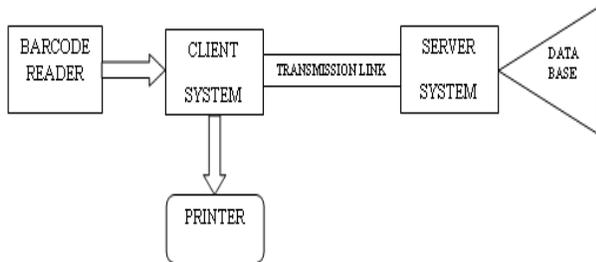


Fig No-5

MEDICINE STRIP-MEDICODE

The design of the medicine strip is very important because the barcode has to be printed on it with care because even a small error may result in the rejection of the strip for billing. The model of the strip with barcode is below,

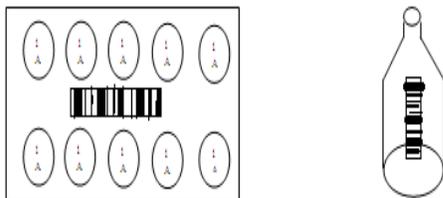


Fig No-6

The strip of medicine and the bottle labeled with barcode is shown the specific code '1A' is denoted in the tablets. These specific codes detects the region to which the medicine is distributed, if some other code is found other than one allocated for the specific zone then the billing process is stopped and the abnormality is reported, which can be checked immediately for verification. The proposed system is totally based on software and only the basic system requirements such as a barcode reader and printer are the only hardware essentials for this project.

CONCLUSION

This main aim of this project is to help the human race, by preventing the deaths caused by the duplicate medicines. The amount of people dying due to this can be reduced to a minor amount by implementing this system in all regions. This software based project can be made open source so that retailers doesn't hesitate to adapt to it. This project is very cost effective and easy to implement. The main advantage of this system is that it is less time consuming and the dealers cannot perform any fraudulent work while handling the medicines. It is of great boon to the customers and also for the company to maintain their goodwill among the customers. This system helps people to get the best Quality of Service (QOS). Thus sales of expired and fake medicines can be prevented and these kinds of activities can be easily monitored and can be banned.

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