Children's Health Care System (CHCS)

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Introduction

Healthcare is one of the most important fields that must be developed to cope with the rapid and new changes in the information technology area. While children can be considered to be the heart of this field, the technological improvement still lacking and not clearly supported the different healthcare aspects and processes related to them. Therefore, the current system addresses this problem, and analysis the children's vaccination processes, in order to build a new systems taking into consideration the advancements in the technological aspects that can be used in those processes, specially record keeping, infants vaccination's follow up, and keeping in contact with the infants and children families using the internet technology and mobile services.

Systems Objectives:

The main objective of the CHCS is to convert the current manual system in the vaccination centers, into an electronic one, which benefit in:

1. Reducing the time and effort for employees and the infants parents.
2. Eliminating data redundancy.
3. Generating the necessary reports about the babies health.
4. Providing necessary services , such as short messages services, and keep in contact with parents.

Requirement Specification

After analyzing the current vaccination system, the following requirements formulated for the new system:

1. Record keeping: where users (nurses) adds infant accounts, and perform different processes on their information; such as updating, queries, and printouts.

2. Managing services: where the system will send messages to parent's mobiles as a reminder for the vaccinations dates, and public services such as querying, announcements.

3. Managing vaccinations: where all vaccinations will be added to the database, and follow up process will be performed.

Proposed project

Figure1 depicts the idea of the CHCS and the way the system is working.

The nurse follow up the infants and children's vaccination by entering the required information, and keep the records in a database.

The doctor examines the infants and print out the required statements about their health.

The server after that when it's the time for the next vaccination, sends sms's to the families to remind them about the date of the next vaccination.
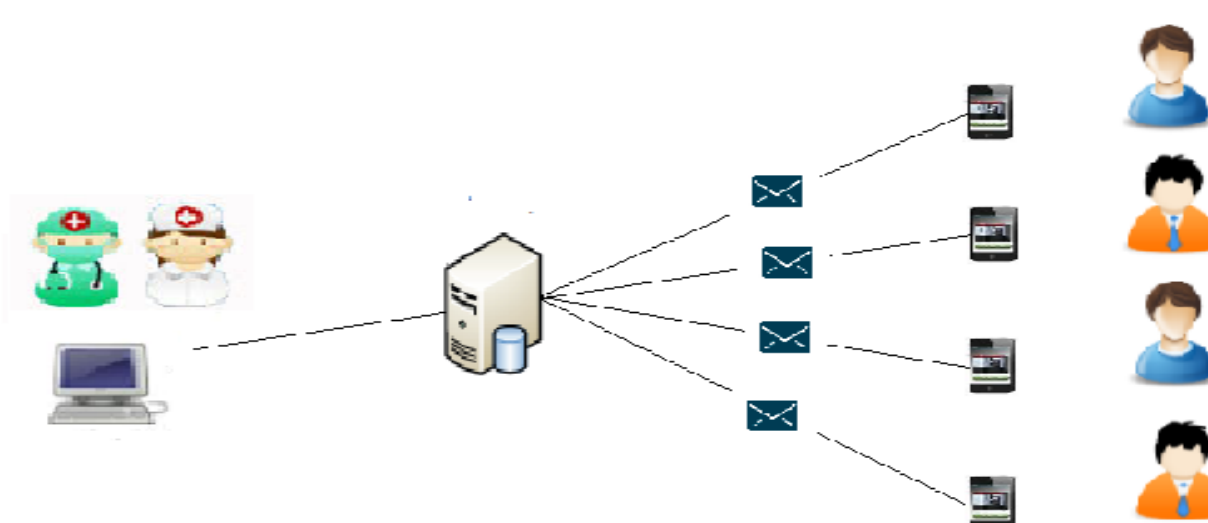
Figure 1: Children's Health Care System

Project Class Diagram:

Figure2 illustrates the class diagram for the CHCS.The system user is either a nurse/doctor or the parents, where; there is an account for each infant that holds his information. The infant's information includes: personal details, health statement which provided by the nurse/doctor, the vaccinations and their appointments. In addition the diagram shows that every infant must have an appointment that will be included in a sms.

Figure2: CHCS Class Diagram

System Design and Implementation:

The system was designed using several design tools, mainly UML and flowcharting (Figure3), and then built using PHP , and the Net Beans programming language to produce a user-friendly interface.
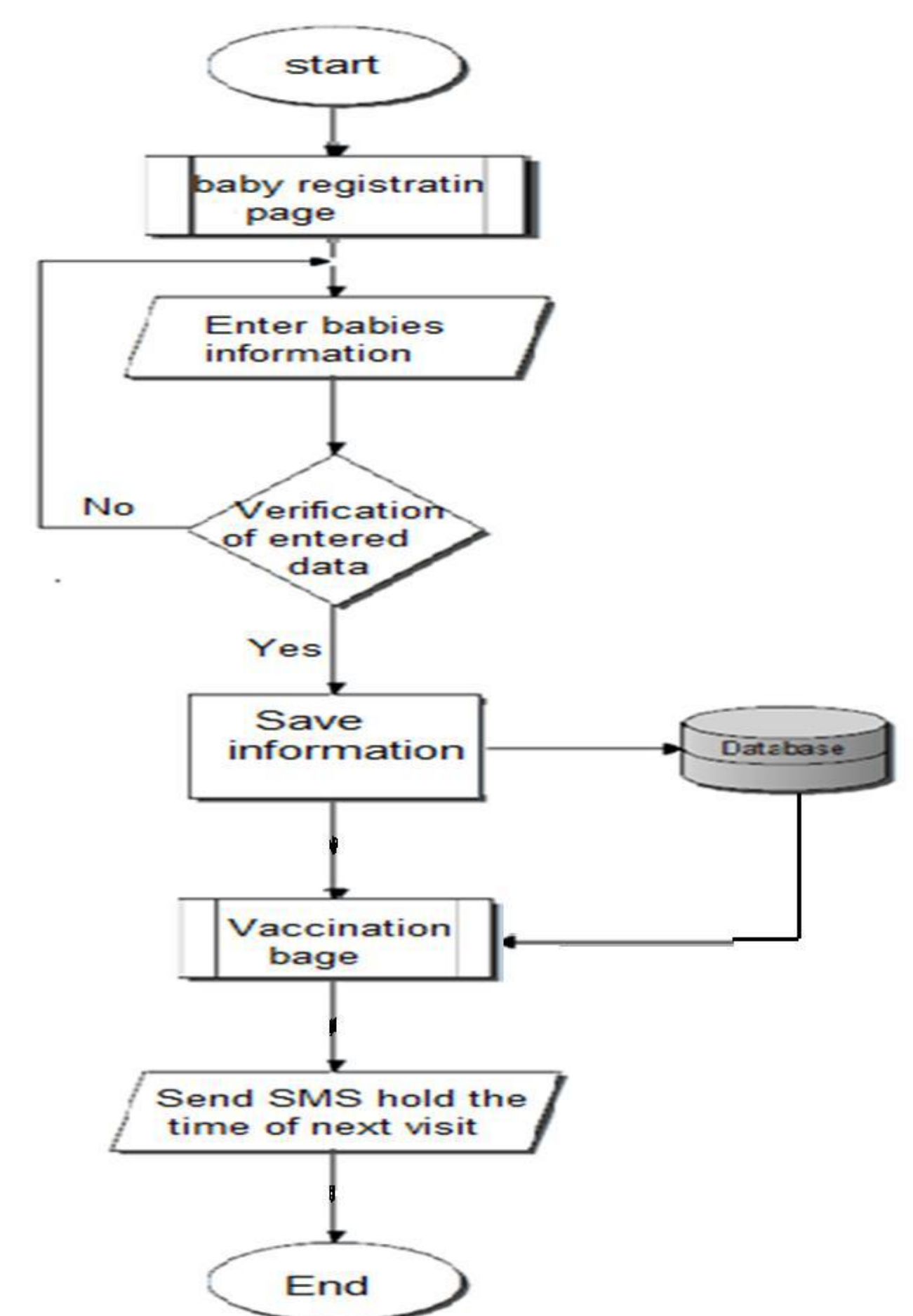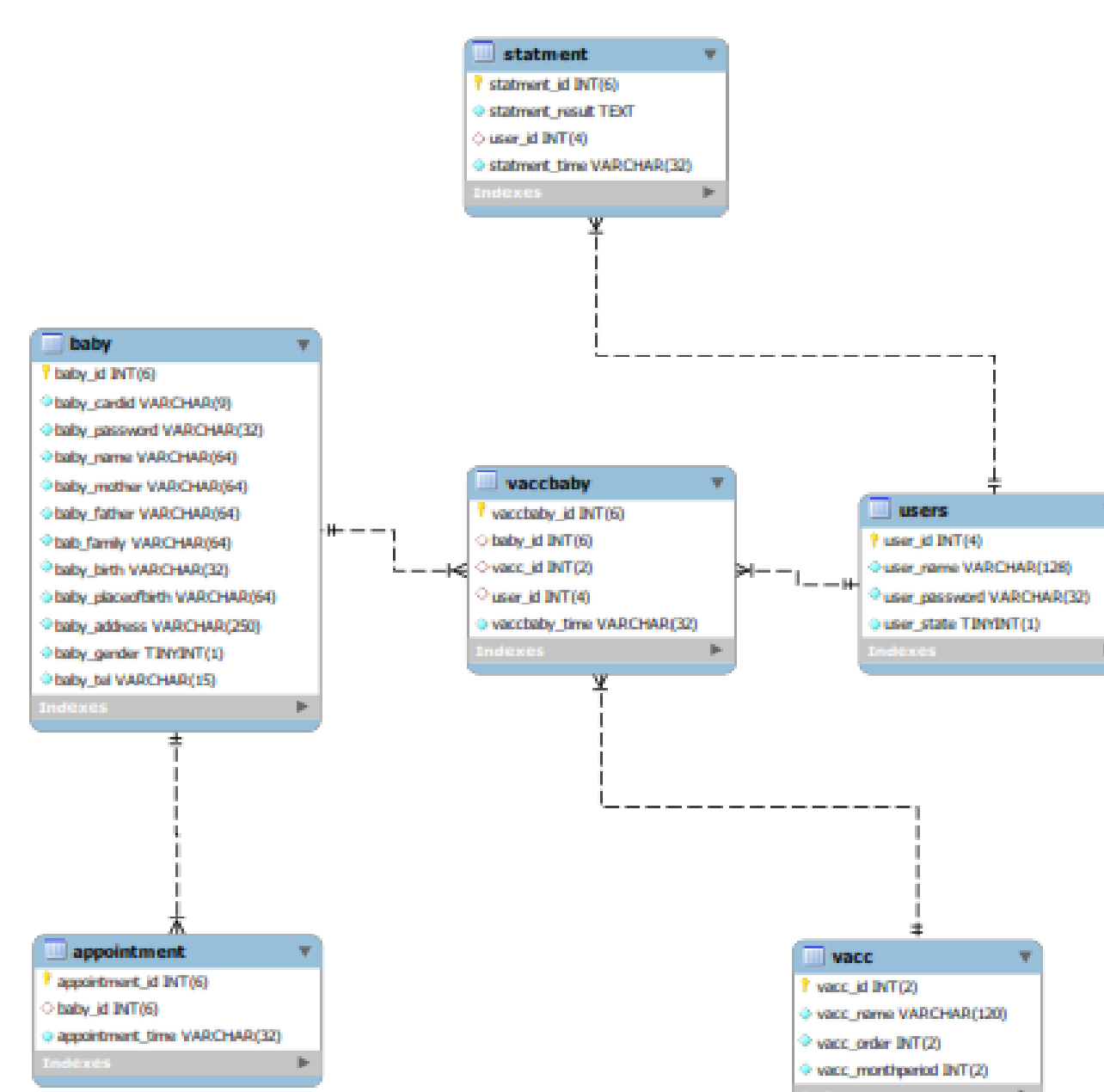
Figure3 : System Flowchart.

Results:

As a result, a user-friendly interface (Figure4) was produced, and tested. All functional, non-functional requirements, and objectives are achieved. Therefore, the new system is ready for use in the healthcare-children's vaccination area.

Figure4. CHCS Interface