Effat university clinic management application literature review examples

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Introduction

Effat University located in Jeddah in the Kingdom of Saudi Arabia (KSA) is in need of a Health Clinic Web Page. The correct management application will enhance the usefulness of the health clinic for the students as well as its staff. The use of digital technology in a health clinic has particular characteristics that may not be as important in other environments. The purpose for this web development is to add a management application for one employee and a nurse and it is a management application. Therefore a web based application will be developed using Oracle. The purpose of this literature review is to evaluate the needs of the Effat University Health Center in reference to the advantages offered by Oracle, and to compare Oracle to a similar application.

Choosing the correct application is important because the software and web site must set the same priority. Wesier (1991) has taught that that " Our computers should be like our childhood: an invisible foundation that is quickly forgotten but always with us, and effortlessly used throughout our lives" (cited by Pohjola, 2011, p. 3). The health services web site should fit seamlessly into the infrastructure of the health clinic. The users should be able to work on the computer without having to worry about how the digital technology works. The conceptual model of a system includes its virtual space; the idea the users have in mind is one the developer needs to (See fig. 1, A). The computer system should also fit well into the physical space

available. (See fig 1, C) Finally the thoughts people have about how the web site fits their needs bring the cycle of the habitat back to the virtual uses of the . (See fig. 1, D) In other words meeting the expectations of the users will make the additional applications a success. The work will be facilitated by the application.

Figure 1. How the web site should be part of the habitat

Source: Pohjola (2011) p. 5.

Effat University

Effat University is an all women's university located in one of the KSA's busiest port cities, Jeddah. The student's at the university can chose from three colleges: Humanities and Social Science, Engineering and Business. Students learn the most up-to-date information available including the use of digital technology in their chosen field.

Effat Health Services Department

Effat University sets high standards for all departments and the Health Services department is a very important part of the university's community. A doctor and a nurse staff the clinic from 8 a. m. to 4 p. m. during week so students can go to the clinic if they feel unwell or are interested in the diet health program. A resident nurse is on call at all times in case students need help at night or on weekends. The clinic has the most up-to-date medical equipment for check-ups and emergency services. The doctor and nurse are able to help with services such as flu shots, meningitis vaccine and other inoculations. A Health and Wellness Program for the students is an important part of the health clinic's services. The medical staff supports the sports'

teams and employees within the university compound as well as some community services.

The applications that are needed now will be used by the nurse and an employee of the health center. The modules which will be added are for medical reports, inventory for medicine, history of the students and employees, and the medicines requested. The additional modules will be integrated with the finance email so they will receive the request. The daily program and the employee management program for evaluating the job performance of the employee each month. The employee management program will integrate the application with the attendance system and record the updates in the application for each user to evaluate their performance

Software Review

Healthcare software that primarily deals with the running of the office with tasks like scheduling patients and ordering supplies is called Practice Management (PM) software. Physicians use electronic health records (EHR) because they are occupied with the patients not with the daily running of the office. Web development technology is changing and improving each day, making it necessary to evaluate other management applications in case something new is more applicable. A short description and review of Oracle and several other health care management software applications are discussed below.

Oracle

Oracle is a leader in Open Source Business Intelligence software applications. The Oracle Application Development Framework (Oracle ADF) has been chosen for its proven reliability. Also the application is flexible enough to meet the unique needs of the Effat Health Center. Java is the framework and Oracle JDeveloper is the tool used to develop the necessary environment. The need to write code is minimized with the use of this application so the web can be designed and working quickly. The application is easy for the users because the computer mouse is used with the drag-and-drop approach. Drop down menus take up little space but provide all the necessary menu items. (See fig. 2)

Figure 2. The user's interface showing a drop down menu

Source: Oracle ADF (2011) p. 3

Oracle has designed applications that are industry specific and their health care application offers an efficient way to integrate clinical data. The analysis offered by Oracle is to help the health care service improve the quality of the care to meet each patient's needs. With Oracle the data can be integrated and stored in the data warehouse. Statistical analysis is provided by the application. The data is kept up-to-date because of the Oracle rules framework. The data can be used to offer better personalized service to the patients as well as the efficient evaluation of employee performance.

The Oracle ADF is therefore suitable for meeting the needs of the Health Center. Oracle can meet the health center's requirements to meet the following objectives. The modules for the web include (a) inventory for the medicine which is organized by daily and monthly supplies, (b) pharmacy

supply requests to the finance department, (c) personnel and students' medical reports, (d) personnel and students' medical histories (childhood illnesses, allergies, medicines taken in the past), (e) the Health and Wellness student program (diet and exercise classes and information), and (f) employee management. The employee management module includes a record of tasks (responsibilities) and an end-of-the-month chart with job performance for each employee in the clinic.

Similar systems

Microsoft Health Level Seven

Microsoft (MS) Health Level Seven has developed a system for health care clinics that has some similarities. The Microsoft NET Platform has been developed with Microsoft Visual Studio and Microsoft Web Services Enhancements (WSE) to meet health care needs in the United States. The Health Level Seven (HL7) meets the American National Standards Institution's (ANSI) accreditation criteria. Seven is the level that meets the highest standards for Open Systems Interconnections (OSI) applications. Healthcare facilities all over the world have used this particular MS platform for large amounts of patient data gathered for interfacing with insurance companies.

The MS platform is not suitable for the Effat Health Center though because it is very concerned with external communication s to insurance companies and other entities that do not apply in the KSA. The MS framework prioritizes communication instead of meeting the needs of the patients and staff for health care solutions and for the special needs of the Health Center.

NextGen Practice Management

NextGen Practice Management has been designed for use by one-doctor offices up to 150 doctors in one office. The software also has capabilities for hospital use. A strong point of NextGen software is how easily it can be used to organize workloads with its automated task management system. Patient's records include historical medical notes and current home location so doctors at different locations have the same information.

NextGen is not suitable for the Effat Health Care Center. Although the software is highly ranked by physicians the cost of the fundamental design is for ease of use for physicians. And it is designed to meet the needs of one practice that has two or more offices at different locations.

eClinicalWorks Practice Management

eClinicalWorks Practice Management is suitable for one practice or health networks. The schedules of health care provider's can display where the physician will be working during each block of time listed. Scheduling templates can be made so that patients needing repeated visits will be automatically scheduled. The billing element of the software interfaces with a collection agency to help doctor's receive payment.

Although a scheduling application is offered; it was mainly designed to keep the schedules of physicians who work in several locations. The main feature for the billing application is to make sure people pay for the doctor's services. The eClinicalWorks does not have features that fit the health centers purposes.

Conclusion

The choice of Oracle as a development tool is appropriate for the Effat Health Center because it can handle standardized applications while still offering some flexibility. MS HL7 has a platform that prioritizes communication with other health care entities. NextGen and eClinical Works focus on the needs of the physician or physicians in a private practice. So the MS HL7, NextGen and eClinical are designed to most efficiently meet the needs of the Effat Health Center.

Most web development frameworks prioritize data management but Oracle manages data while at the same time putting a priority on health solutions. Oracle is available as an Open Source software application os the use of the software is free while at the same time support is avaialble on the web. Oracle is innovative, flexible enough for a small health care center and offers excellent support. Therefore Oracle is the best web development architecture for Effat University's Health Center.

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