S R S for responsive design environment: Generic Medicine Mobile Website - A portal to facilitate updated information about generic medicine

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Abstract
India has a vast population and about 70% of it lives in villages which often have difficult or inaccessible terrain. This makes deployment of medical facilities and related delivery services a great challenge. According to the definition, Telemedicine are nothing but delivering medical facilities and information to the people staying in rural parts of India. Medicines are currently used to treat stroke, cancer, multiple sclerosis, diabetes, arthritis and many other diseases are not affordable by people those who are under poverty. However; the branded medicines are not affordable and still protected with patents. With the help of mobile services it now possible to reach to the individuals and the medical communities. Mobile website is the latest trend to accomplish this task. In this paper the SRS for Generic Medicine Mobile Website (GMMW) is discussed with the perspective of technology, functional requirements, Responsive Design Environment (RDE) and Development of GMMW to provide an easy-to-use web services providing many powerful features of desktop IDE’s by combining with the power of Mobile- Computing for patients in particular and people in medical services in general.

Keywords: GMMW, Functional Requirement, Generic medicine, Mobile website, RDE.

1. Introduction
Over the past years, medicines become a major contribution to the improvement of health status of the patients. Medicines are currently used to treat stroke, cancer, multiple sclerosis, diabetes, arthritis and many other diseases. Many forms of cancer that were fatal a decade ago have become curable nowadays. Moreover, other fatal diseases have become manageable for many sufferers. However; these branded medicines are not affordable and still protected with patents which will be expired in the next decade. Due to the expiration of the patent of these medicines, these can be made available again but produced in much cheaper aspect. The production of these new medicines is now called generic medicines indeed; these medicines will undergo serious clinical testing before it can be produced in the world market[1]

According to the population commission (pocom), "there are 30.6 million Filipinos or 6.12 million families who are suffering from poverty and the population which is 87 million today grow 2.05 percent annually”. Moreover, most of the population is given a very low income per month. Through this, many people cannot afford to buy branded medicines which are not so expensive in the Philippines compared with other countries like India, Afghanistan, and Thailand. The drugs in the Philippines are so expensive because the government has never been interested in developing a truly independent and people oriented health care policy. Senator Mar Roxas saw this problem and decided to pass a Senate bill no.1658 which aims to provide quality and affordable drugs. In fact, this bill has approved last October 10,2007 but until the present time, it is not yet implemented in the Philippines. With the condition of the Philippines’ economy, people prefer to buy cheaper medicines. Moreover, the production of generic medicines is indeed the only solution to the problem of the said country. [1]

2. Purpose
The exodus number of people in India cannot afford the medical services and medicines as they come under the below poverty line or under poverty, a source from Business Standard stated that, 363 million people are Below Poverty Line (BPL) in the year 2014[2]. Patient’s with such economical status cannot afford the expensive drugs. If the information of the generic medicines with the prize list will be available to the people those who are in medical services via mobile websites it is possible to deliver the better services to these people and the various NGO’s interested in providing economical support to the BPL and under poverty people. It is now pertinent to provide the information about quality healthcare at reasonable costs, there has to be a convergence of preventive, personalized, and precision medicine with the help of technology innovations towards improving global healthcare[3]

Although various portals/websites are available on the internet, to make the information more portable for the doctors, researcher, M.R., Medical volunteers, patients it is required to take it on smart phones. The purpose of this project is provide an easy-to-use web service providing many powerful feature of desktop IDE’s by combining with the power of Mobile-Cloud Computing for people in medical services as well as patients.
2.1 The Future Is Mobile

While going responsive can present challenges for website owners and on line marketers. I return to my previous point that without a mobile-friendly website your future online is bleak. The future is mobile, as we see people increasingly favoring their mobile devices over desktop computers. Nielsen says that over 60% of all mobile phone owners in US use a smartphone. A recent study by Walker Sands Digital showed mobile traffic to its client base increasing by 171 since 2011. Statist says that 5 billion people will use mobile phones by 2017. Hence it is demand of the time to get a responsive design environment (RDE) for mobile website design instead of desktop website designs.[4]

After the revolutionary changes in the speed of information available on smart phones it is needed to think about the more responsive designs of the websites that are specially designed for mobiles/smart phones. User friendly-responsive design for the Generic Medicine will help the medical practitioner to access the information faster and easy.

2.2 Scope

This Generic Medicine Mobile Website (GMMW) is accessible on a wide range of mobile devices, smart phones and tablets. Generic Medicine Mobile Website can be accessed on any mobile browser on any phone or tablet in an easy-to-read and user-friendly format since the entire site has been designed using responsive design principles. This means that all of the content and images are resized dynamically to fit any screen size. The site is easy to view and read on all mobile devices - from a 320x200 sized screen of an Android phone, to the latest i-Phone 6, a Windows Phone, an iPad or an Android Tablet. Web access portal is the gateway capability that is hosted in the demilitarized zone (DMZ). It allows authenticated trusted devices to obtain access to a list of predefined mobile applications.[6] The VPN has a client-side software capability that directly interfaces with a gateway in the DMZ, authenticating the user and encrypting all network traffic between the device and the gateway. This allows web services on the network to be utilized by client devices in a secure manner.[6]

2.3 Overview

We are going to focus on describing the system in terms of product (list of generic medicine and prize list) perspective, product (website) functions, user characteristics, assumptions and dependencies on the following section of this document. Next, we will address specific requirements of the system, which will enclose external interface requirements, requirements of the system, performance requirements, and other requirements.

3. METHODOLOGY

This section gives background information about specific requirements of the Generic Medicine Mobile Website (GMMW) to be developed in brief. Although we will not describe every requirement in detail, this section will describe the factors that affect the final product.

3.1 Product Perspective

This software product is eventually intended for the software developers. Product will be deployed to work as mobile web site and all users of the product will access by use of the mobile. Mobile Website will be main user interface where users can operate all the provided functionality. However, this web site will be only a part of a larger system. Generic Medicine Mobile Website will only be the interface for the user data and the execution of provided functionalities.

To access the information from the website users may require a smart phone. Since this website is providing information of the list of generic medicine (From A-Z) with price list and updates from FDA. User may send the updates about any generic medicine and its prizes from the registered account and administrator will accommodate the same after confirmation from the official government website or FDA website.

3.2. Product Functions

This new product, Generic Medicine Mobile Website (GMMW), must have to display the list of generic medicine and user can also access the prizes of the respected medicine. Required functionalities of this website can be summarized in four categories; user management requirements, interface requirements, user characteristics,. Overall description of the requirements can be found below.

4. USER MANAGEMENT REQUIREMENTS

This category of requirements is related to user account authentication mechanism and workspace management of users. Each user will have credentials to connect their mail on server workspace. User can communicate with their medicine updates. User can also view the updates from government websites i.e. FDA’s official website link for updates regarding new generic medicines and prize list and promotions of the medicines, medical service providers, consultant etc.

4.1 Interface Requirement

This group of requirements is related to external interaction of the website with mobile –website user or outer world. For user to interact with the work space Generic Medicine Mobile Website (GMMW) will provide GUI with responsive design environment (RDE).
4.2 User Characteristics

Users of this website will be any mobile user with a smartphone or a cell with mobile data facility. The desktop user can also access the same on their desktop or laptop. Further, it is reasonable to assume that an average user has knowledge about surfing a website.

4.3 Constraints

Developers of the product should be aware that the main feature of the intended product with RDE and suitability with any size mobile screen. Developers should take care of mobility and usability of the website so they can browse the FDA updates and list of medicine along with prizes.[6] Developers should also be careful about the privacy of users.

5. Specific Requirement

As per the requirements discussed under the roof of software engineering paradigm, requirements may categorize into three types, External interface requirements, functional requirements and non-functional requirements. [7] In this reference, External interface requirement are discussed under Responsive Design Environment. Except non-functional requirements, requirements of the GMMW will be detailed under this section with brief information.

5.1 External Interface Requirement

Responsive Web Design is the methodology that recommends the design and implementation of a website that responds to user behavior and environment based on the screen size, orientation and operating system of their device. From a technology standpoint, the framework consists of a combination of flexible grids, flexible layouts, images and intelligent use of CSS media queries. As the user switches from one device to another (for example, desktop to i-Phone), the website automatically adapts to accommodate for resolution, image size and scripting abilities. This eliminates the need for resizing, panning and scrolling by the user in order to view the website on the new device. [8] GMMW can be viewed on the mobile device via internet browser. Example of Responsive design environment is illustrated in following Figure 1.

5.2 Functional Requirements

The list illustrated below elaborates the functional requirements of the GMMW, which will be further use for stimulating the responses, designing the UML, Deciding the flow of events and response sequence for the website.

- **REQ 1:** The system shall provide a registration page
- **REQ 2:** The system shall provide a login page
- **REQ 3:** The system shall provide view of List of Generic Medicine with the prize.
- **REQ 4:** The system shall provide link of FDA official site to check the updates.
- **REQ 5:** The system shall support user response for the updated information about Generic Medicine and prize list.
- **REQ 6:** The system shall provide support for modifications in the list Generic Medicine and prize list.

Further the list can increase as per the feedback will received from the website users.

6. Conclusion

In this paper, I analyze the needs of GMMW, which may further useful to create an SRS for the GMMW development. This paper will help to improve quality of website as documentation is brief about the functional requirement and RDE. The Website going to be designed basis on this documentation, will support all the features of future mobiles. Being a mobile website it overcome all the disadvantages of mobile app. Mobile internet use is divided into two modes: browsing the mobile web and using mobile applications (“apps”). Many kinds of content or service can be provided or accessed equally well via either app or mobile web; however, some are available exclusively via one or the other. [9] Medical practitioners, patients, medicine dealer, medical volunteers and other users, medical will get an affordable solution. The website will save the memory space that is consumed by an app. Also saves the surfing time, downloading time. Also apps are supporting to the specific phones where as mobile website can be access on any smart phone where the data facility is available. This makes it to reach at the inaccessible terrain.

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use the equation editor to create the equation. Then select the “Equation” markup style. Press the tab key and write the equation number in parentheses.

References

[2] www.rediff.com/business/slide-show/slide-show-1-

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Fig1. Example of responsive design environment (interface)
Healthcare with Personalized and Preventive Medicine


[7] FOUNDATIONS OF SOFTWARE TESTING by Dorothy Graham, Erik van Veenendaal,Isabel Evans, Rex Black.


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