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Register for volunteer blood donors for fast locating of rare blood groups in emergency

Literature review

Abstract – Blood is a saver of all existing lives in case of emergency needs. During the blood transfusion process, the acceptor receiving blood should be considered before donating the blood. The blood donor information should be checked before displaying their details on the website. Technopedia is nothing but web service with a mobile application. In this paper, we propose an extended web application to timely update the information regarding the donors, acceptor and patients where the administrator access the whole information about blood bank management system. Also the proposed work has a Push technology with security, to protect the contact details of the donors in web application where it can be misused by third parties. It also maintains the amount of each available blood groups, if the stock of a particular blood group is lower than the required amount then the proposed method notifies the donor to donate blood. In addition to web application, an android mobile application is proposed to search the donors who are available nearby during the emergency cases such as accidents. Further we include Geographic Information System (GIS) in the mobile application where the data is transmitted between mobile application and the website through wireless network. The web based android application is readily scalable, efficient and adaptable to meet the complex need of blood bank who is key facilitators for the healthcare sector. Hence the life at threat can be saved by this optimization technique. Keywords— Technopedia, Geographic Information System, Blood bank, donors, acceptors, administrator, Push technology. I. INTRODUCTION The need for the blood is important for treating in medical

1.RELATED WORK

Bidirectional way of communication is a problem in pull technology; communication between server and client using push technology is solved by push server seen here[1]. Communication process between the blood centre department and hospitals using Geo-location RVD Scoring Algorithm is proposed [2] with an easy-toorganize database of contact details and their blood groups are displayed for acceptors. Large amount of time is taken to analyse the data of donor in online is solved here [3].So extract knowledge of blood donor’s

* 1. Methodology

The framework for global action has evolved out of a series of collaborative activities organized by WHO and the IFRC. From 2003, a series of joint regional, sub-regional and national training

workshops on developing a voluntary blood donor programme were held in the African, Eastern Mediterranean, South-East Asian and Western Pacific regions. Some of these workshops were also supported by the Safe Blood for Africa Foundation. The workshops brought together blood donor managers, donor recruitment and donor care staff and volunteers from ministries of health, blood transfusion services, National Red Cross and Red Crescent Societies, blood donor organizations, Club 25 societies and other nongovernmental organizations. All workshop participants played leadership roles in their respective national blood programmes and were directly involved in various aspects of donor recruitment and donor care. These workshops provided valuable opportunities for facilitators and country participants to share their insights and experiences of factors contributing to successes in building effective blood donor programmes. They also led to recognition of common barriers and constraints in augmenting voluntary blood donation. Many of the strategies recommended in this framework emerged from workshop discussions, reports and country action plans. The framework was further strengthened by extensive consultations between WHO, the IFRC, other organizations and individual experts involved in voluntary blood donation. Biennial International Colloquia on the Recruitment of Voluntary Non-Remunerated Blood Donors are organized by the IFRC and co-sponsored by WHO. With their specific focus on voluntary blood donation, the Colloquia have provided a rich source of information and evaluation data on successful country initiatives. In 2006, WHO established an expert editorial group to consolidate the information provided by these sources, define goals and develop the strategies contained in this framework. The draft

strategies were reviewed and further refined by a working group on “Achieving 100% Voluntary Blood Donation” which was convened during the WHO Global Consultation on Universal Access to Safe Blood Transfusion.6 The Consultation was held in June 2007 in Ottawa, Canada, and was attended by over 100 experts from all regions of the world. The draft strategies were further refined as a result of feedback from participants in the WHO Workshop for the Training of Global Core Facilitators on “Developing a Voluntary Blood Donor Programme” held in Sharjah, United Arab Emirates, in October 2007. In June 2009, WHO held a Global Consultation on “100% Voluntary Non–Remunerated Donation of Blood and Blood Components” in Melbourne, Australia, to review barriers to achieving a safe global blood supply based on voluntary blood donation and to identify strategies and systems that will assist in meeting this goal. The Consultation also resulted in the development of the “Melbourne Declaration” which called for action by governments to support the achievement of this goal by 2020 and urged stakeholders to work collaboratively to support governments in this task. This framework for global action was issued in 2010 and will be considered for review within five years. Any updates to the recommendations in the interim period will be noted on the WHO Blood Transfusion Safety

website: www.who.int/bloodsafety/voluntary\_donation/en/

* 1. Voluntary blood donation: foundation of a safe and sufficient blood supply

Blood transfusion is an indispensable component of health care. It contributes to saving millions of lives each year in both routine and emergency situations, permits increasingly complex medical and surgical interventions and dramatically improves the life expectancy and quality of life of patients with a variety of acute and chronic conditions. Patients who require transfusion as part of their clinical management have the right to expect that sufficient blood will be available to meet their needs and to receive the safest blood possible. However, many patients still die or suffer unnecessarily because they do not have access to safe blood transfusion. The timely availability of safe blood and blood products is essential in all health facilities in which transfusion is performed, but in many developing and transitional countries there is a widespread shortfall between blood requirements and blood supplies

* 1. Blood transfusion in health care

Many medical advances that have improved the treatment of serious illness and injuries have increased the need for blood transfusion for patients’ survival, to support them through recovery or to maintain their health. Surgery, trauma and cancers, for all of which there is a high probability of the need for blood transfusion, are replacing communicable diseases as leading causes of death. About 234 million major operations are performed worldwide every year, with 63 million people undergoing surgery for traumatic injuries, 31 million more for treating cancers and another 10 million for pregnancy-related complications.7-8 National requirements for blood are, in part, determined by the capacity of the country’s health care system and its coverage of the population. In developed countries with advanced health systems, the demand for blood continues to rise to support increasingly sophisticated medical and surgical procedures, trauma care and the management of blood disorders. An increase in ageing populations requiring more medical care has also led to increased requirements for blood. In countries where diagnostic facilities and treatment options are more limited, the majority of transfusions are prescribed for the treatment of complications during pregnancy and childbirth, severe childhood anaemia, trauma and the management of congenital blood disorders. Haemorrhage, for example, accounts for over 25% of the 530 000 maternal deaths each year; 99% of these are in the developing world. Access to safe blood could help to prevent up to one quarter of maternal deaths each year and blood transfusion has been identified as one of the eight life-saving functions that should be available in a first-referral level healthcare facility providing comprehensive emergency obstetric and newborn care.9 Children are particularly vulnerable to shortages of blood in malarious areas because of their high requirement for transfusion arising from severe life-threatening anaemia resulting from malaria, often exacerbated by malnutrition. In 2008, 109 countries were endemic for malaria, 45 within the WHO African region. In 2006, there were an estimated 247 million malaria cases among 3.3 billion people at risk, causing nearly a million deaths; 91% of malaria deaths were in Africa and 85% were of children under five years of age.10

* 1. United Nations Millennium Development Goals

In September 2000, the largest-ever gathering of Heads of State ushered in the new millennium by adopting the Millennium Declaration. The Declaration, endorsed by 189 countries, was then translated into a roadmap setting out goals to be reached by 2015. The eight Millennium Development Goals (MDGs) build on agreements made at United Nations conferences in the 1990s and represent commitments to reduce poverty and hunger, and to tackle ill-health, gender inequality, lack of education, lack of access to clean water and environmental degradation. Three MDGs relate directly to health:

* Goal 4: Reduce child mortality
* Goal 5: Improve maternal health
* Goal 6: Combat HIV/AIDS, malaria and other diseases.

Voluntary blood donors play an important role in the achievement of the health-related MDGs because access to safe blood transfusion is one of the requirements for reducing maternal and child mortality and safe blood donors are crucial in preventing the transmission of HIV, malaria and other diseases through the route of transfusion. The MDGs also provide an important opportunity to highlight the contribution of voluntary blood donors in health promotion and community participation

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