MYVOLUNTEERMAPPER: AN ONLINE VOLUNTEER MAPPING SYSTEM FOR HELPING VULNERABLE COMMUNITIES IN MALAYSIA

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ABSTRACT

Many people all over Malaysia are affected by natural disasters and disease outbreaks. Humanitarian aid workers are needed for serving these communities. The locations of the most susceptible communities and information of volunteers are also worthy for urgent assistance and humanitarian aid response. Unfortunately, the absence of a complete geospatial system and data of volunteers especially when there are events that require the data immediately are main concerns in this research. Therefore, a geoinnovation system of MyVolunteerMapper was developed creatively. This web-based multimedia mapping system is used as a decision tool in making and sharing geo-information on the volunteers in Malaysia. The features of this system are mapping of position of volunteers and proposed events, extraction of data by query, distance measurement, searching for volunteers on specific distance by buffering, time travelling using network analysis and business analyst for local demographic. Therefore, this system could be applied to find the most suitable volunteers in the specific location for humanitarian programmes.

Keywords: MyVolunteerMapper, volunteerism, humanitarian, web-based multimedia, GIS mapping

1. INTRODUCTION

Malaysia appears to be moving forward in supporting the spirit of volunteerism. The people who volunteer are changing, based on the shifting of socio-economic and environmental trends. People contribute more to their communities informally based on structured volunteer programs. Another aspect of volunteerism relies on technology and better understanding of employers. For example, during disasters, volunteers are connected online and volunteering from their workplace with the encouragement of their employer. Volunteering remains an essential driver of political, social and economic development regardless of the form it takes. It is an instrumental force in promoting positive and sustainable growth for humanity [2]. Over the past few years, interactive mapping or Internet GIS has developed rapidly resulting in the migration of some GIS functionality. To facilitate the users involved in volunteerism organizations, in terms of search, analysis, deployment, test and delivery a web-based mapping navigation interface system should be established. With the use of specialized GIS software, users can use the system applications by using internet browsing applications such as Internet Explorer, Mozilla Firefox or Google Chrome [1]. Therefore, this study will result in the development of a web-based multimedia GIS application for volunteer's programme in Malaysia or is also called as MyVolunteerMapper.

2. MATERIAL AND METHOD

2.1. User Requirements

An informal interview was conducted with one of the MyCARE staff, Project Coordinator of MyCARE. In this case, the requirement has to be clear about the volunteer criteria needed like what kind of skills, interest, involvement and at which location or state they would like to volunteer. The questionnaire has been distributed to the public.

2.2. System Design and Development

Once the user requirements have been gathered, a Web-based volunteer management system can be developed. The new system has to be developed based on the user expectations and a thorough review of a new system. This is the process of designing the framework. This is the most critical step of a system 's growth. The logical design of the system came about as a result of the system analysis and is converted into physical design.

2.3. System Testing

Two types of testing were performed which is alpha testing, to test the functionality of the system internally whereas beta testing is distributed to the actual users. The feedback and comments were gathered for further actions.

3. RESULT AND DISCUSSION

93.8% of the respondents agreed that there is a need to have a system for volunteers. The elements needed in the system are map, volunteer database, tracking performance and calendar activities. This web-based GIS application consists of a website and volunteer management system. It started with a website of the volunteer as to share the general information about volunteering. Then a person from the organization will be assigned as an administrator to manage. This website can be access publicly by entering this web address: https://volunteer-management-learngis2.hub.arcgis.com/ in any type of search engine and device (Figure 1). In general, all users are satisfied with the website content, system design, system usability, reliability and functionality of the system.
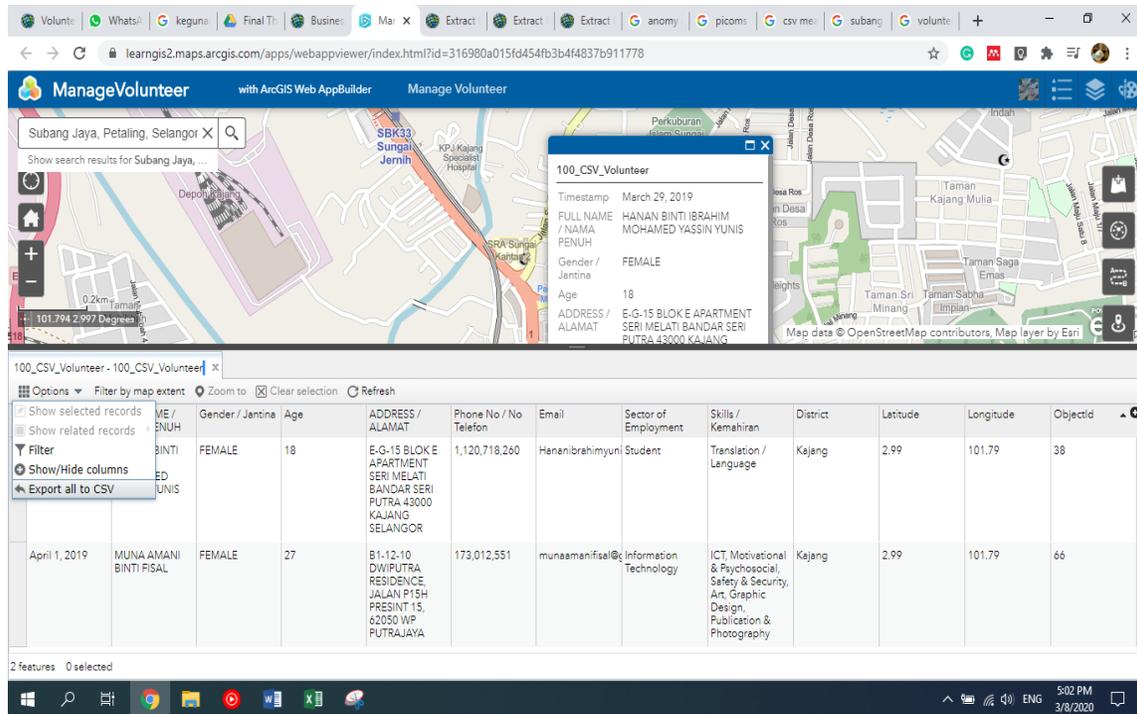
Figure 1. Function of Query in MyVolunteerMapper

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