Lab 2 – Voluntunities Prototype Specification
(Sections 1 and 2)

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1. Introduction

Today, the United States is facing a decrease in volunteer activity. The Bureau of Labor has published reports stating that the volunteer rates have been steadily declining, down by 0.4% in 2015\(^1\). This is primarily due to the lack of awareness of the volunteer opportunities in one’s area. Both individuals and organizations lack a platform to discover or advertise potential volunteer opportunities. This could potentially deter individuals from following through on their desire to volunteer their time and energy. This could also affect an organization’s ability to meet their goals or adequately support their cause. Both parties, potential volunteers and organizations, need a central resource that contains all the volunteer opportunity information for a given area. Figure 1 shows the current process flow for both individuals and organizations and the challenges they both face when attempting to find or host volunteer opportunities.

**Figure 1: Current Process Flow (Individuals and Organizations)**
1.1 Purpose

Voluntunities is a smartphone and web application that will serve people wanting to volunteer as well as volunteer organizations. This resource will help to educate people about the volunteer opportunities around them. Users, both volunteers and organizations, will benefit from all the volunteer information the application will supply. Voluntunities will be a useful tool for everything volunteer related. Figure 2 shows the proposed process flow of volunteering with Voluntunities. There is less work and stress for an individual looking to volunteer. They do not have to sift through a lot of information on multiple websites. It makes it effort-less for organizations to track the growth of their opportunity.

Figure 2: Proposed Process Flow (Individuals and Organizations)
1.2 Scope

Voluntunites will act as a Virtual Bulletin Board for volunteer opportunities. Willing users will be able to browse, search, and sort volunteer opportunities in an area. They then can view prospective opportunities to learn more about it and apply. Organizations that are seeking volunteers or donations can also post opportunities. They can include details such as how much or what is needed, desired skills of volunteers, and how to apply.

Voluntunities will also allow users the ability to maintain their volunteer profile. For individuals, this means displaying what opportunities you have participated in as well as how many you have participated in. This will integrate social connections into volunteering. Individuals can see and compare what others are volunteering their time towards. Organizational volunteer profiles could show the progress of reaching their goals, upcoming opportunities, and information about the founders and members. These profiles will show the beliefs of organizations.

The Voluntunities prototype will be designed as a working database that is displayed through the smartphone and web application. This database will store all the user and opportunity data. The applications will then present this data in a concise manner to the user.
1.3 Definitions, Acronyms, and Abbreviations

Virtual Volunteering: Volunteer tasks completed, in whole or in part, via the Internet and a personal computer. It is also known as online volunteering, cyber service, online mentoring, and various other names.

Virtual Bulletin Board: System of presenting or sharing volunteer opportunities in a central place for users to browse, search, and post.

1.4 References


1.5 Overview

This product specification describes the software configuration, external interfaces, capabilities and features of the Voluntunities prototype. The information provided in the following sections of this document includes a detailed description of the hardware, software, and external interface architecture of the Voluntunities prototype; the key features of the prototype; and the performance characteristics of that feature in terms of outputs, displays, and user interaction.

2 General Description

The Voluntunities prototype will be presented as a web application backed by a MongoDB database. It will be able to perform the actions of posting an opportunity, searching for an opportunity, and creating an account. The prototype architecture will closely represent that of the full product.

2.1 Prototype Architecture Description

Voluntunities will be a web application that includes a database. The database will be used to store the data of Voluntunities. This includes user profiles and activity as well as the opportunity data. The application will be mobile and web-based via smartphone and a website. The users will consist of potential volunteers, volunteer organizations, and individual organizations seeking volunteers. The interaction between the three components can be seen in Figure 3.
2.2 Prototype Functional Description

The three major components of the Voluntunities prototype will work coherently to provide the end user with the intended experience. The users will access the application to create user profiles and post volunteer or donation opportunities. These volunteer and donation posts, along with the user profiles, will be stored within the database. The application then accesses that database and displays the user profiles and opportunities to the user.

The Voluntunities prototype application will mainly consist of three underlying components. The first is the opportunities page shown in Figure 4. This is where users will be able to search and browse opportunities. They will be able to sort the opportunities as well. The second are the user profiles shown in Figure 5. The user will create and update their profile with their personal information, interests and beliefs, and contact information.
The third is the opportunity creation page shown in Figure 6. This is where users will be able to create their opportunity posting. These posts will contain the opportunity information including time/date, location, and the cause.
2.3 External Interfaces

The Voluntunities prototype will be a web application and thus will only be made up as software and user interfaces.

2.3.1 Hardware Interfaces

The Voluntunities prototype will not make use of hardware interfaces.

2.3.2 Software Interfaces

The Voluntunities prototype will make use of a few software interfaces. NodeJS will be used to run the REST API. This will handle things such as the web calls for the searches of opportunity postings and the creation/submission of opportunities. ReactJS will be used as the web application framework. React Native will also be used to aid in development between the different platforms (web and mobile).

2.3.3 User Interfaces

The Voluntunities prototype will not explicitly handle the user interfaces. Users will need a functioning display, either computer monitor or mobile device screen, to be able to access and view the application. Users will also need to have a keyboard for data entry.

2.3.4 Communications Protocols and Interfaces

The Voluntunities prototype will use TCP/IP and HTTP protocols.