Lab 1 – Voluntunities Product Description

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1 Introduction

Volunteering is an amazing opportunity that allows us to give back to our communities and to help those in need. It allows us to make good use of our free time and gets us out of the house on the weekends. Whether the volunteering opportunity is doing manual labor, donating blood, or working at a homeless shelter, it always leaves a positive impact on the volunteer and their surrounding community. With technology advancing, those that volunteer often are now able to explore the many different volunteering opportunities, yet the number of volunteers across America is depleting. This could be due to lack of motivation to want to help, or the lack of knowledge of opportunities in the area. Voluntunities will provide users with the knowledge needed about these opportunities around them. Everything from a description to directions to the site will be right in the palms of its users. It will also eliminate that disconnect to help to link volunteer organizations and prospective volunteers. The users will have the ability to browse opportunities by location. The volunteer organizations will be able to post their own opportunities and needs. The main objective of this app will be to make the whole volunteering process more simple and convenient for all involved parties. Voluntunities will increase the number of active volunteers, the success of charitable organizations, and the overall awareness of volunteer opportunities in one's surrounding area.

2 Product Description

Voluntunities is a service that will bring individuals wanting to volunteer, and those looking for volunteers together, by providing a platform that will allow them to view or post volunteering opportunities in their surrounding area.
2.1 Key Product Features and Capabilities

This product is a service which joins people wanting to volunteer, and those looking for volunteers, by providing a resource that will allow them to view or post volunteer opportunities in their surrounding area. One way that Voluntunities will achieve this is by acting as a Virtual Bulletin Board that allows users to post opportunities so that other users will be able to see them. All users will be able to view, search, and sort different possibilities to volunteer in their surrounding area. Another important feature that will make Voluntunities stand out will be the functionality that will allow organizations that are looking for volunteers to post alongside with other posts. Everything will be together for the user to see details such as:

- Supplies needed
- Quantity of supplies needed
- Desired skills of volunteers
- How to apply for the opportunity

It will also help build connections between neighbors and be a good resume builder, especially if the user is applying for a position at the organization in which they volunteered. This web based app will help the user to grow relationships with the other volunteers that are working with them. Best friends, or even future spouses, could be found out in the mission field while volunteering.

2.2 Major Components (Hardware/Software)

The major functional components will be the Internet user, Internet application, and a database, as seen in Figure 1. The Internet user is vital to the operation of the program because it requires the input of the user. The user’s device must be connected to the Internet to contact the servers. Devices such as a laptop or a smartphone will be necessary to using the web app. A
MongoDB database will store all data from the users, donors, organizations, and opportunities that have happened or will happen, in JSON-like documents. It will operate on and is maintained by an open source program called DBeaver. We could also send an email out to specific volunteers that have a certain skill set needed or are available during the hours needed.

![Diagram of users, application, and database on cloud](image)

Figure 1: Major Functional Components Diagram:(MFCD)

### 3 Identification of Case Study

Voluntunities will appeal to a younger generation, ranging from ages 16 to 25, to have a generational lift instead of a drift. Based on the statistics from the Bureau of Labor Statistics, those that are between 35 and 44 are more likely to be seen volunteering. Most of these people have a Bachelor’s degree or higher and have a job, whether it is full time or part time. If this work ethic is able be passed down from the older generation to the younger the ball can start rolling for future generations to come. Americans aged between 16 and 19 bring out about 26.4% of the volunteering population, which is actually very high. However, those between 20 and 24 only bring out 18.4%, which is the lowest compared to the rest of the other age groups. This app
will attempt to reach out to these individuals by having different volunteering organizations post their opportunities on our app. This will help build the individual’s resume, a need for that organization will be met, and could even help them gain a position at one of these organizations.

The current process for individuals and organizations that are looking for volunteering opportunities, donations, or volunteers is broken. This current process is shown in Figure 2. There is not a platform for these parties to come together and carry out the tasks at hand or find out the best way to give back to their community. Donors now have to sift through different websites and apps to find the project that they like and want to put money toward. Then they are just left with hope that their money was used wisely and efficiently for the project. Those interested in volunteering have a similar issue where they look through multiple websites and apps to try and find something that they feel that they would be useful in. Then they apply and hope that they hear back for the position. And then we come to how an individual or an organization must go about posting for an opportunity. They post it on their respective websites or even print out physical copies to post around and then they wait for people to respond and they hope that they have enough donations and volunteers to accomplish the project in the allotted amount of time.
4 Product Prototype Description

The Voluntunities prototype is designed as a working database connected to a web and smartphone application that stores volunteering opportunities that users will be able to view in the form of a Virtual Bulletin Board.

4.1 Prototype Architecture

The primary objective for the prototype would be to show a web app that is connected to a database. The Voluntunities prototype will work by establishing a link between a database and a smartphone that is connected via the internet. The data from the user will then be stored in the
database, as described in section 2.2.

The user will be able to select whether they would like to post, donate, or apply for a volunteering opportunity. After the option is selected the server will then receive the request, which then makes the program load all files encompassing that option. If it is an individual or organization looking to post about an opportunity, then a form will come up for them to fill out for everything that is entailed with the opportunity. If it is an individual looking to donate to a project or looking to volunteer, then a list of the local opportunities will display for them to choose from. This is the primary goal for the prototype, to show the user everything they need to see in the least number of clicks as possible.

4.2 Prototype Features and Capabilities

The main demonstration of the prototype will consist of the main program features discussed earlier. Anyone who wants a demonstration can get on their device and access the web application. It would take input from a user wanting a demonstration through a sort of virtual bulletin board. The user will then be able to log in with their personal credentials, edit and save said credentials, and all will be stored and updated in the database. If the user wants to add an opportunity to the virtual bulletin board, they will be able to add right from the home screen of the app. Then they fill out the details about the opportunity and post it. The user will also be able to view every volunteering opportunity that has been posted in their area. With this they will be able to view an opportunity with the option to send an application to volunteer and/or donate to it. The app will also give the user turn-by-turn directions to the project. A glance at the prototype GUI mockup can be seen in Figure 3.
4.3 Prototype Development Challenges

The main risk that could be faced with the prototype is if some individual downloads the application and they do not have any opportunities in their area. It would have the highest impact and, at first, will have the highest probability of happening. This risk is labeled as C1 on the Risk Matrix in Figure 4. Incorrect directions to the location of the opportunity could be another challenge faced. Roads are constantly being worked on and added, so the user could run into this issue if the map is outdated in the application. Usually this would not be a major issue because most of the volunteering would be done in the user’s surrounding neighborhoods and communities, so the location would be a common place. A fix for this issue would be if the app was able to connect to the smartphone’s map or, if on a computer, connecting to Google Maps.
### Risk Matrix

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</table>

**Figure 4: Risk Matrix**


5 Glossary

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

2. **GUI (Graphical User Interface):** User interface allowing users to interact with the interface using graphical icons as opposed to command-line interfaces where human-computer interaction is done primarily through the keyboard.

3. **Virtual Bulletin Board:** A GUI that will allow the user to view and add opportunities to it, much like a physical bulletin board.

4. **MongoDB:** An open source relational database management system used to store and manage data.

5. **DBBeaver:** Open source database management system which can store and retrieve data by writing queries.
References


