Helping Hands
A Platform for Connecting At-Risk Individuals and Volunteers to Charitable Organizations

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1. **Introduction**

Currently, there are several types of organizations that exist to provide various types of resources and/or services to people in need. Examples of these organizations are shelters that cater to women who are domestic abuse victims, or soup kitchens that provide meals to homeless people in the area, or government owned jobs programs that help homeless people that pass a drug test. These organizations need to be able to connect to their “audiences” and provide them with updated information on who can receive their resources and/or services, where to get that help, and when that assistance is available. If there isn’t enough information given to the people looking for those resources, or if the information provided is inaccurate or out of date, vulnerable and resource strapped people will waste their time and effort and may give up on seeking help at all.

Another issue that people seeking help have is general awareness of the resources available to them. A quick search online may reveal a handful of organizations, but may not show the closest, best, most available, or most applicable one. There are some websites that serve as hubs to collect information on charitable organizations, but they are often incomplete or outdated as well.

Helping Hands is a software solution that seeks to solve the problems of inaccurate/outrated information while increasing awareness of services available to people in need. Helping hands will match users that need resources and/or services with organizations that provide the specific type of help that those users need.

2. **Helping Hands Product Description**

The Helping Hands platform will aim to simplify the process of connecting those in need with the appropriate resources by discovering the user’s specific circumstances and tailoring a unique solution for their dilemma. It will be a website accessible by mobile
devices and computers that will have a page for each charity, government service, food pantry, etc. Each of these pages will have an associated forum where many types of users can interact by posting information, updating inaccurate information, and asking questions for others to answer. The organization associated with the page is also invited to create an account to update and verify changes themselves if desired. This kind of account creation will require some proof to make sure the correct organization is being represented and to ensure malicious users can’t impersonate a real organization.

People that are seeking help will be able to answer a few questions on the Helping Hands platform and will be given tailored information so they don’t have to sort through a large ocean of information. These kinds of users will also have location data associated with their accounts. This location data can be given by the device they use, or the user can opt out of location sharing. If they do decide to opt out of location sharing, they can optionally give vague location information like a zip code or city name to associate with the account.

By providing this location data, users will be able to access a wider amount of functions on Helping Hands. They can be able to sort charities or organizations by which is nearest to them. They can also access a “Help Now” button which will combine the information provided by the user initially upon account creation, the user’s location, and supplemental information provided by the user to give them fast access to specific services.

2.1 Key Product Features and Capabilities

The core elements of Helping Hands are the database used to store information, and the ability for users to interact with it. The database will have the ability to store pages on each organization, and all the account data for the three kinds of users; volunteers, at-risk individuals, and organizations. Organization pages will have helpful data like what resources it can provide, where it is, what time it’s available, specific
requirements to utilize those resources, etc. This data will initially be collected by web scraping. This web scraping will only collect the most basic information like the name, contact info, service provided, and location of an organization. The contact info scraped will be used to invite the organization to make an account to update or correct scraped data. Each organization page will also potentially have a user account associated with it after being verified. This verified account can heavily modify the standard page template by adding or removing text fields, including niche functionality, or other specific alterations that are organization specific. Additionally, each page will also have a forum where users of all types can interact with each other.

Forums for each page will be read only for users that decide not to create an account, and users that do make an account will be able to interact with the forum. This interaction can take the form of creating posts, replying to posts, and up-voting or down-voting other user posts. This will create a somewhat self moderating community. If more moderation is desired, the organization associated with each forum will be able to limit access to forum privileges for users by using a verified account. This could be in the form of an organization removing forum posts that are inaccurate or intentionally harmful to other users. These verified organization accounts will also have access to metrics for their forums. These metrics will include things like how often their forums are viewed.

Users who are in need of fast help will have access to a “Help Now” button that takes into account a few sources of information to provide users with a fast help option. This can be for issues that are very time sensitive or important, but that don’t neatly fit into traditional 911 emergency services. Upon clicking this button, nearby charities will have a high priority message that alerts them to the location and specific need of the user that presses the button.
2.2 Major Components (Hardware/Software)

The hardware used by users will primarily be mobile devices like phones and traditional computers with access to the internet. While less catered to, any device that can feasibly use an internet browser will have access to Helping Hands as a service. Additionally, the information provided and collected by Helping Hands will need a database to be stored and accessed through the internet.

Software used by users will primarily be any internet browser, and whatever hardware/software requirements that browser will have. The Helping Hands service will also use GoogleAPI for map and location data. The website itself will utilize conventional HTML/CSS/JS like any traditional website. Many collaborative software products will be used by the development team to organize and streamline the creation of Helping Hands. These tools will include Gradle as a build manager, Trello as a workflow organizer, and GitHub for collaborative development and software version control.

Figure 1.
Helping Hands Major Functional Component Diagram (MFCD)
3. **Identification of Case Study**

The target audience for Helping Hands is three kinds of users: Volunteers, at risk individuals, and organizations. To create a case study, a small localized area with a large enough number of each of the three kinds of users will be selected. Whenever people from that area create an account to start using the software, an entry survey will be given to see how much awareness they had of local organizations and services before using Helping Hands, and what kinds of problems they have with either putting out accurate information, or accessing accurate information. Organizations will be encouraged to interact with and promote the software to artificially seed the user base so the case study can approximate the effects of a healthy user base. The forums will be moderated, and the edits of information will be tracked. After users of all three kinds have used the service for a reasonable amount of time, they will be given an exit survey to see how Helping Hands performed for them, and what changes, if any, are desired for an updated and refined service.

This case study will be helpful to see issues with UI, awareness of local services, and distribution of accurate information. It will also be useful to see security or privacy issues that may occur in the initial testing and roll out of Helping Hands for the case study.

4. **Helping Hands Product Prototype Description**

4.1 **Prototype Architecture (Hardware/Software)**

4.2 **Prototype Features and Capabilities**

4.3 **Prototype Development Challenges**
5. Glossary

a. 501c3 Organization - An organization or group that is tax exempt, often due to providing charitable services through non-profit or not-for-profit methods.

b. At-risk Individual - A person with ongoing risks to health or safety.

c. API/Google API - Application programming interface is a connection between computers or between computer programs. Programmatic interfaces to Google Cloud Platform services.

d. Crowd-Source - Obtain (information or input into a particular task or project) by enlisting the services of a large number of people, either paid or unpaid, typically via the internet.

e. Google Maps - A free-to-use service on the World-Wide Web that provides map display, locations and localization.

f. GUI (Graphical User Interface) - A human-computer interface that uses windows, icons, and menus that can be manipulated by a mouse (and often to a limited extent by a keyboard as well).

g. Major Functional Component Diagram - Used in modeling the physical aspects of object-oriented systems that are used for visualizing, specifying, and documenting component-based systems.

h. Stakeholder - Person with an interest or concern in something, especially a business.

i. Web Server - Software and hardware that uses HTTP and other protocols to respond to client requests made over the World Wide Web.

j. Web Scraping - Automatic method to obtain large amounts of data from websites.
6. References


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