Giving people in need the access to a vast social network of people that are willing to help.

Domain Description:

Name: Social Networking Approach To Humanitarian Logistics

Project Place: Mayagüez, Puerto Rico

Date: February/14/2020

Listing of Partners:

a. Government or Municipality officials

b. Experts in Logistics and Social Network Analysis to provide consulting

c. Domain Engineers

d. Software Developers

Current situation:

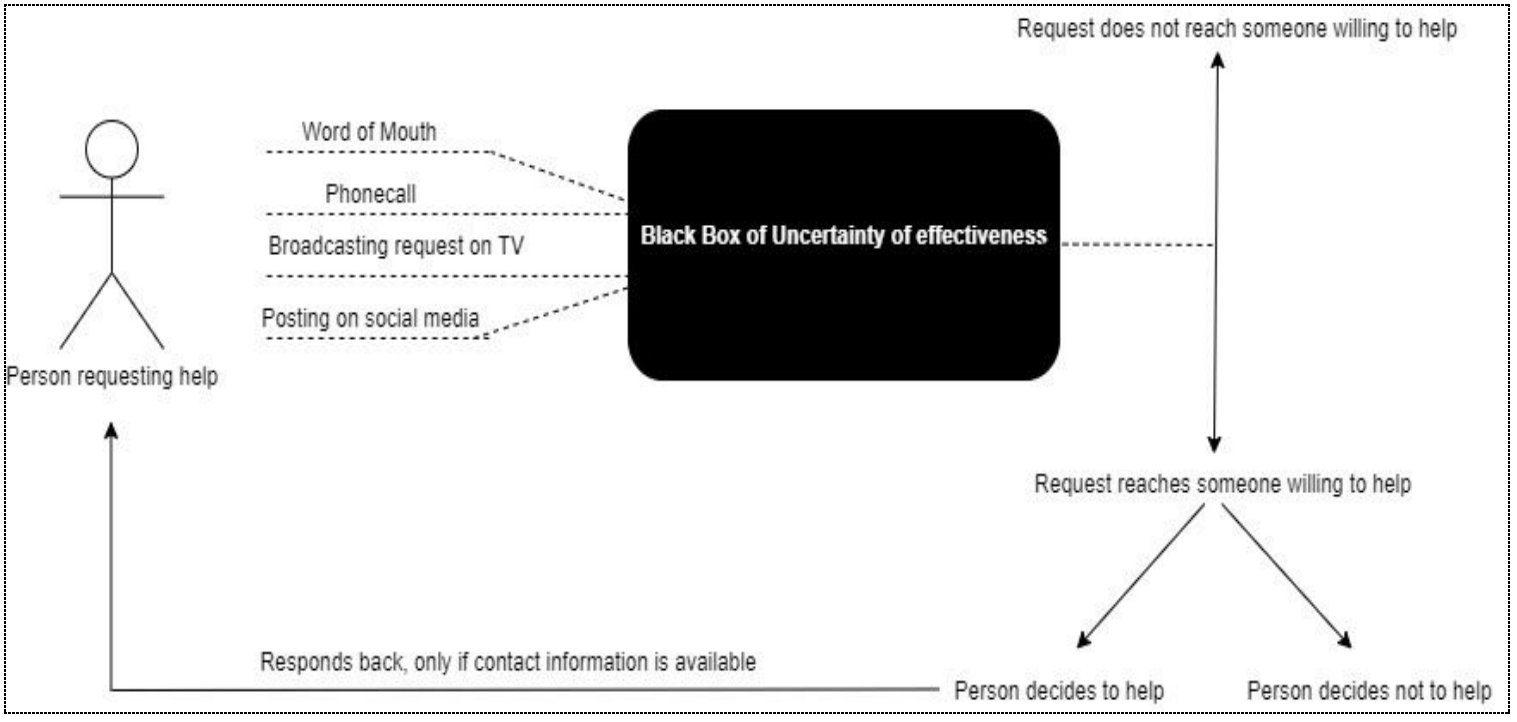
In the aftermath of a natural disaster individuals or groups of people that are seeking help must choose what means of communication to use, each with its own limitations. These are:

- Verbal communication
    - Limited range. (only people near the disaster site, who might be just as affected as the requester)
- Telecommunications:
    - Limited to the amount of phone numbers an individual knows, has recorded on their phones, or available help "hotlines".
- Public broadcasting(tv, radio):
    - Limited to people that are watching or listening to a broadcast on the time and date it has aired.
- Social media
    - Limited to the amount of followers a person asking for help has.
    - Chance of someone coming across your post is low due to unrelated content "hiding" calls for help. (A post from a person with a larger social media "footprint" causes your post to receive less attention)

It is as if a black box of uncertainty is deciding whether or not the request for help will reach the right ears. In addition, individuals or groups of people who *want* to provide assistance in the form of supplies are unsure of:

- Bringing supplies that are not needed.
- Bringing supplies to a community that is already receiving aid, when there might be a community that has yet to receive less, if any at all.
- If they wish to bring cooked food to feed the victims, there exists a possibility that another group might have already brought food.
- It is difficult for them to get in contact with those they wish to help.
    - This is due, in part, to the limitations created by some of the aforementioned methods of communication.
        - Public Broadcasting like T.V. and Radio are primarily one-way methods of communication; there is no way the people affected can communicate with the people offering help.
    - Another reason why establishing contact is difficult is that there is a high personal security risk. By broadcasting your address, name and other personal information through radio or a news channel, your request for help might reach the right people, but it can also attract people with bad intentions.

Current Situation Model:



Needs:

- People can't coordinate properly amongst themselves because multiple organizations are divided among spectrums of social media; spectrum as in different subspaces of human society. Churches, common citizens, and consumer cultures that want to help are scattered across the network barred by common friends or shares. Humanitarian aid needs to be distributed more effectively by combining the aid offered by the multiple spectrums of social media that try to distribute aid exclusively to the small groups their platform reaches.
- A means of quantifying how much aid each requester has received to avoid a surplus of a specific aid when requesters nearby might have a need for this aid.
- An application focused to consolidate the needs of the Help Requesters and Help Providers.
    - Help Providers:
        - Scanning all help requesters and requests in proximity or in a specific location.
        - Need to coordinate with other providers to maximize their efforts and avoid missing possible help requesters
        - Updated listing of items and other types of aids requested by the different requesters. As aid is planned and subsequently provided by requestees, requesters will update their posts in order to avoid unbalanced distribution of aid.
    - Help Requester:
        - A platform for maximized outreach to request for help.
        - Communication and engagement with possible help providers.
        - Capacity to pool requests via different groups of requesters.

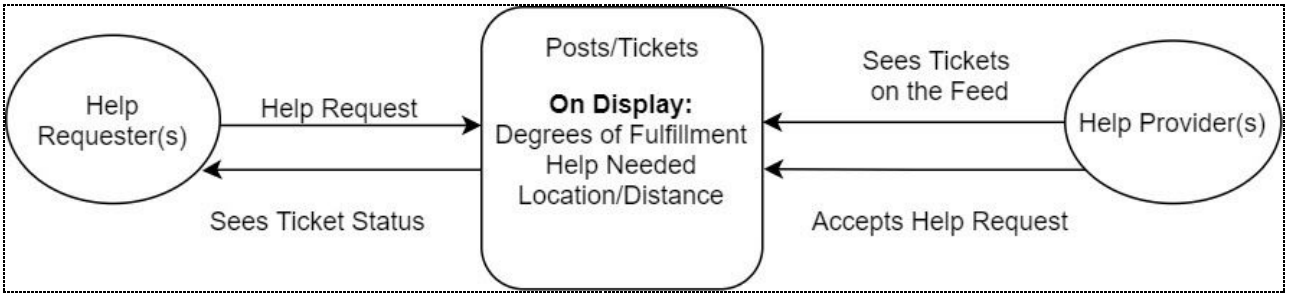
Ideas:

- **"Solution to the situation"**
    - Implement a social media application dedicated for requesting and sending aid. Individuals can login as Help Requesters to post their needs for supplies,

psychological or medical assistance. Meanwhile, the volunteers can login as Help providers into the application to verify what the people need, if there is someone or a group that is going to send the aid, or if the individual already received the order. This would allow multiple help providers to work together to satisfy the needs of as many help requesters as possible.

- Help providers will be able to scan all Help Requesters that use the application based solely on location and/or supplies requested, to avoid barring any help requester from having a platform to seek aid.

Idea Model:



- Help Requester(s) can post a ticket listing their needs. If requesting supplies they can specify an amount.
- Tickets will Display Degrees of Fulfilment, Help Needed, and Location/Distance of delivery/retrieval location.
- Help Requester(s) can view their ticket status (the changes in degrees fulfillment)
- Help Providers(s) can see ticket posts on the feed.
- Help Providers(s) can accept help requests and decide how many items they can send.
- Communication between Help Requester(s) and Help Provider(s) in the form of a chat is only available when a Help Provider(s) accepts a ticket.
- Each ticket will display degrees of fulfillment. These are ticket open(Red), ticket partially completed(Orange), ticket in progress(Yellow), and ticket completed(Green).
- A ticket is closed when a Help Requester(s) cancels the ticker or when both Help Requester(s) and Help Provider(s) have marked the ticket as completed.

- **Secondary features**

- A primitive rating system (karma system) where Help Provider(s) can rate Help Requester(s) and Help Requester(s) can rate Help Provider(s). This is for the purpose of building trust between individuals and communities in the network.
- A list of all the planned aids to deliver, sorted by the soonest happening. Tapping each will allow the requestee to either go to the original post, open the meeting location in their phone's map app, or simply view the aid/s that they agreed to deliver.

Scope: Network Science and logistics

Span: Social Network Analysis→ self-organizing network and humanitarian logistics.

Concepts:

- Social Network(SN)
- Individuals(ID)
- Help Providers(HP)
- Help Requesters(HR)
- Supplies
- Location
  - Delivery Retrieval Location.
- Distance
- Media/ Means of Communication(Represented by lines)
- Social Media Network

I. Preliminary Stakeholders

A. User requesting supplies: Consist of those affected and seeking supplies.

B. User giving supplies: Are those users who want to contribute and distribute supplies to those in need.

C. Organizations: Network of people that want to coordinate to pick-up supplies and take supplies to those who need them.

D. Developers: In charge of the functionality and development of the system.

E. Assumptions

1. People have the knowledge to use basic social media-like platforms.
2. We have the necessary equipment to keep operating after a natural disaster.
3. Users have a personal device or a help center in town.

F. Dependencies

1. People want to more efficiently collect and take supplies for those in need.
2. Transportation is accessible after natural disasters.
3. Supplies are abundant.

II. Goals

We intend to resolve the issue of supply distribution for those in need after a natural disaster. Our goal is to do this as efficiently and quickly as possible and get the necessary products for those in need. We also serve as a facilitator for large groups seeking or looking for groups in need. Making This as user friendly as possible plays a big role in our project. All of these factors joint together will give people a sense of security and bring calmness among them due to the fact that they know help its on its way and they are not shouting to a lightless void.

Implicit

1. Better structure for supple delivery.
2. Less casualties due to basic needs.
3. Faster supply delivery.

Derivative

1. Sense of security for those in affected areas.
2. Government will see this as a success and try or will join us to implement on larger scales and different areas.
3. Bigger impact of solidarity for those affected.

Network Science Research:

https://en.wikipedia.org/wiki/Network_science

https://en.wikipedia.org/wiki/Social_network

https://en.wikipedia.org/wiki/Social_network_analysis

https://en.wikipedia.org/wiki/Telecommunications_network

https://www.youtube.com/watch?v=Qj2uWpYsdcM&list=PL1M5TsfDV6Vs7tnHGNgowEUwJW-O8QVp5 (Entire course on Social Network Analysis)

https://www.youtube.com/watch?v=eM1KaaTez0A

http://www.orgnet.com/sna.html

Logistics Research: