|  |
| --- |
|  |
| Proposal |
|  |
| **A Website for Helping People in a Natural Disaster using Assignment Problem**  Varshithanand Kotipalli  Ridhima Joshi  Sindhu Chittaluri  Travis Samford  Nikunj Patel  Srikanth  Vasavi  Khaviya Govindasamy Senthilkumar  Anuprabha Arputharaj  Sudheera  Kavya  Lovin Kuruvilla  Sai Chand  Shashank  UNIVERSITY OF HOUSTON CLEAR LAKE 03/21/2018 |



**Table of Content**

[**Introduction**](#_itqfyegtfgs9) **2**

[**Statement of the Problem**](#_kp43amavwdta) **2**

[**Research Questions**](#_jysn8br0zqo7) **3**

[**Methodology**](#_y16x0zwkdsec) **3**

[**Timeline**](#_1t3h5sf) **4**

[**References**](#_4d34og8) **4**

# 

# Introduction

When a disaster occurs, the damages caused by it affect the society and the environment. In order to protect a particular area from disaster, the recovery planners must identify the vulnerabilities caused in a particular area and provide appropriate services. Taking into consideration the damages caused by a disaster, this paper describes the application of the Assignment Problem in a form of a website which helps the people affected by a disaster[1]. This website provides the affected people the capability to seek help when a disaster occurs. We have incorporated various web technologies like HTML and C# for developing our website. In order to store the records we have made use of MySQL database. This paper primarily focuses on how Agile software development plays an important role in developing our website[2]. The website also provides users the capability to register either as a volunteer or an organization. When the affected people notify about help on the website, the system allocates the appropriate volunteer by using the Assignment Problem method. The organization registered on the website has the capabilities to create an event, add needs to an event and merge events. The goal of this paper is to indicate how Agile software development methods can be used to develop a disaster recovery website.

# Statement of the Problem

The important problems faced during any natural disaster are the shortage of resources and the shortage of helping hands. These are the major problem which is faced by people during situations like Drought, Floods, Earthquakes, Hurricanes, Tornadoes, Winter weather, Wildfire etc. At this point, people will be in need of basic and advanced necessities in worst cases. Lending them hands at this time is a tedious work as people are not co-located. Time, Location, Resources and Tracking the needy plays a vital role in this kind of situation. In order to bring a solution to this problem, we must find an efficient way to help the needy during their adverse situation. The proposed project allows volunteers from any location to help the needy. Interested volunteers will be notified of the nearby situation and they will help the people by providing their necessities. This project also allows the volunteers to lend help virtually like donating money if they could not make it in person.

# Research Questions

1. What complications will be encountered while developing the project?

2. Which Agile methodology is best suited for this project?

3. What background information is necessary for the volunteers to register?

4. What is the probability of people interested in volunteering work?

5. What is the probability of people interested in donating money or goods?

6. What are the other approaches used by other organizations to solve this problem?

7. What will be the outcome of the project?

8. How will people benefitted by the project?

# Methodology

The Scrum way to deal with venture administration empowers programming improvement associations to organize the work that issues most and separate it into reasonable pieces. Scrum is tied in with teaming up and discussing both with the general population who are taking the necessary steps and the general population who require the work done. It's tied in with conveying regularly and reacting to criticism, expanding business esteem by guaranteeing that clients get what they really need[2].

With in the agile development, Scrum teams are supported by two specific roles. The first is a Scrum master, who can be thought as a coach for the team, helping team members use the scrum process to perform at the highest level. The Product Owner(PO) will be the other role represents the business, customers or users and guides the team towards building the right product.

The most popular way to create a product backlog in Scrum methodology is to populate it with the user stories, which are short descriptions of functionality described from the perspective of a user or customer. The sprint backlog is the list of tasks the team needs to perform in order to deliver the functionality it committed to deliver during the sprint[2].

# Timeline

A tentative schedule for the research is given below

|  |  |  |
| --- | --- | --- |
| Milestone | Start Date | End date |
| Sprint 1: Define views / Design Database Tables | 03/20/18 | 03/23/18 |
| Sprint 2: Link Database and registration | 03/24/18 | 03/27/18 |
| Sprint 3: Create Events | 03/28/18 | 03/31/18 |
| Sprint 4: Create Reporting Feature | 03/31/18 | 04/04/18 |
| Sprint 5: Assignment problem application | 04/05/18 | 04/17/18 |

# References

[1] "Assignment Problem and Hungarian Algorithm – topcoder." <https://www.topcoder.com/community/data-science/data-science-tutorials/assignment-problem-and-hungarian-algorithm/>. Accessed 21 Mar. 2018.

[2]"Agile Web Development - a Comprehensive Overview - KeyCDN." 3 Mar. 2017, <https://www.keycdn.com/blog/agile-web-development/>. Accessed 21 Mar. 2018.