Software Requirements Specification

for

TulongKabatang

An Online Management and Recommender System for Urgent Calamity Response in Batangas

**Version 1.0 approved**

**Prepared by Leynard A. Locaberte**

**Abegail C. Miranda**

**Jasmin S. Endozo**

**Team TechConnect**

**July 10, 2021**

**Table of Contents**

**Table of Contents ii**

**Revision History ii**

**1. Introduction 1**

1.1Purpose 1

1.2Document Conventions 1

1.3Intended Audience and Reading Suggestions 1

1.4Project Scope 1

1.5References 1

**2. Overall Description 2**

2.1Product Perspective 2

2.2Product Features 2

2.3User Classes and Characteristics 2

2.4Operating Environment 2

2.5Design and Implementation Constraints 2

2.6User Documentation 2

2.7Assumptions and Dependencies 3

**3. System Features 3**

3.1System Feature 1 3

3.2System Feature 2 (and so on) 4

**4. External Interface Requirements 4**

4.1User Interfaces 4

4.2Hardware Interfaces 4

4.3Software Interfaces 4

4.4Communications Interfaces 4

**5. Other Nonfunctional Requirements 5**

5.1Performance Requirements 5

5.2Safety Requirements 5

5.3Security Requirements 5

5.4Software Quality Attributes 5

**6. Other Requirements 5**

**Appendix A: Glossary 5**

**Appendix B: Analysis Models 6**

**Appendix C: Issues List 6**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
|  |  |  |  |
|  |  |  |  |

# Introduction

## Purpose

Natural disasters are unavoidable. It is possible to reduce the impact of these disasters to the greatest extent possible.

The capstone project "TulongKabatang: An Urgent calamity response and management system" is a web-based program application that brings the manual method of responding to and managing calamities into the modern era by incorporating advanced technology. The purpose of this is to create a user-friendly web application for the calamity respondents and to manage critical disasters and to respond quickly and efficiently to those areas that are prone to disasters.

## Document Conventions

This document uses the following conventions.

|  |  |
| --- | --- |
| *GIS* | *Geographic Information System* |
| *SMS* | *Short Message Service* |
| *IDPs* | *Internal Displace Person* |
| *LGU* | *Local Government Unit* |
| *PDRRMC* | *Provincial Disaster Risk Reduction Management Council* |

## Intended Audience and Reading Suggestions

This is a prototype for the TulongKabatang an Urgent Calamity Response Management System, which is only available in Batangas. This project is beneficial to the TulongKabatang management team, as well as the Mdrrmo and those who are affected by natural disasters.

Researchers, developers in the field of the disaster management.

End users, as it will improve their involvement in locating the place of the accident or disaster.

## Project Scope

The purpose of the Tulong Kabatang management system is to ease response management and to create a convenient and easy-to-use application for the evacuees, trying to fine help in easy way and for the volunteer to help easily. The system is based on a relational database with its flight management and reservation functions.

This is an online management system for urgent calamity response in Batangas. This is an online web-based and application with features that will assist evacuees and government agencies in completing tasks in a timely and efficient manner after or during a calamities.

## References

[*https://krazytech.com/projects/sample-software-requirements-specificationsrs-report-airline-database*](https://krazytech.com/projects/sample-software-requirements-specificationsrs-report-airline-database)

[*https://sites.google.com/site/fypdms/*](https://sites.google.com/site/fypdms/)

[*https://learntocodewith.me*](https://learntocodewith.me)

# Overall Description

## Product Perspective

*The software described in this paper is designed around the concept of providing an immediate response to casualties caused by any type of disaster by selecting the safest and closest evacuation center, informing evacuees, and maintaining a database of casualties. As a result of this software's design, a communication channel will be established between the end-user and the concerned body, allowing the end-user to communicate the position of the nearest evacuation facility while the concerned body handles the rest. They will have a different version of this software installed on their end, which will allow them to send rescue teams and maintain a database of those who have been affected.*

## Product Features

The features of TulongKabatang are as follows:

Information Management System that will help the government agencies to manage the gathered information from internally displace person or the evacuees.

Map locator that will help the evacuees because it suggest a safe and nearest evacuation center during the disaster.

Account Management that will help to manage and secure the account of the user.

Recommender System that will be able to recommend the following:

* Safest and fastest way to move in an evacuation center
* Volunteers that is near in the location of the evacuation center
* Relief goods per individual or per family.

## User Classes and Characteristics

Administrator - user that has the power to activate the accounts of another user.

-Can view the reports of other uses.

-Manage other user’s account.

Intended User- user that has authorization to use the system when the activates their account.

- (LGU) user that manage information about risk reduction in each barangay.

- (Evacuation Management) user that manage IDP’s information and relief goods inside the evacuation center.

Other User – Ordinary user that can view and interact to the system when there is a calamity as;

* (Donors) – Can interact to the system by donating cash or relief goods for the IDPs
* (Volunteers) – Can interact to the system by registering as volunteers to help the IDPs or the Evacuation Management

## Operating Environment

This product is a web-based application that will be hosted on the disaster management website via a web server. Any web browser can see this product, and it has been tested for compatibility with Mozilla, Internet Explorer, and Opera. Because it runs on a browser, it can be used on any modern device with an internet connection, such as smartphones, tablets, and laptops.

## Design and Implementation Constraints

The design constraint includes outlining the layout of the system, which is as follows:

It defines the elements of the system that will provide the functionality through their interconnections. How these attributes will operate and inter-connect is described below

The implementation constraint includes the designing of the web application, mobile application, database.

The way in which the above mentioned 3 applications will be inter-connected is the key factor, as the web application is required for providing the interface for viewing the records of the casualties and other contents and the mobile application will be used to create an account of site of the disaster and the database will be used for storing the historical records that may help the staff-members to easily response during a calamity

## User Documentation

*<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>*

## Assumptions and Dependencies

* *The system’s evacuation locator will allow the user to identify the safest evacuation by using GIS software and also the fastest way to get in the facility*
* *When the administrator activates the account of the intended users, an SMS notification will send to the users.*
* *The system can give recommendation to the number of relief goods per individual or per family based on its availability.*

# System Features

## Evacuation Locator

3.1.1 Description and Priority

Provides the safest area using historical data and GIS software to point out as evacuation center.

3.1.2 Stimulus/Response Sequences

Display all available evacuation centers and refers based on the number of IDPs capacity and also based on the location of the user.

3.1.3 Functional Requirements

REQ-1: Centralized Database which holds all information needed to identify an evacuation center

REQ-2: Historical Data which provides information needed.

# External Interface Requirements

## User Interfaces

* Front-end – PHP use to build the interfaces that supports responsive web pages with the use of CSS bootstrap.
* Back-end – MySQL for managing database,

-PHP enables website to process the action that users take on the front end and deliver the correct information in return

## Hardware Interfaces

* Windows – the OS use control the device that use during the development of the project
* Browser which supports HTML

## Software Interfaces

* GIS software– use to identify geographic information about area which use to provide safe evacuation center
* SMS technology – use as notification device to the users
* Windows OS – best support and user friendliness
* MySQL – Database use to store information that needed by the system to operate
* PHP – used as the programming language to build the system.

## Communications Interfaces

* This project supports HTML web browser for a user friendly interface

# Other Nonfunctional Requirements

## Performance Requirements

The TulongKabatang Management System's functionality will be vital to the Disaster Management System's normal operation. As a result, the system should have consistently and predictably low reaction times in order to avoid interfering with the performance or timely completion of the numerous duties that the Disaster Management team must do.

## Safety Requirements

Due to a virus or an operating system malfunction, the database could crash at any time. As a result, a backup of the database is required. Hacking an account poses a hazard to the system, hence the user's password and user id must be hidden.

## Security Requirements

The TulongKabatang management team must be able to access the application after logging in as a user. As mentioned in the preceding use-case requirements, access to application screens and functions is provided or prohibited based on the profile and role of the presently signed in user.

## Software Quality Attributes

* Availability - During natural disasters, the system should be operational.
* Maintainability - To provide a fast reaction, the administrators should keep track of the correct location of the disasters.

# Other Requirements

**Appendix A: Glossary**

**Appendix B: Analysis Models**

**Appendix C: Issues List**