Introduction

Purpose

This document will define the design of an Android application whose objective is specified below. This document contains information about the implementaion of the classes in the program , as well as the design of the classes, their attributes and their functions. The interaction between classes are shown in the model diagrams at the end of this document.

Scope

This design specification is to be used to implement Donatio, a donation Collection Apllication.

Objective

Donatio is a donation collection application designed to implement an efficient system where donors are able to be connected with those who require donations. Other features of the application include the ability for users to view donation collection centres nearest to their location.

Product perspective

Design Method

The design of this product utilizes an object-oriented approach.

User Interfaces

The normal user of this product will be interfacing with the android application. Admins of donation centres and charities will also be interacting with a website for this system

Hardware interfaces  
The application can run on most android devices.

Software Interfaces

The software will run on the Android JVM. The website will run on a webserver.

Memory Constraints

This application is designed to not be memory intensive.

Product Functions

Showing donation centres-This function shows the user donation centres nearest to their location filtered according to their choices.

Become a volunteer-This function allows the user to peruse the list of registered charities and NGO's and apply to be a volunteer for them.

Request donations-This function allows users is need to ask for donaitons for thenmselves or for some cause. Their request is verified by one of the many NGO's charities or other donation centers registered with the application.

View volunteers-Admins of NGO's and charities can view the list of volunteers that were registered to them through thiis product.

Issue emergency notification- Admins of NGO's, charities and donation centers can issue emergency donation requests in case of a city-wide emergency situation.

2.3 User Characteristics

The general characteristics of the intended users, include

Basic technical literacy- Ability to use a phone application and optionally a website.

2.4 Constraints

This application can only run on most android phones.

2.6 Apportioning of Requirements

There are requirements apportioned to later releases of the product.

3. D ESIGN C ONSIDERATIONS

3.1 Operating Environment

Donation is intended to be used on an Android device.

3.2 Fault Tolerant Design

Application errors will be handled by common fault detection services

3.3 Design Conventions

The Donatio software design uses the Object Oriented methodology

described in "The Unified Software Development Process" by Ivar Jacobsen, Grady Booch and

James Rumbaugh. (Booch, 1999)

3.4 Architectural Design

The software capabilities and requirements specified in the Donatio Software Requirements Specification are transformed into

programs that will execute on an Android device. Software items are partitioned into classes and

packages using Object Oriented methodology to maximize encapsulation and minimize interfaces.

Packages are then built (compiled and linked) into executable programs.

3.5 User Interface:

The user or simulator operator interfaces via a text input screen. The user is prompted

for several values in order to perform the calculations.

3.5.1 Expected Input:

The user is prompted to:

Sign in using their google account

Pick the types of donation centres they want to see on the map

Enter their phone number and their CNIC if they want to volunteer or request a donation

Enter other relevant information related to their donation request

3.5.2 Output:

The user can see multiple outputs according to the different functions. They can, most commonly, see Google Maps with markers for the respective donation centres. Output can also be in the form of messages from the server in case the user had sent a volunteer or donation request.