

Team 16

NGO Information Management System 1.0

Software Requirements Specifications

## Overview

This document describes the requirements of the client for the application- those directly known to them and also those, which are implicit for any user. These requirements were found out by taking interviews and personal meetings with the client and also internal discussions among the development team.

## Target Audience

This document is intended for the client to specify and explain all the requirements of the project as understood by the requirement gathering and analyzing committee and for the technical team to follow the same for project development.

## Revision History

Version	Primary Author(s)	Description of Version	Reviewed By	Date Completed
3.0	Aakash, Palashi, Jatan, Surbhi	Changes in use cases, footnotes added, Section 2.4, 3,	Parth, Megha	5 Apr 2012
2.0	Megha	Changes in mapping tools, use cases, toolset requirements	Aakash	13 March, 2012
1.0	Palashi, Surbhi, Jesal	First Draft	Aakash, Parth, Lalit	14 <sup>th</sup> Feb 2012

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# 1. Introduction

## 1.1 Purpose

SRS (System Requirement Specification) is an organized way to collect direct and indirect software requirements for the software to be developed. It will serve as a guide for the developers on one hand and a software validation document for the prospective client on the other. It discusses the functional, non-functional, performance and development requirements and deliverables.

It is an organized document with an aim to assist in designing, coding and testing of the software and reduce unnecessary development effort by clearly enlisting all the system requirements specification. It'll also help the development team visualize the scope of the project clearly.

## 1.2 Scope

The product NIMS is an Android<sup>1</sup>-application and server based application platform that will help in evaluating and cataloguing different tasks of the NGO in an efficient manner.

For the above purposes there are different modules concerned with data storage and update at server side, data updating and retrieval at the coordinator side, analyzing data statistically and mapping the area that the NGO operates in and eventually putting all of NGO's work data onto the map.

## 1.3 Clients and Stakeholders

**Clients:** The client of our project will be the NGO - **Vicharata Samuday Samarthan Manch**<sup>2</sup>, based in Ahmadabad who works for the rights and welfare of Nomadic (Vicharata) & De-notified (Vimukta) communities and aims to help mainstream these communities by helping them to fight for their basic rights.

**Stakeholders:** The main stakeholders of this project are as follows:

- Users: The coordinators of the NGO,
- NGO Administrator Staff, who derive conclusions of the incoming data.
- Donors to the NGO.
- Developers: the developing team of this project, i.e.: SEN Team 16 of B.Tech batch 2009, DA-IICT.

## 1.4 References:

- Software Requirements Specification format - Copyright © 2002 by Karl E. Wieger. SRS version 1.0 - IT-314 –SOFTWARE ENGINEERING PROJECT TEAM 8, 2010
- IEEE SRS Document format  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=720574&userType=inst>
- SRS version 1.1 - IT-314 - SOFTWARE ENGINEERING PROJECT TEAM 5, 2010

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<sup>1</sup> [http://en.wikipedia.org/wiki/Android\\_\(operating\\_system\)](http://en.wikipedia.org/wiki/Android_(operating_system))

<sup>2</sup> <http://vssmindia.org>

- SRS version 1.1 - IT-314 - SOFTWARE ENGINEERING PROJECT TEAM 9, 2011

## 1.5 Deliverables:

- The entire project with a basic integrated working Android application and server side web interface, with connectivity among both : Deadline – 10 April 2012
- User Manual/s : Deadline – 10 April
- Proposal, Feasibility study , Project Plan, SRS, Design document, Test plans, Gantt chart, Traceability matrix, COCOMO model analysis: Deadlines – As mentioned in the project plan

## 2. Overall Description

### 2.1 Product Perspective

NIMS aims to provide a web-based information management system that will help the NGO in cataloguing their work in various fields in an efficient manner compared to the currently employed manual, paper-based work methods. This will help the NGO in proper management of the data collected and analyzing of that data for future use.

The product will provide the NGO with social mapping capabilities which helps in visualizing the work done in different fields and area by the NGO and other basic information needed by NGO.

### 2.2 Product Requirements

This product provides following main functions to the client and user of the product:

- Android application for the coordinator of the NGO who visits various families (belonging to nomadic and de-notified tribes) and alternative schools<sup>3</sup> run by the NGO in their settlements collection of basic data and transferring it to the server interface.
- Replacing the pen-paper form to Android app. which transfers data of family information, ration cards, voter identity cards,-government schemes applicable to these families- to the server using GPRS/3G/WIFI; whichever is available.
- Preferred language for Android application is Hindi. But initially the application will be built for English language users only and Hindi would be provided later on.
- Server based information management system which stores, analyses and graphically display the data collected by the coordinators in addition to laying out social maps<sup>4</sup> for the NGO

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<sup>3</sup> These schools act as pre-schools for all tribal children under age of 14 before they can be enrolled to mainstream schools. They try to nurture the basic behavioral attributes required for a child before enrolment into a standard school to make sure that they don't drop out immediately on facing a completely different environment at school compared to what they are used to.

<sup>4</sup> Maps specific to the locations the NGO operates in meant for 1) the coordinators know the vicinity in which the work and what is around the place. 2) The NGO gets a clearer idea of the area they operate in.

- This management system will also allow the NGO to
  - Catalogue all its work data and store it, display it and view statistically analyzed information generated out of it.
  - Generate Social maps
  - Evaluate itself and track progress of its work targets set for the year/month/quarter
  - Evaluate its coordinators working in field
  - Help the NGO present their cases, arguments, petitions, proposal to government officers in a more assertive manner with the help of pie charts, maps and other graphics generated from NGO's work information and eventually help the NGO achieve its goal of affecting policy level changes that in effect improve the lives of the people they work for.

### 2.3 User Classes and characteristics

Main user classes of this product are:

- **Coordinators:** They will use the Android application on their respective devices (phones/tablets) for collection of information pertaining to the families and schools of the area/s they are assigned to work in.
- **NGO office personnel:** They will have access to the server side through a web based interface. They will be able to view in real time and/or at regular intervals of time all the work that is being done by the coordinators on field, display of information generated out of that data in addition to viewing all location information on a map.

### 2.4 Operating Environment

Sr. No.	Hardware/ Software	Description
1	Android Device with -a working internet connection  -GPS functionality	-A hardware device (phone/tablet) that runs the "Android" operating system developed by Google Inc, USA -Global Positioning system enables a device to fetch its current geographical location
2	Apache <sup>5</sup> Web Server to host the web interface and interact with the Android application	Web server can refer to either the hardware (the computer) or the software (the computer application) that helps to deliver content that can be accessed through the Internet. <sup>6</sup>

<sup>5</sup> [http://httpd.apache.org/ABOUT\\_APACHE.html](http://httpd.apache.org/ABOUT_APACHE.html)

<sup>6</sup> [http://en.wikipedia.org/wiki/Web\\_server](http://en.wikipedia.org/wiki/Web_server)

3	Web browser Preferably: Mozilla Firefox <sup>7</sup>	A web browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web. <sup>8</sup>
4	Personal Computer/laptop/net-book with Windows/Linux/Unix based operating systems.	

## 2.5 Assumption and Dependencies

The successful operation of the system is dependent upon the following assumptions and dependencies

- It is anticipated that each volunteer will be given by the NGO the basic equipment on which the android application can run.
- The person working at the NGO's main office will be having the basic knowledge of the computer working and extraction of data.
- It is assumed that internet is available at server end and that the server is up and working all the time (at least for the working hours of the coordinator)
- The coordinator knows sufficient amount of English to understand the specific fields and entries to be made and he/she is able to write regional language based names of people and places in English (using approximate pronunciations)
- We assume in our design that no taluka contains 2 villages with same names
- The coordinator is able to efficiently use the android device, its network connectivity and typing features along with switching the device on and off.
- The android device battery works for at least 5-6 hours, enough for the coordinator to feed in information at stretch while he does the survey for a particular settlement
- It is assumed that for entries of village and settlement name and other such entries which will not be facilitated by autocomplete, the coordinator will enter the exact spelling of the place if it already exists in the database at the server such that there are no duplicate entries made.
- Coordinator will be informed about his username and password to operate the android application and store information obtained in the survey
- There is GPRS or any other form of internet access facility available on android phone.
- The system available at the NGO's office meets the minimum software requirements. It is assumed that it has the minimum required version (preferably the latest version) of Mozilla Firefox installed along with the required flash player plugin for the browser.
- The NGO office has a broadband internet connection which will be sufficient enough to view the social maps without any delay.
- The NGO administrator has enough knowledge of databases so that he/she can view/add/update the database if required.

<sup>7</sup> <http://www.mozilla.org/en-US/firefox/fx/>

<sup>8</sup> [http://en.wikipedia.org/wiki/Web\\_browser](http://en.wikipedia.org/wiki/Web_browser)

- There will be only one administrator in the entire NGO who will be using the web application. Hence the NGO will be provided with only one username and password. The password can be changed and updated by the administrator.

## 2.6 Design and Implementation constraints

### 2.6.1 Design

- Database Design

Database design should be capable enough to incorporate changes at a later date while making sure that it is able to serve to all queries required as part of the project

- Interface Design

The project will primarily cater to people who have very minimal exposure to computer or computer like devices (one of the two user classes) so the user interface has to be specifically designed keeping this user class in mind in addition to the fact that tablet devices having approximately 7-10 inches of screen sizes will be used to interact with this interface

### 2.6.2 Implementation

- Internet Connectivity  
The NGO currently operates in 7 districts of Gujarat where internet connectivity has been relatively constant (GPRS via a telecom carrier) based on interview with the NGO personnel and also this link<sup>9</sup>
- Free and Open Source Software  
In order to make sure that our project is free and its source code is open to the world's software development community, it's imminent that we only use open source tools and libraries.
- Web Interface  
A desktop application will add the overhead of making binaries for at least windows and linux like operating systems. And thus we have intentionally building a web based application.
- Light weight  
The project targets NGOs primarily and other NGO like non-profits (future scope) which may or not always have a high speed broadband internet connection. So the web interface has to be light and should run smoothly on a dial up connection as well without the user having to wait endlessly. However this should not be much of an issue as most of the world is now moving

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<sup>9</sup> [http://www.vodafone.in/documents/coveragemaps/map\\_guj.pdf](http://www.vodafone.in/documents/coveragemaps/map_guj.pdf)

Note: All NGO coordinators use Vodafone sim cards.



towards broad band access but we shall try to make an effort to ensure this criterion.

### 3. Specific Requirements

#### 3.1 External Interface Requirements

##### 3.1.1 User (coordinator and administrator) Interface:

The Android based client-server application will be used by the NGO coordinators to transmit information related to the NGO's work as well as the coordinator's location (via GPS while he/she is performing mapping activities). The coordinator will provide data regarding the families living in the area of interest as input to the Android application running on an Android device. The interface of this application will be clean and efficient. It will enable the coordinator to easily collect data and update the NGO's database server.

The server side of this application will have an interface to provide access to the data collected in the NGO's database so that the NGO can analyze and highlight the main issues based on their locations. The client side application interface will enable the coordinator to effortlessly collect data related to the NGO's activities in that location. The server side application interface will provide tools and options to easily access and filter the data stored in the NGO's database server based on pre-defined (here, administrator) filter criteria gathered from the NGO's requirements specification.

##### 3.1.2 Software Interface:

Software	For
RUP , Microsoft Office Project 2010	Project Planning and Management
Eclipse IDE	Developing Android application
Android Emulator plug-in	Android Application Testing
Git, Bitbucket	Version Control, source code hosting
MySQL, SQLite	Database Management
Google Docs and Google Groups	Team coordination and document sharing
Microsoft Visio/ Dia	Dataflow, E-R and Design diagrams
WAMP, LAMP	Testing and implementing PHP scripts
Openlayers JS library, Java open street map editor	Implementing Social Mapping

Open Flash charts	Generating Charts on the server side interface
Twitter Bootstrap framework	Server Side interface
Simile Javascript Library	Project Timeline

### 3.1.3 Hardware Interface:

The product has a server side web interface and the client side (coordinator in the field) will have to be connected to the server side (NGO's server) using GPRS (or 3G or wifi if available).

The client side of the application will run on an Android based mobile device which will be used by the coordinators to collect and update data at the server side.

On the server side, there will be a server for database management and data analysis (for social mapping) for administrators of the NGO which will have to function properly at all times to ensure the safety and security of the data collected.

### 3.1.4 Communication Interface:

The input device at the client side would be a mobile Android based device. The output device will be the computer (PC/Mac/net-book/notebook/mainframe) display screen running an Internet browser. Browser Compatibility testing will be carried out to know specific browser requirements if any.

## 3.2 System Features:-

The interfaces for the server side (controlled by the NGO administrator), the client side (used by the coordinators on their Android based mobile devices) are all different according to their varied needs of the users.

### 3.2.1 for NGO Coordinators:

#### Login:

On their Android devices, the coordinators can login, view and update the database.

#### View/Update Family Profile:

Coordinators can view and update family profiles that are stored in the database. The family profiles give information regarding the identity cards held by each of the family members and other general information about the families.

#### Update School Information:

Coordinators can update and review information and location of schools which serves as input to the social mapping of schools.

#### Update Social Maps:

Coordinators can access and update the database with information about the location and general information for social mapping.

### **3.2.2 for NGO Administrator:**

#### Login:

NGO administration personnel can login to access the database server for information pertaining to the functioning of the NGO on the field as well as off it.

#### View/Update Coordinator Profile:

NGO administrator officials can view and update information about the coordinators employed by the NGO. A coordinator profile contains information like the coordinator's assigned locations and their work record. They can also register a new coordinator on the database.

#### View Coordinator Location:

The NGO administrator personnel can view each coordinator's location on the field via the GPS system on the coordinator's Android based mobile device.

#### View/Update Campaigns:

The NGO administrator can view and modify information about the various campaigns run by the NGO.

#### View Family/schools Information:

The NGO administrator personnel can view information regarding schools, families and hospitals fed to the database by the coordinators.

#### View Social Maps:

The organization can view and update information related to social maps.

#### View graphics

Graphical display of information generated out of data

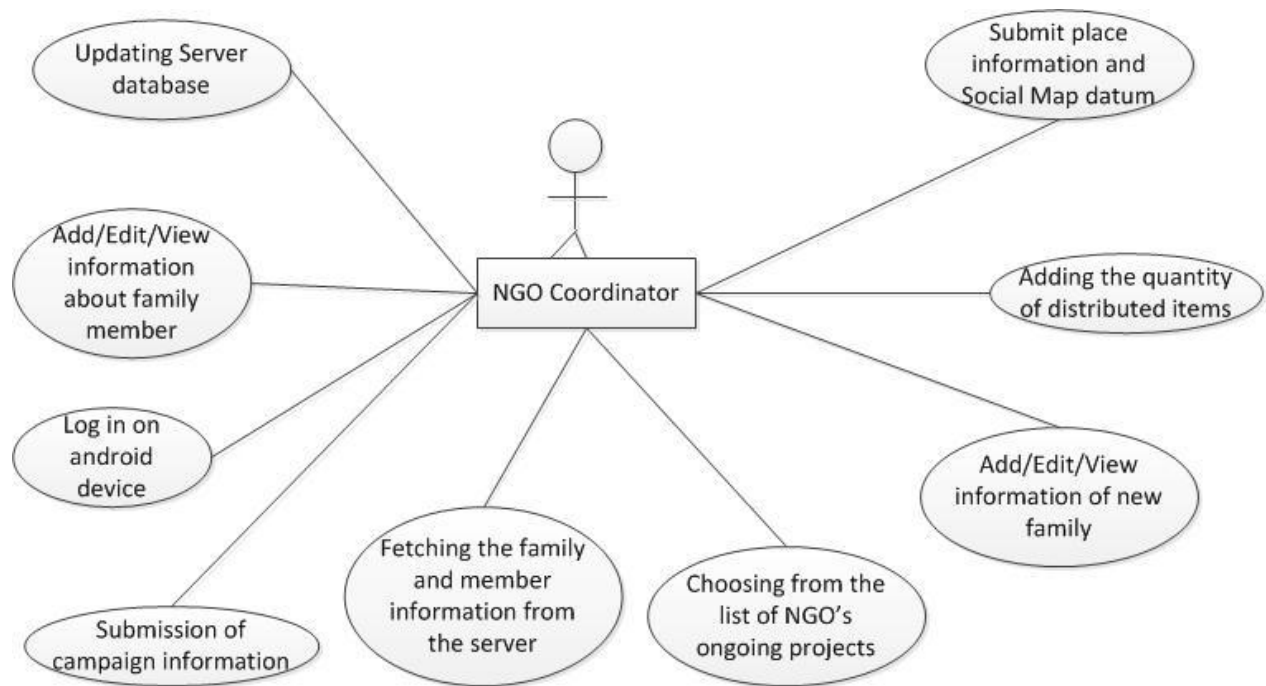
### **3.3 Functional Requirement (USE CASES):**

The functional requirements describe the intended behavior for desired functioning of the product. They are organized into use cases as follows:

#### **Requirements:**

The functional requirements describe the intended behavior for desired functioning of the product. They are organized into use cases as follows:

For Android application User:

**Use Case 1:**

Use Case	Coordinator Login on Android Device
Description	Logging into a android device
Actors	a. NGO Coordinator
Assumptions	a. Login screen is always available first on opening the client application. b. Actor has logged into a session c. Application is installed properly
Steps	a. Enter Username b. Password
Triggers	Launching application
Variations	a. Wrong Password and Wrong Username b. Wrong password or Wrong Username
Non-Functional	Registration not to be provided at coordinator side.
Issues	What if coordinator forgets password/username?

**Use Case 2:**

Use Case	Client Logout on Android Device
Description	Logging out from an android device
Actors	NGO Coordinator
Assumptions	Going back to home page option is always available across all screens in a session.
Steps	Click "Logout"
Variations	None
Non-Functional	Inform actor about logout success by showing a login screen and a message-"You have logged out successfully"
Issues	<ul style="list-style-type: none"> <li>a. GPRS/3G connection of the phone is lost.</li> <li>b. Sudden Battery drainage.</li> <li>c. Request Timeout</li> </ul>

**Use Case 3:**

Use Case	Submit campaign information
Description	Sending geographic information of settlement and village name to server.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Fill in name of the settlement.</li> <li>b. Fill in name of the village.</li> <li>c. Submit information.</li> </ul>
Triggers	Logging into a session.
Variations	<ul style="list-style-type: none"> <li>a. Settlement name not entered.</li> <li>b. Village name not entered.</li> </ul>
Non-Functional	Inform actor about missing field entries by displaying "Please enter required information"
Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. Privacy issues of the person using the application for surveying.</li> </ul>

**Use Case 4:**

Use Case	Choose from the list of Ngo's ongoing projects
Description	To choose for which project from those given is the survey being conducted.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established b. Coordinator has logged into a session. c. Village and Settlement information already submitted to server database.
Steps	Choose from the given options for the settlement under survey : <ul style="list-style-type: none"> <li>• Family Information</li> <li>• Social Map</li> <li>• Item Distribution</li> <li>• Update Information</li> </ul>
Triggers	Submitting campaign information.
Variations	None
Non-Functional	None
Issues	What if GPRS/3G connection is lost in between activity?

**Use Case 5:**

Use Case	Choosing whether the family is new or already existing
Description	To choose whether information needs to be entered for a new family or it is an already registered family whose information is to be viewed or edited.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established b. Coordinator has logged into a session. c. Village and Settlement information already submitted to server database.
Steps	Choose from the given options for the family under survey.
Triggers	Choosing Family Info from the list of given projects

Variations	None
Non-Functional	None
Issues	What if GPRS/3G connection is lost in between activity?

**Use Case 5.1:**

Use Case	Submit family information
Description	Posting a Form filled for family information to the server
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established.</li> <li>b. Coordinator has successfully logged into a session.</li> <li>c. Village and Settlement information already filled.</li> <li>d. Family has not already been registered.</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Fill in the details of a family.</li> <li>b. Submit.</li> </ul>
Triggers	Selection of new family option in the previous view.
Variations	Leaving essential fields empty
Non-Functional	Inform actor about missing field entries by displaying "Please enter required information"
Issues	<ul style="list-style-type: none"> <li>a. What if GPRS/3G connection is lost in between activity?</li> <li>b. Validation of fields – string/number only in some fields</li> </ul>

**Use Case 5.1.1:**

Use Case	Choosing type of information to be displayed/entered for the family
Description	To choose from the given list of type of information to be entered/viewed/edited for a family
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> </ul>

	<ul style="list-style-type: none"> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> </ul>
Steps	Choose from <ul style="list-style-type: none"> <li>a. general family information</li> <li>b. member information</li> <li>c. identity cards</li> <li>d. government schemes</li> </ul>
Triggers	<ul style="list-style-type: none"> <li>a. Choosing a family from a given list.</li> <li>b. Submitting information of a new family.</li> </ul>
Variations	None
Non-Functional	None
Issues	What if GPRS connection is lost in between activity?

**Use case 5.1.1.1:**

Use Case	Viewing/Editing Family Information
Description	To view or edit information about the new/existing family under purview.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> </ul>
Steps	View information or edit it (Using the given option)
Triggers	Choosing family information from the given list for the particular family
Variations	None
Non-Functional	None
Issues	What if GPRS connection is lost in between activity?



**Use Case 5.1.1.2:**

Use Case	Entering/Viewing/Editing Member Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) information about the new/existing member of family under consideration.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established b. GPS facility is there on the phone c. Coordinator has successfully logged into a session. d. Village and Settlement information already filled. e. Family has been newly registered or is an already registered family.
Steps	a. For new family – Enter Information for each member of family b. For existing family – <ul style="list-style-type: none"> <li>• Select member from family to view his information.</li> <li>• Add a new member.</li> </ul>
Triggers	Choosing member information from the given list for the particular family
Variations	a. Empty fields in the member information (for a new member) b. Editing information of members by choosing from the list.
Non-Functional	Inform actor about missing field entries by displaying “Please enter required information”
Issues	What if GPRS connection is lost in between activity?

**Use Case 5.1.1.3:**

Use Case	Entering/Viewing/Editing Identity Cards Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established

	<ul style="list-style-type: none"> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> </ul>
Steps	Choose the card for which the information is to be edited/viewed/entered.
Triggers	Choosing identity cards from the given list for the particular family
Variations	None
Non-Functional	None
Issues	What if GPRS connection is lost in between activity?

**Use Case 5.1.1.3(a):**

Use Case	Entering/Viewing/Editing Voter Card Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> <li>f. Member Information has been fed in</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. For new family – Enter Information for each member of family stating whether the card has been issued or applied for</li> <li>b. For existing family – Enter information similar to that of a new family member if data is missing, or change status if required.</li> </ul>
Triggers	Choosing voter card from the given list of cards for the particular family
Variations	None
Non-Functional	None

Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. What should be the default value of the status of the card?</li> </ul>
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**Use Case 5.1.1.3(b):**

Use Case	Entering/Viewing/Editing Ration Card Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> <li>f. Member Information has been fed in</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. If the card has already been applied for – Enter Information category of card of family</li> <li>b. If the card has already been issued – Enter new information/Edit (or view) information if required.</li> </ul>
Triggers	Choosing ration card from the given list of cards for the particular family and hence choosing whether the card is to be applied for or is already issued.
Variations	None
Non-Functional	None
Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. What should be the default value of the status of the card?</li> </ul>

**Use Case 5.1.1.3(c):**

Use Case	Entering/Viewing/Editing Plot Card Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.

Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> <li>f. Member Information has been fed in</li> </ul>
Steps	Choose from the given options the ownership rights for the plot occupied by the family
Triggers	Choosing plot card from the given list of cards for the particular family
Variations	None
Non-Functional	None
Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. What should be the default value of the status of the card?</li> </ul>

**Use Case 5.1.1.3(d):**

Use Case	Entering/Viewing/Editing Job Card Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> <li>f. Member Information has been fed in</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. For new family – Enter Information for each member of family stating whether the card has been issued or applied for</li> <li>b. For existing family – Enter information similar to that of a new family member if data is missing, or change status if required.</li> </ul>

Triggers	Choosing voter card from the given list of cards for the particular family
Variations	None
Non-Functional	None
Issues	a. What if GPRS connection is lost in between activity? b. What should be the default value of the status of the card?

**Use Case 5.1.1.3(e):**

Use Case	Entering/Viewing/Editing Aadhar Card Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) card information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established b. GPS facility is there on the phone c. Coordinator has successfully logged into a session. d. Village and Settlement information already filled. e. Family has been newly registered or is an already registered family. f. Member Information has been fed in
Steps	a. For new family – Enter Information for each member of family stating whether the card has been issued or applied for b. For existing family – Enter information similar to that of a new family member if data is missing, or change status if required.
Triggers	Choosing voter card from the given list of cards for the particular family
Variations	None
Non-Functional	None
Issues	a. What if GPRS connection is lost in between activity? b. What should be the default value of the status of the card?

**Use Case 5.1.1.4:**

Use Case	Entering/Viewing/Editing Government Scheme Information
Description	To enter/view/edit (depending on whether the family exists already or is newly registered) government scheme information about the new/existing family under consideration.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> <li>e. Family has been newly registered or is an already registered family.</li> <li>f. Member Information has been fed in</li> </ul>
Steps	Choose the government scheme for which the information is to be edited/viewed/entered.
Triggers	Choosing Government schemes from the given list for the particular family
Variations	None
Non-Functional	None
Issues	What if GPRS connection is lost in between activity?

**Use Case 6:**

Use Case	Submit Social Map datum
Description	Sending geographic information of a place type and name to server.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. GPS facility is there on the phone</li> <li>c. Coordinator has successfully logged into a session.</li> <li>d. Village and Settlement information already filled.</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Fill in type of the place.</li> <li>b. Fill in name of the place.</li> <li>c. Submit information. (GPS information fetched by the device and</li> </ul>

	embedded into the outgoing packet appropriately.)
Triggers	Choosing social map option from list of projects.
Variations	a. Type of place not entered. b. Name of the place not entered.
Non-Functional	Inform actor about missing field entries by displaying "Please enter required information"
Issues	a. What if GPRS connection is lost in between activity? b. What if GPS data is not reachable? c. Privacy issues of the person using the application for surveying.

**Use Case 7:**

Use Case	Submit item distribution datum
Description	Saving information of which item is being distributed in the particular settlement.
Actors	NGO Coordinator
Assumptions	a. GPRS/3G connection already established b. Coordinator has successfully logged into a session. c. Village and Settlement information already filled.
Steps	Fill in the item to be distributed
Triggers	Choosing item distribution option from list of projects.
Variations	Item not entered.
Non-Functional	Inform actor about missing field entries by displaying "Please enter required information"
Issues	a. What if GPRS connection is lost in between activity? b. Privacy issues of the person using the application for surveying.

**Use Case 7.1:**

Use Case	Submit quantity of the particular item distributed
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Description	Saving the quantity of the item given to each family in the particular settlement.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. Coordinator has successfully logged into a session.</li> <li>c. Village and Settlement information already filled.</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Given the list of families in the settlement, fill in the quantity against each.</li> <li>b. Submit information</li> </ul>
Triggers	Submitting the item being distributed in the given settlement.
Variations	Quantity not entered for any family. (one or more).
Non-Functional	None.
Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. What if quantity field is empty for one or more families?</li> </ul>

**Use Case 8:**

Use Case	Update server database
Description	Sending the information stored on the local database obtained during the server to the server.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. Coordinator has successfully logged into a session.</li> <li>c. Village and Settlement information already filled.</li> <li>d. Coordinator has filled up all the necessary forms and is ready to update/enter the information obtained on the server database</li> </ul>
Steps	Choose the option of updating database from the ngo projects page.
Triggers	Choosing the update database button from ngo projects page.
Variations	None.
Non-Functional	None.

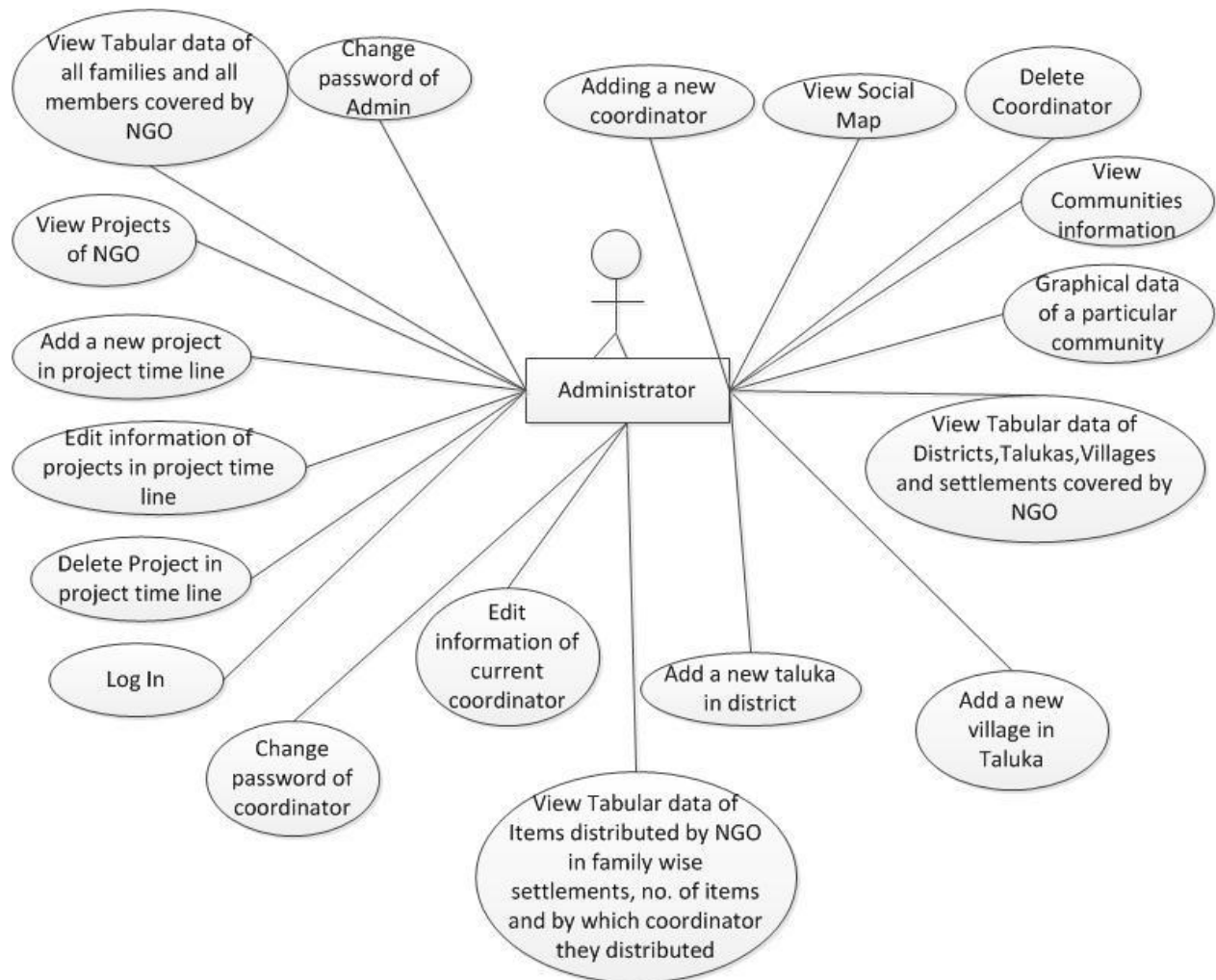


Issues	<ul style="list-style-type: none"> <li>a. What if GPRS connection is lost in between activity?</li> <li>b. What if certain forms are left empty for one or more families within the settlement?</li> </ul>
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**Use Case 9:**

Use Case	Go to home/ngo projects page.
Description	Every step of the application, user will get an option to go back to the home page at any point of time.
Actors	NGO Coordinator
Assumptions	<ul style="list-style-type: none"> <li>a. GPRS/3G connection already established</li> <li>b. Coordinator has successfully logged into a session.</li> <li>c. Village and Settlement information already filled.</li> </ul>
Steps	Click on home/ngo projects button
Triggers	Clicking on home/ngo projects button
Variations	None.
Non-Functional	None.
Issues	What if GPRS connection is lost in between activity?

For server side web interface:



### Use Case 1:

Use Case	Social Map
Description	Showing social map of the selected district
Actors	NGO Administrator Public
Assumptions	Internet connection is available
Steps	Select the particular district
Triggers	View social map of a particular region
Variations	None
Non-	None

Functional	
Issues	There might be a delay in displaying the social map in case the internet speed is very low.

**Use Case 2:**

Use Case	Login on Website
Description	Logging into the website
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Enter Username b. Password
Triggers	Clicking on the 'Log In' button on the screen
Variations	a. Wrong Password and Wrong Username b. Wrong password or Wrong Username
Non-Functional	Inform actor about login success by showing a message-" Logged in as NGO Admin "
Issues	Administrator forgets password/username

**Use Case 3:**

Use Case	View Community information
Description	Graphical analysis of the data about different communities for which the NGO works
Actors	NGO Administrator
Assumptions	Internet connection is available Actor has logged into a session
Steps	Select the particular community from Community tab
Triggers	Clicking on 'Communities' field

Variations	None
Non-Functional	Bar charts of the data: sex ratio, traditional vs. current occupation, ration card status, ration card category, member wise job card status, voter card status and status of children going to school
Issues	The charts may not be compatible with all the browsers

**Use Case 4:**

Use Case	Showing graphical analysis of a particular community
Description	Showing social map of the selected district
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Select a particular community
Triggers	Selecting a particular community
Variations	None
Non-Functional	a. Pie charts of the data: sex ratio, traditional vs. current occupation, ration card status, ration card category, member wise job card status, voter card status and status of children going to school b. Information about population, district covered and average family daily income of corresponding community
Issues	The charts may not be compatible with all the browsers.

**Use Case 5:**

Use Case	Projects of the NGO
Description	View all the projects and their detailed information about dates, milestones, donors, etc. that have been undertaken so far by the NGO
Actors	Administrator
Assumptions	a. Internet connection is available b. User-name and password are known c. Database is maintained properly

Steps	<ul style="list-style-type: none"> <li>a. Navigate through the timeline to view detailed progress of any project by month or by year.</li> <li>b. Get detailed information about a project by clicking on that project's timeline.</li> </ul>
Triggers	Clicking the Projects button on the title bar.
Variations	None
Non-Functional	None
Issues	<ul style="list-style-type: none"> <li>a. Administrator forgets to enter all the required project details in the database.</li> <li>b. Administrator enters wrong data about the project.</li> </ul>

**Use Case 6:**

Use Case	Displaying data in tabular form
Description	Displaying tabular data of the settlement, villages, families etc covered by the NGO in tabular form
Actors	NGO Administrator
Assumptions	<ul style="list-style-type: none"> <li>a. Internet connection is available</li> <li>b. Actor has logged into a session</li> </ul>
Steps	Click on the "Tabular Data" field
Triggers	Clicking on the "Tabular Data" field
Variations	None
Non-Functional	None
Issues	None

**Use Case 7:**

Use Case	Showing data of the district in tabular form
Description	Showing data of the districts covered by NGO in tabular form
Actors	NGO Administrator

Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'District Information' field Or Click on the 'Tabular Data' field
Triggers	Clicking on the 'District Information' field or Clicking on the "Tabular Data" field
Variations	None
Non-Functional	None
Issues	None

**Use Case 7.1:**

Use Case	Showing data of particular district in tabular form
Description	Showing data of the selected district in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Click on the 'District Information' field b. Click on the name of the district
Triggers	Clicking on the name of a particular district
Variations	Shows similar tabular data for any other district chosen from the given list.
Non-Functional	None
Issues	None

**Use Case 8:**

Use Case	Showing data of the taluka in tabular form
Description	Showing data of the districts covered by NGO in tabular form
Actors	NGO Administrator

Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Taluka Information' field Or Click on 'taluka' field of the navigation when the page of tabular data of a particular district is open
Triggers	Clicking on the "Taluka Information" option on the side menu
Variations	Clicking on 'district' field of the district table to display the information of all the talukas present in that district.
Non-Functional	None
Issues	None

**Use Case 8.1:**

Use Case	Showing data of particular taluka in tabular form
Description	Showing data of the selected taluka in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Click on the 'Taluka Information' field b. Click on the name of the taluka
Triggers	Clicking on the name of the taluka
Variations	Shows similar tabular data for any other taluka chosen from the given list.
Non-Functional	None
Issues	None

**Use Case 9:**

Use Case	Showing data of the village in tabular form
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Description	Showing data of the villages covered by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Village Information' field Or Click on 'village' field of the navigation when the page of tabular data of a particular taluka is open
Triggers	Clicking on the "Village Information" option
Variations	Clicking on 'taluka' field of the taluka table to display the information of all the villages present in that taluka.
Non-Functional	None
Issues	None

**Use Case 9.1:**

Use Case	Showing data of particular village in tabular form
Description	Showing data of the selected village in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Click on the 'Village Information' field b. Click on the name of the village
Triggers	Clicking on the name of the village
Variations	Shows similar tabular data for any other village chosen from the given list.
Non-Functional	None
Issues	None



**Use Case 10:**

Use Case	Showing data of the settlement in tabular form
Description	Showing data of the settlements covered by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Settlement Information' field Or Click on 'settlement' field of the navigation when the page of tabular data of a particular village is open
Triggers	Clicking on the "Settlement Information" field
Variations	Clicking on 'village' field of the village table to display the information of all the settlement present in that district.
Non-Functional	None
Issues	None

**Use Case 10.1:**

Use Case	Showing data of particular settlement in tabular form
Description	Showing data of the selected settlement in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Click on the 'Settlement Information' field b. Click on the name of settlement
Triggers	Clicking on the name of the settlement
Variations	Shows similar tabular data for any other settlement chosen from the given list.
Non-Functional	None

Issues	None
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**Use Case 11:**

Use Case	Showing data of the family in tabular form
Description	Showing data of the all families covered by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Family Information' field Or Click on 'family' field of the navigation when the page of tabular data of a particular settlement is open
Triggers	Clicking on the "Family Information" field Or Clicking on 'family' field of the navigation when the page of tabular data of a particular settlement is open
Variations	Clicking on 'settlement' field of the settlement table to display the information of all the family present in that district.
Non-Functional	None
Issues	None

**Use Case 11.1:**

Use Case	Showing data of all members in particular family in tabular form
Description	Showing data of the selected family with all members in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	a. Click on the 'Family Information' field b. Click on the name of the 'Family Head'
Triggers	Clicking on the name of the 'Family Head '

Variations	Shows similar tabular data for any other family chosen from the given list.
Non-Functional	None
Issues	None

**Use Case 12:**

Use Case	Showing data of the member in tabular form
Description	Showing data of the all members of all the families covered by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Member Information' field Or Click on 'member' field of the navigation when the page of tabular data of a particular family is open
Triggers	Clicking on the "Member Information" field
Variations	Clicking on 'family' field of the family table to display the information of all the members present in that district.
Non-Functional	None
Issues	None

**Use Case 13:**

Use Case	Showing data of the items distributed by NGO in tabular form
Description	Showing data of all the items distributed by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the 'Item Information' field

Triggers	Clicking on the “Item Information” field
Variations	None
Non-Functional	None
Issues	None

**Use Case 14:**

Use Case	Showing data of the item distribution by NGO in tabular form
Description	Showing data of all the items distributed by coordinator who distributed, settlement name in which they are distributed, family head's name in whose family they are distributed and no. of items of that item distributed by NGO in tabular form
Actors	NGO Administrator
Assumptions	a. Internet connection is available b. Actor has logged into a session
Steps	Click on the ‘Item Distribution’ field
Triggers	Clicking on the “Item Distribution” field
Variations	Clicking on ‘item_name’ field of the item information table to display the distribution information of that particular item
Non-Functional	None
Issues	None

**Use Case 15:**

Use Case	Change password of administrator
Description	Change the password for the administrator
Actors	Administrator
Assumptions	Administrators have the user-name and correct old password of the coordinator whose password is to be changed
Steps	a. Click on the Settings tab on the title bar. b. Click on the Change Password option in the Settings list c. Enter the user-name and old password of the coordinator

	d. Enter new password and confirm it again e. Save the changes
Triggers	Clicking the Change Password option in Settings list
Variations	None
Non-Functional	None
Issues	a. Administrator enters wrong user-name and/or wrong old password b. After changing the password administrator forgets the new password c. After entering the data administrator forgets to save the data but gives the new information to the coordinator

**Use Case 16:**

Use Case	Adding a new coordinator
Description	To add the details of a new coordinator in the database, this function will be used
Actors	Administrator
Assumptions	Administrator knows all the required details about the coordinator
Steps	In the Settings list, select Add New Coordinator option and fill in the new coordinator's detail accordingly and save the changes
Triggers	Selecting the Add New Coordinator option from Settings list
Variations	None
Non-Functional	None
Issues	a. Administrator forgets the user-name and password entered in the database for that coordinator b. Administrator enters incorrect data of the coordinator

**Use Case 17:**

Use Case	Edit coordinator's information
Description	Edit the information of an existing coordinator or delete the records of a coordinator completely

Actors	Administrator
Assumptions	<ul style="list-style-type: none"> <li>a. The coordinator's information to be edited is already present in the database</li> <li>b. Administrator knows about the exact new details about that coordinator</li> <li>c. Administrator knows whether to delete the coordinator or edit it</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Select Edit existing Coordinator's Information option from the Settings list</li> <li>b. Select the particular coordinator whose details are to be edited</li> <li>c. Change the details of the coordinator and save the changes</li> </ul>
Triggers	Selecting Edit existing Coordinator's Information option
Variations	None
Non-Functional	None
Issues	<ul style="list-style-type: none"> <li>a. Administrator confuses the coordinator's details to be changed with some other coordinator and selects the wrong coordinator</li> <li>b. Administrator enters wrong data</li> <li>c. Administrator deletes the coordinator from database instead of just editing their information</li> <li>d. Administrator forgets to save the data edited</li> </ul>

**Use Case 18:**

Use Case	Add a new project
Description	Add a new project in the database
Actors	Administrator
Assumptions	<ul style="list-style-type: none"> <li>a. The project's information to be edited is already present in the database</li> <li>b. Administrator knows about the exact new details about that project</li> </ul>
Steps	Select Add New Project option from the Settings tab Enter the details of the new project to entered into the database
Triggers	Selecting Add new project option
Variations	None
Non-Functional	None

Issues	<ul style="list-style-type: none"> <li>a. Administrator confuses the project's detail to be added with some other project.</li> <li>b. Administrator enters wrong data</li> <li>c. Administrator forgets to save the data</li> </ul>
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**Use Case 19:**

Use Case	Edit project's information
Description	Edit the information of an existing project or delete the records of a project completely
Actors	Administrator
Assumptions	<ul style="list-style-type: none"> <li>a. The coordinator's information to be edited is already present in the database</li> <li>b. Administrator knows about the exact new details about that coordinator</li> <li>c. Administrator knows whether to delete the coordinator or edit it</li> </ul>
Steps	<ul style="list-style-type: none"> <li>a. Select Edit existing Project's Information option from the Settings tab</li> <li>b. Select the particular project whose details are to be edited</li> <li>c. Change the details of the project and save the changes</li> </ul>
Triggers	Selecting Edit existing Project's Information option
Variations	None
Non-Functional	None
Issues	<ul style="list-style-type: none"> <li>a. Administrator confuses the project's detail to be changed with some other project and selects the wrong project</li> <li>b. Administrator enters wrong data</li> <li>c. Administrator deletes the project from database instead of just editing its information</li> <li>d. Administrator forgets to save the data</li> </ul>

**Use Case 20:**

Use Case	Add new village / taluka in database
Description	Add a new village or taluka in the main database
Actors	Administrator
Assumptions	Administrator knows the new village or taluka's name

Steps	a. Select Add a new Village/Taluka option from the Settings Tab b. Enter the information about the new village or taluka and save the changes.
Triggers	Addition of new village or taluka in NGO's work area
Variations	None
Non-Functional	None
Issues	Administrator doesn't know the exact information about the new village, its taluka or district.

### 3.4 Non-functional requirements:

#### 3.4.1 Performance requirements:

- The NIMS is a software platform and hence many variables like server, operating systems (Android/Windows/Linux/), coordinator Android application, browsing, network coverage and speed affect the performance of the system.
- The size of the database is dynamic and it subsequently grows on filling up new forms provided for various projects by the coordinator for different families and individuals. To keep the Android application light, we need to delete the information as and when it is transferred to the server and for viewing have to fetch it back from there.
- The software is designed to be a multi-user system, but as the NGO currently has only 5 coordinators, hence heavy server traffic is not an issue for the application currently.
- All the constituting project portions of the software should run and update independently without interfering with other portions, whereas common database will be shared and updated by users depending on their permission/restriction level.
- The searching of the central database being queried must be equipped to handle certain number of queries at a time (around 3-5) as only these many people will be accessing it simultaneously if at all.
- Data updates should be made in time to the database on server (like within a day – as GPRS facility may not be available everywhere every time, but it will still be very fast as compared to months of delay in reports by coordinators) and should immediately be available to NGO administrator.
- The network provider should provide enough bandwidth and speed for efficient data transfer between two devices.

#### 3.4.2 Domain requirements:



- The Server side of NIMS will have to be hosted using help of a web hosting company or pagekite<sup>10</sup> service could be used to expose “localhost”<sup>11</sup> of the personal computer at NGO to the World Wide Web.

#### **3.4.3 Safety requirements:**

- The information that is being removed can be accessed indirectly, user can either maintain his/her own log book or can refer to the log file associated with the system.
- The transfer of data via GPRS should be secure, in software terms to maintain privacy for the NGO (though they do not require it much).
- The coordinators and administrators will be given unique user-name and passwords to view or edit pages depending on their permissions to access the data, so that there is no false or ambiguous data entry from any random person who is not a part of the organization.
- The computer must be well protected from viruses and other Internet-based threats in order to avoid crashing of server system, as it is the most crucial of all the components. Database should be secured with appropriate passwords and data backup options.

#### **3.4.4 Security Requirements:**

- Security will be inbuilt in the system, which will not allow unauthorized access to the system database. Moreover, it'll be ensured that a user is tightly bounded to the permissions/restrictions of his domain.
- If any user logs out, then the session is said to be closed and he has to login again to use the software i.e. he cannot get back with simply using 'Back' button of the web-based interface or the android application.
- The system logs off the user automatically when the application is shut down by any means. In order to regain entry to the system, the user must log back in.

#### **3.4.5 Software Quality Requirements:**

##### **1.) Maintainability:**

- The user must be able to browse through the application without any difficulty.
- All the requirements and system features are well documented in both, soft (in-built help) and hard versions user manuals which we intend to ship along with the product itself. Along with it, the user interface developed will be simple. Both these factors will attribute to efficient utilization of resources by user.

##### **2.) Portability:**

- Portability is not an issue vis-a-vis operating systems as NIMS is a web based platform. But browser compatibility will have to be checked.

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<sup>10</sup> <https://pagekite.net/support/intro/>

<sup>11</sup> <http://en.wikipedia.org/wiki/Localhost>

### 3.) Usability:

- The web interface/android application on administrator/coordinator side should be able to run on a computer system/android device if a browser/.apk<sup>12</sup> file of the application is installed.
- The web interface/android application shall have a user friendly interface such that it is usable with maximum ease.
- All steps of the web/android application development should be well documented to ensure maintenance of the product through lifetime.

### 4.) Efficiency:

- There are no performance constraints on the interface but it is desirable that the website occupies minimum space on the server storage disk/s. (the main space requirement is for data as it grows rapidly)
- The Android application has a constraint of response time being less than 1 sec and not much data should be there on Android, as it would make the application heavy.

### 5.) Reliability:

- We need to provide facility of backup of entire system along with information for the administrator and user to deal with problems like power failure, disk failure, etc.

## 4. Process Mode

### Appendix A - Requirement Gathering

This section includes all the interaction sessions of the team members with the client organization's members. Modes of accession of expectations of the client from the software were mainly interviews and the on ground experience of one of the team members who has worked for a similar cause earlier.

#### Meeting no 1:

**Date:** 13th January, 2012

**Venue:** Main Office, Ahmadabad

(The following is a list of requirements was derived after the first interview done by the team.) **Q-1** How do you work for identity issues of the NTs and the DNTs?

**Q-2** If you take of their national identification through cards and other documents please give us the details of your data collection procedure.

**Q-3** How many offices or centers do you have? Where are they? How is the responsibility division done amongst your work force?

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<sup>12</sup> <http://en.wikipedia.org/wiki/.apk>

**Q-4** Who all are your target population? Please give us few numbers to get an idea of the scale of your work.

**Q-5** What do you think will be the challenges in terms of acceptance and comfort or usability, for the system being proposed by us for your organization?

**Q-6** What all data should be collected from each family in a settlement being surveyed?

**Q-7** What is your take on the idea on social mapping feature being added to the information management system? Will be useful?

**Q-8** Please give an overview of all your activities, your interactions with the tribes, background information of the volunteers and coordinators and any other information which could help make the system more specific to your needs and environment that you work in.

**Q-9** Please tell us all the features that you would like to have in the system being designed for your organization and also the things to be taken care of / constraints.

### **Meeting no. 2:**

**Date:** 19th January, 2012

**Venue:** Main Office, Ahmadabad.

**Interviewee:** Mittal Patel

### **Questions Posed:**

**Q-1** What is the kind of the data collected by the NGO?

- Prerequisites
- The actual paper form submitted by the volunteers after data collection
- What are the fields in the forms?
- Is the data collection individual or family wise?
- Information about the register they maintain for records

**Q-2** Describe the role of the teachers in the tent schools set up.

**Q-3** Why do you need all of this data? What do you do with it?

**Q-4** Role of donors:

- How do they make the payment?
- Any benefit offered by the NGO to the donors?
- Is there a form that donor needs to fill up?
- Do you have any online facility for payment? Would you like to have one?

**Q-5** Do you have any manual or a brochure on the NGO?

**Q-6** What kind of data, from that you collect, would you like to be publically accessible or viewable?

**Q-7** Regarding specific projects that they have:

- Housing projects: How do you carry out this activity? What are the different phases?
- School Projects: How have you implemented this project? What kinds of records are needed to be kept?

**Q-8** What category does your ngo fall under?

**Q-9** Are all the activities carried out by your organization generic to the rest of Ngos working for the same cause?

**Q-10** Who has developed your existing website? Who maintains it? You think we can contact him/her?

**Q-11** Which is the acceptable and communicative language in the regions that you cover? You think your coordinators will be okay with the language of the system being Hindi or English?

**Q-12** Details of the coordinators:

- What age group do they usually belong to?
- What is their educational and language background?
- What is their technical background or knowledge? Can they operate a multimedia phone properly with all its features?
- What will be their reaction to our system?

**Q-13** Do coordinators submit their forms on monthly basis? How do they submit it?

**Q-14** For investigation as well as deployment of projects, Are there enough coordinators to cover all your areas of interest?

**Q-15** What are your expectations from our system and additional requirements?

**Q-16** Social Maps:

- What is your take on the social maps feature of our system? Will they be useful? Do you have any specifications you would like to be catered to?
- Would you like the maps to be public? Or share with other NGOs the information gathered?
- Do you have any social maps right now? How many?

**Q-17** Information about the trained NTs-DNTs

**Q-18** What is your interaction like with Government officials and police?

**Q-19** Would you like to display the following additional things on your website?

- Donor Profile
- Social Maps
- Money Donation Authorization

**Q-20** Are you okay with the tentative costing of the whole system?

**Q-21** How technically sound/knowledgeable is the person you are planning to keep in charge of the server and database management?

**Q-22** How frequently do you update your website?

**Q-23** You think you can help us meet any of your coordinators?

**Q-24** What kind of Content Management System would you like the system to have?

**Q-25** What is the future growth plan of your NGO and the cause that you are working for?

**Q-26** Do you have any future project plans that you would like us to cater to in our system? Do you have any future plans for our system features and facilities?

**Q-27** What kind of technical or software assistance would you like in your existing activities and functioning?

**Q-28** How would you like us to improve your website?

**Q-29** What is the current technological purview of your organization? What are the features of the computer system in your main office?

**Q-30** Do you feel a strong need of our product in your current scenario?

**Q-31** Would let us know information about your account and fund handling if you want a “donation- online” feature added to your website?

### **Analysis of the data collected in above meetings:**

After the two interviews the following analysis was made of the data collected:

- The cards (for their national and individual identity) have to be issued in a particular order. Ration card can't be issues before say a water id card or registered home's phone bill or something. And for UID there's a long list of cards required a priori. So for a particular family the sequence of card to be applied for will be different. Some have some cards, for them the card applications have to be filed accordingly while for those without any form of identification, the volunteer begins from the scratch.
- In Numbers the NGO works in 7 districts: Ahmadabad, Sabarkantha, Banaskantha, Patan, Mehsana, Gandhinagar and Rajkot. With over 100 volunteers, 21 school teachers(not teachers as qualified B.Ed people but volunteers acting as “Baldosts”) and further there are 6-7 coordinators who are actually employed by the NGO under which they get phones and other perks to carry out the work efficiently. The target population consists of around 12 DNTs and 28 NTs with around 1000 settlements in may be around 400 villages across the 7 districts.
- Several Challenges
  - a. None of these volunteers have even cleared 10th grade
  - b. NGOs always have less resources then required.
  - c. The NGO doesn't have regional offices.
- Data Format for family profile
  1. Family's head
  2. Family member info and his/her relationship with head
  3. Which community does the family belong to?
  4. Identity documents in possession.
  5. Children in the family go to school or not. If yes which type, private or public?
  6. Homes (self/rented/waste land/RCC/mud house etc?)
- In addition requirements include
  1. Student profile in schools
  2. Donor profiles
  3. project profiles/timeline
- Mapping.
 

Stage 1: Social Mapping (overview)

Stage 2: Segment Mapping (zooming in))

Stage 3: Focus Mapping (zooming in further to the exact target groups)

Maps have to be re-validated every 6 months.

The graphic have to generate in relation to particular community and not district to taluka to village. Not the traditional way.
- Data format will have to be improvised in order to incorporate occupational data.
- The NGOs trains the community people in a number of disciplines that enable them to be self sufficient. So that's also a data to be taken care of.

The NGO works on identity issues for tribal communities, basically they survey about following matters.

1. Voter ID card:
  - Survey: A family has Voter ID card or not.
  - If doesn't have then gather info. About family like family head, no. of members in family, their relationship etc.
  - Then write an informal letter about this and send it to government officials (NGO keep 1 copy of this letter)
2. Ration card:
  - Find out the category of a family for ration card. APL, BPL or Antyoday.
  - Then they will survey for ration card and if family doesn't have ration card then write a letter in a similar manner (to gov.)
3. Residential land:
  - Do they have their own land or living on Gov. land? Has it been granted or illegally occupied?
  - Gov. Provides land/home to families which are in BPL category, so NGO write letter in a same way.
4. Home
  - Family have or not.
5. Child education:
  - Survey about education of children of these families according to their age (6-14)
  - Survey about drop-outs.
  - If there are a group of 10 families then NGO start kind of tent school for children (age 6-14 year) to make them capable enough so that they can get admission in Gov. School.
6. Occupation:

Programs:

- Housing project
- School project
- Advocacy
- Life skill development (organize workshops)

Currently, 5 coordinators are working for 1300 settlements.

### **Meeting no. 3:**

**Date:** 14th February, 2012

**Venue:** Main Office, Ahmadabad.

**Interviewee:** Raju Param

**Feedback from him:**

- Coordinators will be able to read and interact with Hindi but might not be able to in English.
- Fields of Family Form: Family Head Name, Number of Members, Number of Children, Number of Children in school, “Last migrated from” place, Traditional occupation, Settlement date, Community name, Daily income.
- Sometimes families upgrade the ration card category from BPL to APL.
- After the survey for ration card, NGO submits a report to Block level officer.
- The report contains village name and its location as heading, one column for family head name and one column for the ration card status.
- Similar report is submitted to Block level officer after survey for voter card.
- In addition to voter card and ration card, NGO also survey for Plot Card. They try to know whether the family lives in self owned or in government allotted or in government encroached plot. NGO creates a report similar to that of Ration Card, for the plot card as well. NGO submits plot card report to the Sarpanch of the village. NGO asks him for any wasteland so that it can be allotted to the family. The family is chosen on the basis of permanency, economic conditions, and time since settlement.
- NGO would like to do community wise analysis on serve side.
- Before block level meeting, NGO prepare analytical report of families on electricity status, no of handicapped, housing support, janni support, job card, loan application, plot application, toilet access, virudh pension scheme, water connection and widow pension scheme.
- The details of survey, NGO guys do-
  - First find out settlement in the village.
  - Observe Settlement.
  - Talk to Settlement’s Head.
  - Find duration of living.
  - Find out communities in the village.
  - Priority is given to voter card and ration card.

## Appendix B - Glossary

- **NGO:** Non-government organization
- **NIMS:** A project to enable a NGO carry out efficient information collection, visualization and interactive mapping in order to make well informed decisions and give out efficient work results.
- **FUNCTIONAL:** Relating to or based on function especially as opposed to structure.
- **ADMINISTRATOR:** A method of tending to or managing the affairs of some group of people (especially the group's business affairs).
- **COORDINATOR:** Personnel on the field who is going to conduct the surveys and use the android application to feed in information to the server database.
- **AUTHENTICATE:** Testing for genuineness.
- **INTERFACE:** A program that controls a display for the user (usually on a computer monitor) and that allows the user to interact with the system.
- **SYSTEM:** A set of things working together as a mechanism or interconnecting network.
- **CLIENT:** A person using services of a professional person or organization.
- **END-USER:** Users at the end-points or one using the ultimate product.
- **STAKEHOLDER:** Someone entrusted to hold the stakes for two or more persons betting against one another.
- **SERVER:** A computer that provides client stations with access to files and printers as shared resources to a computer network.
- **ATTRIBUTE:** A quality or feature regarded as characteristic or inherent.
- **LOGIN / LOGOUT:** Entering into and going out of the system.
- **DATABASE:** An organized body of related information.
- **QUERY:** An instance of questioning.
- **PROFILE:** An analysis (often in graphical form) representing the extent to which something exhibits various characteristics.
- **CAMPAIGN:** It is a term used for a settlement in a particular village, in a particular taluka and a particular district which is assigned while conducting/starting the survey for the settlement for the first time for any project.
- **SESSION:** In context of using the application features it means the specific duration for which the end user logs into the system and makes changes till the person logs out, manually or functionally.
- **ACTOR:** In use cases, it means the person performing the actions to run a certain functionality of the system proposed.
- **TRIGGERS:** In use cases, it is the action that triggers the start of the performance of a certain function or displays a particular view corresponding to a function.
- **VARIATIONS:** In use cases, it means the other possible flows of data leading from the same view or functions that would lead to the same use case.
- **NON-FUNCTIONAL:** In use cases, it means the implicit functionality that will be performed while performing the specified function along with its variations.



- **SETTLEMENT:** It is a term used for groups of families that settle in a particular village for some time or permanently, while the families who are a part of it may migrate from one settlement to another or even the settlement may migrate altogether to another village.
- **TIMELINE:** It is a feature which will enable the user to view the projects being conducted by the NGO and their progress chronologically in the form of a graph mapping a calendar.
- **GPRS: General packet radio service (GPRS)** is a packet oriented mobile data service on the 2G and 3G cellular communication system's global system for mobile communications (GSM). [as explained by Wikipedia.org]
- **NTs:** Notified Tribes
- **DNTs:** Denotified Tribes.