

Project Report:
Civil Society assisted grievance aggregation and
resolution using IVR and smart phones
Phase I

Aaditeshwar Seth
Dipanjan Chakraborty
IIT Delhi

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Chapter 1

Motivation

The Central and the State Governments in India run several social welfare programmes like the National Rural Employment Guarantee Scheme (NREGS), the Public Distribution System (PDS) and the Kanyashree Scheme. Often the beneficiaries are not able to air their grievances regarding gaps in delivery of these schemes owing to the lack of a proper grievance redressal platform. Web-based grievance portals are out of reach for many beneficiaries who are not connected to the Internet (or have very unreliable connectivity at best) and call centres have been found to have very poor usage besides being resource-intensive. In such a situation, beneficiaries often approach a Civil Society Organisation (CSO) to get the grievance registered and to follow up on the grievance. There are several CSOs in the country who assist beneficiaries in obtaining public services, and also help them in lodging and following up on grievances regarding these services. However, this is currently done in a completely ad-hoc and unorganised manner. Organising this process would be beneficial in several ways. For example, statistics on which departments attract more grievances, which departments resolve grievances actively and which parts of the country attract more grievances can help in understanding the nature of the public services and the nuances in their implementation. To consolidate and study the grievances and issues that the CSOs are dealing with, we are building a repository of grievances. We take advantage of the high penetration of mobile phones and the increasing presence of smart phones in India. Beneficiaries can call a number and record their grievances, while CSO volunteers can select grievances in their area of expertise and which they are willing to solve, either by calling into the same number or through an Android app.

In the first phase of this project we have designed the system, defined the scope and identified partner organisations that we are going to work with. In the rest of this document we present the motivation, design and implementation plans in details.

Chapter 2

Phase I: Scope and Design of the System

In this chapter we discuss the design and scope of the proposed system.

2.1 Scope

Gram Vaani is a technology for good start-up which runs a social media over IVR (Interactive Voice Response Systems) in several states of India called Mobile Vaani. Mobile Vaani handles several thousand calls (posts) each day. Several of these posts are grievances about bad delivery of public services. Currently, several Civil Society Organisations (CSOs) and volunteer groups attached to Mobile Vaani take up these grievances on their own and try to get them resolved, while, there are several other CSOs which receive grievances from beneficiaries *in-person* and take them up with appropriate authorities. Our system is an aggregator of such grievances which will help track the accountability of various departments, provide beneficiaries a channel to register grievances and help CSOs in handling grievances in a more organised manner.

2.2 Design

Gram Vaani has built a Case Management system over Interactive Voice Response System (IVR) which can be used by CSOs to track statistics on the grievances that they handle. The proposed system is a funnel for channelling grievances from beneficiaries to the appropriate government department for redressal through empowered CSO volunteers. A top-level overview of the system is depicted in Figure 2.1. The different stakeholders in the system are:

1. Beneficiaries who register grievances.
2. Civil Society volunteers who take up the grievances on behalf of the beneficiaries with the appropriate government departments and follow up on them
3. The government departments and officials who receive the grievances from the volunteers and act upon them. Higher government officials will be able

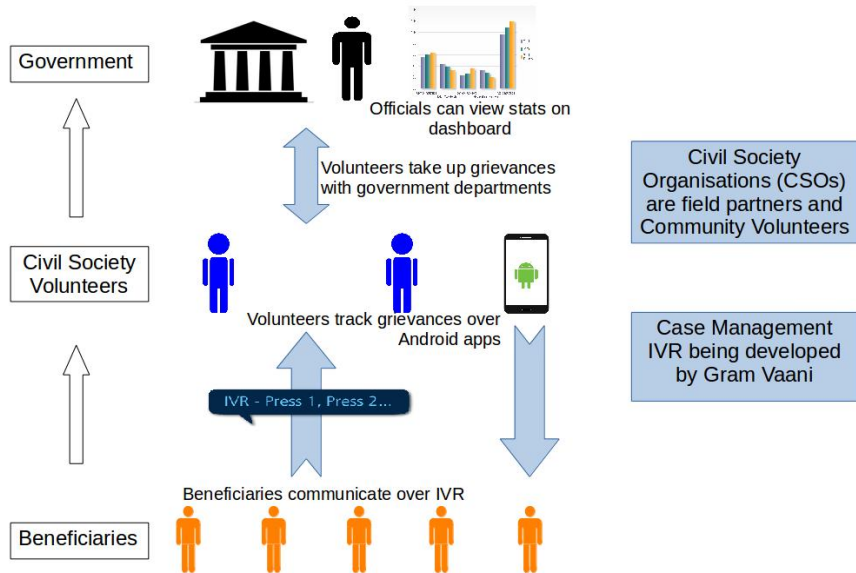


Figure 2.1: Top level System Design

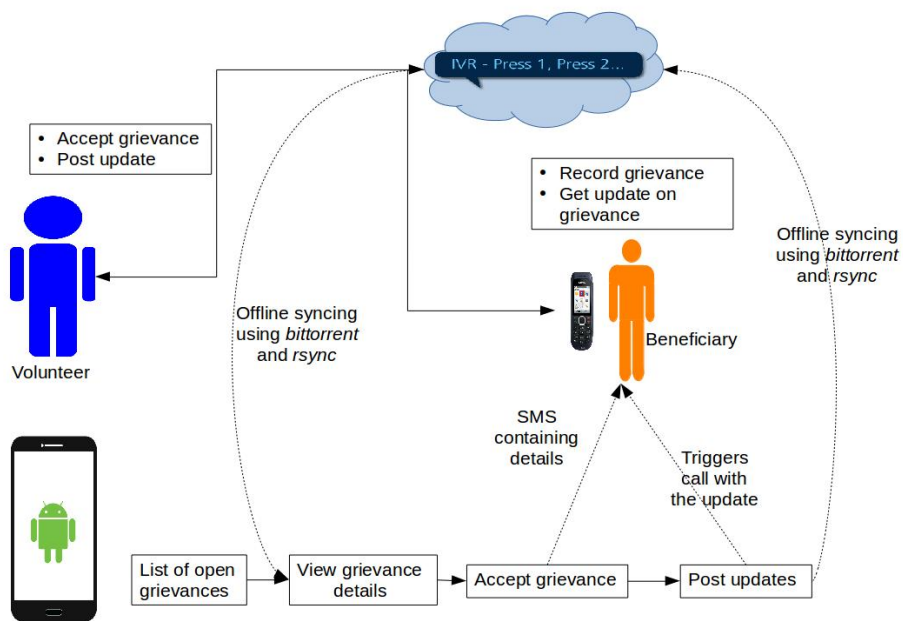


Figure 2.2: IVR and app workflow

to view aggregated statistics on a web dashboard (number of grievances filed and resolved by department, etc.)

The workflow of the system is shown in Figure 2.2. The beneficiaries can call a number and record a grievance. Volunteers working with the CSO can call into the number and listen to the list of open grievances and allot a grievance to themselves. They then follow-up on these grievances and record new updates on them on the IVR. Beneficiaries can listen to updates on previous grievances that they recorded and can talk to the volunteer who has been allotted her or his grievance over the same IVR system.

While IVR works well because the users (beneficiaries and CSO volunteers) are familiar with phone systems and because of the high availability of the system, there are disadvantages like high call costs and the linear nature of the IVR flow. With a growing market for low cost smart phones, it makes sense to experiment with smart phone apps to achieve similar or better levels of interactivity than on the IVR.

We are designing an Android app that can perform the tasks on the IVR, in a non-linear and more interactive format. The app communicates with the IVR backend through RESTful APIs. The app fetches the list of open grievances and displays it on the dashboard. Clicking on any of them displays the details about the grievances and the volunteer can listen to it. If the volunteer feels that he will be able to follow up on the grievance, she or he can allot the grievance to herself or himself through the app. In the menu showing the grievances allotted to her or him, the volunteer will be able to listen to all updates on a grievance recorded by her or him, and record new updates. In addition to the functionalities on the IVR, the app will also be able to display stats on the number of grievances filed and resolved, stats on which department attracts more grievances and which department is proactive in resolving them and stats on which area files more grievances. This information will also be available to higher government authorities through a web dashboard.

2.3 Field Partners

We are working with Gram Vaani and using their IVR systems. Gram Vaani also has an active volunteer network as a part of the Mobile Vaani deployments in Eastern and Central India which are active in grievance resolution. We are closely working with these volunteer groups to pilot the IVR and Android app. In addition, we are also talking to other CSOs across India which specialise in grievance redressal and might benefit by using our system.

Chapter 3

Phase II: Execution, Deployment and Results

In this chapter we list the work done so far and expected outcomes.

Besides the design and other ground work, we were able to do some development work:

- IVR: The Case Management System has been built and is in the testing phase
- IVR APIs: The app will communicate with the IVR using HTTP APIs. The APIs are currently being built
- Android App: The app is being built. Various modules are in place, and they will be integrated with the APIs when they are ready
- Network characteristics: One of the primary challenges for the app would be availability of good data network for communication with the servers, the area of deployment being largely rural. For small payloads we are using the Volley library and it looks promising, but Volley is not suitable for larger payloads. We are experimenting if established protocols like bittorrent or rsync can be integrated into Android apps for this use-case.
- Field deployment: We are talking to various groups which are pro-active in public services about the IVR and the app and some of them have expressed interest in using them.

On the successful completion of the pilot there are several interesting results which might be obtained:

- Comparison of ease of use of the offline grievance redressal methods versus the IVR versus the app. Task completion rates on these platforms. [From the perspective of intermediaries]
- Usability from the perspective of beneficiaries: submitting written applications versus calling into the government helpline versus calling into the Case Management System

- Volume of grievances submitted through papers, through the government helplines and through the Case Management System
- Rate of grievance resolution through papers, helplines and Case Management System
- Which government schemes or programmes or departments attract more grievances?
- Are less grievances for a scheme a result of the scheme working well or lack of awareness around the scheme?
- Do the volunteers prefer to use the app or the IVR for grievance tracking?
- Which mode of tracking grievances work better: paper or tech-based?
- Can we build pressure on the local governments by playing selected grievances on Mobile Vaani?
- How do large data payloads perform on normal data networks in rural areas? Do protocols like bittorrent or rsync solve these problems?

3.1 Timelines

In Table 3.1 we describe the timeline for completion of various stages of the project.

Month	Completion Goal
December 2016	Testing of IVR in the field
January 2016	Testing of app in the field
February 2016	Revision of IVR and app based on feedback from the field
March-May 2016	Deployment and data-collection from the field (interviews with beneficiaries, volunteers and officials)
June 2016	Analysis of the data

Table 3.1: Timeline for completion of various stages of the project