

Performance Evaluation of Corporators and Authorities based on Public Grievances Redressal

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Abstract

People in their day-to-day life face many general problems like damaged street lights, irregular water supply, blocked drainage connection etc. In these situations they complain to the concerned authority. If the complaint is unsolved, they complain to their area's representatives i.e. corporator. But in majority of the cases complainants don't get timely delivery of the solutions to their complaint and moreover authorities and corporators are neither made accountable nor answerable for it. Hence public grievances redressal is a major issue. Another important issue is that there are no quantitative measures representing a politician. If there would be any such metrics it would assist people in selecting suitable candidate in election and would also guide political parties in selecting suitable contestant for contesting in election. There are also no quantitative measures of government employees, which if exist would be used in providing promotions and increments. This work addresses these two major issues and provides solution for it. Android app is developed which evaluates Authorities and Corporators based on whether they have solved people's complaint and if solved how early it is solved. It provides evaluation in terms of score and rank. It also provides performance graph and statistical graphs.

Keywords: People, Complainant, Authorities, Corporator, Rank, Score, Performance, Statistics

Introduction

'Performance Evaluation of Corporators and Authorities based on Public Grievances Redressal' is an android

app which aims at providing timely delivery of solution to people's complaint and providing quantitative assessment of the concerned authorities and the area corporators based on how quick they solve people's complaint. Complaint registered by people are assigned to the designated officers, if they fail to solve, it will be escalated to the area corporator. Deadline will be fixed for each complaint, based on the stipulated time in the citizen charter. Designated officers and the corporators are evaluated based on feedback provided by the complainant which is in terms of number of days took to solve the complaint. Evaluation of designated officers makes them accountable for people's complaint, it also assists in measuring the performance of the respective departments of the designated officers. It also has impact on promotions and career trajectories. Evaluation of corporators facilitates people in selecting suitable candidates in election and also assists the political parties to select better candidates for contesting in election. App is also beneficiary in providing statistics about the major issues faced by people in certain locality.

Literature Survey

There are noteworthy works carried out in Public Grievances Redressal. Karnataka Guarantee of Services to Citizens Act, popularly called as Sakala (2011) (<http://karnataka.gov1.in/sakala-services/>) is a bill passed by the Karnataka State Legislature in 2011, to provide guarantee of services to the citizens of Karnataka state within the stipulated time limit. Basically 3 levels of officers are concerned namely, designated officers (level 1), competent officers (level 2), and appellate authority officers (level 3). The designated officers on receiving the service request by the citizens should register it and must issue the acknowledgement slip along with the unique

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complaint ID to the citizen. According to this act, if the designated officer doesn't provide service to the citizen within the stipulated time he is liable to pay compensatory cost to the citizen. If the application of the citizen is rejected or the service has not been delivered to him by the designated officer within the stipulated time, he can appeal to the next level officers i.e. he may file an appeal (Appeal I) to the competent officer within the time limit as mentioned in the Act. If he has not obtained the service even from competent officer he may file a second appeal to the appellate authority (Appeal II) within the specified time limit (Ranganathan, 2012). Ranganathan (2012) describes the system where people register complaints which are assigned to concerned authorities and are expected to be solved within stipulated time. Author has also generated reports for Bommanahalli, Byatarayanapura, and Mahadevapura over the period of August 2005 (when the system was first launched) to June 2007 (that is, 22 months) Ranganathan (2008) considers the risks involved in implementing formal complaint management systems. Author describes risks like exclusion of certain groups, or prioritisations of the complaints of certain groups over others are the major issues in bringing grievance redressal systems into force. Improvements in Public Grievances Redressal Systems of Urban Local Bodies (2014) (<http://www.umcasia.org>) is the grievance redressal system in Gujarat, which measures, monitors, and also tries to improve the performance of municipal water supply and sanitation services in 400 ULBs in the states of Gujarat and Maharashtra. In her study 'Public Grievance and Redressal Helpline in Karnataka', Mohan (2013) explains public grievance redressal in Karnataka. Complaints can be filed over phone or email or on paper, it is then registered by Helpline run by NGO using an online tool, which after registering generates a unique complaint number. This can be used to track the complaint. Simultaneously, it is posted to the concerned department in the ULB (Urban Local Bodies) for redressal. ULB staff can access the complaints by logging in to the system using their id and password. They are also expected to explain the redressal of the complaint. The tool prescribes a time limit of 72 hours within which complaints must be addressed. If a complaint is not addressed within this time, it will be escalated to the next level in the hierarchy and thus allow for a censure on the concerned staff. The censure usually reflects in the annual performance report of the ULB staff, in turn, impacting promotions and career trajectories. Furthermore, once the ULB staff updates the status in the tool, the staff in helpline will contact the complainant and

verify whether the complaint was addressed satisfactorily. It is only after obtaining the satisfaction of the citizen that the status of the complaint is posted as "closed" on the tool, else the Helpline staff will post the unsatisfactory redressal complaint status. Thus, the tool aims to ensure, through timely complaint redressal, accountability and efficiency of the ULB. Additionally, the tool generates a database of the problems faced by the city, the geographical location where it is faced and the redressal of it. This is used to generate bi-weekly reports and gives the status on the number of complaints registered, complaints addressed and those being processed.

There are quite few works carried out in evaluating politicians and advising whom to vote for. Gruder (2008) developed a Political Integrity Rating Tool (PIRT) which evaluates the political representatives based on their integrity. If a user needs to know about the integrity of a politician, he must answer 10 questions about that politician. The tool will automatically analyse ratings given by the user for those ten key political integrity dimensions. User results will instantly appear on the screen, it also provides the composite results of others who rated the same politician. For the PIRT tool to provide meaningful results, user should have enough knowledge about that politician so that he answers all the questions effectively. User's integrity in answering the questions is as important as the integrity of the politician they are rating. A paper by Merolla and Zechmeister (2010) evaluates the political representatives during the period of economic threat and times of terror. It considers 2 major aspects Incumbency and Partisanship. Author has considered the fact that the response of people during crisis depends on whether the crisis originates internal or external to the nation. If crisis is due to external threat, people are more likely to be in favour of incumbents. If the crisis is internal, then individuals will be against incumbent. There are many researches carried out in Voting Advice Applications with political science perspective (Chadjipantelis, Serdult & Triga, 2012). Largely as a result of their recent proliferation, much of this is aided by the rise of social media, as well as their potential to have an impact on electoral outcomes, Political scientists have largely taken up the research in Voting Advice Applications (VAA) (Cedroni & Garzia, 2010). Katakis, Tsapatsoulis, Mendez and Triga (2013) presented an innovation to current VAA design, by adding social networking element. Authors extend VAAs into SVAA by including community based recommendations, comparison of political opinions of the user and a channel for user communication.

Limitations of Existing Systems

1. All existing systems keeps escalating complaints to the higher level officers and the people representatives (corporators) are not taken into consideration. The complaints through corporators have more chances of getting solved than the complaint by lay man.
2. All the existing systems need human intervention either during complaint registration or while receiving feedback.
3. None of the existing systems are developed in the form of android app.
4. None of them provide evaluation of people representatives (corporators).

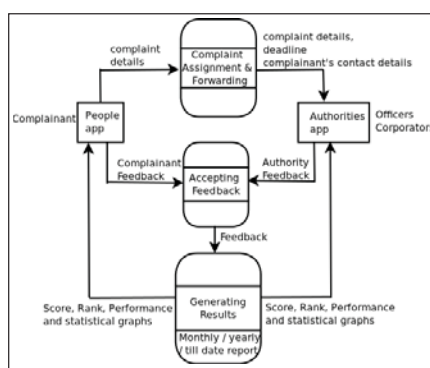
Problem Statement

It is aimed to develop two android apps one for people (People app) , another for corporator and officer (Authorities app) to provide quantitative assessment of authoritative officers and area corporators based on their performance in solving people's complaint. This helps people to get their problems solved in timely manner and also facilitates political parties in selecting better candidates for contesting in elections and assists people to select better corporators in elections.

Proposed Model

Figure 1 shows the proposed model. Two android apps are developed i.e. People and Authorities.

Figure 1: Proposed Model



From the android app “People”, people signs up into the app and create their account. They then can register the

complaints in different complaint types like Water, Roads, Sewerage, and Street Lights. Each complaints coming under different complaint type has pre-assigned stipulated time as depicted in citizen charter. Based on the stipulated time, deadline is fixed for each complaint and is assigned to the respective designated officer. People through their app can provide feedback in terms of days taken to solve the complaint if it is solved. They can also track their complaint which fetches them the contact details of the concerned person and date within which the complaint is expected to be solved. From the “Authorities” app, designated officers and the corporators login through their user id and password. They can get the list of complaints assigned to them along with the deadline of each complaint and contact details of the complainant. Once they solve the complaint they can provide feedback again in terms of days they took to solve the complaint. Initially the complaint is assigned to the designated officer. At the end of the deadline, if neither the designated officer nor the complainant provides feedback then it is assumed that the complaint is not solved and the complaint is forwarded to the corporator with double the stipulated time as deadline. But if within the deadline the designated officer provides feedback stating that the complaint is solved by him, then the People app alerts complainant to confirm about the complaint being solved. It waits for the complainant to provide feedback till the deadline. If the complainant provides feedback stating that the complaint is solved, their feedback is accepted and considered in evaluation. If the complainant provides feedback stating that the complaint is unsolved then the complaint is forwarded to the corporator. If the complainant doesn't provide feedback within the deadline then the feedback provided by the designated officer is considered in evaluation. In the same way the corporator can also provide feedback in terms of number of days taken to solve the complaint. If within the deadline both the corporator and complainant provides feedback, the feedback of the complainant has higher priority and that will be considered in evaluation. Feedback of the corporator are accepted and considered only when the complainant does not provide feedback within the deadline. If the complaint is not solved even after escalating the complaint to corporator, complainant can provide unsolved feedback. Unsolved feedback considers whether the corporator has at least responded to the complainant and if so whether the complainant is satisfied or not with the response. Hence unsolved feedback is provided in terms of three considerations namely, satisfied response, unsatisfied response, and

unresponded. Based on the feedback i.e. number of days taken to solve the complaint designated officer and the corporators are evaluated and a score is assigned to them. If the designated officer solves the complaint they are assigned a score of 100 else they are assigned a score of 0. Corporators are provided with double the stipulated time as deadline. If they solve the complaint within the first half of the deadline (i.e. 1 stipulated time) they are assigned 100, else 100 points is equally distributed over the remaining days (i.e. other half of the deadline) and each of the metrics considered in unsolved feedback (Satisfied response, Unsatisfied response, and Unresponded). For every extra day taken by the corporator to solve the complaint after one stipulated time, points are reduced from 100. Along with score and rank, performance graphs which represent the rise and fall in performance of officers and corporators are also given. It also provides statistical graphs which give the statistics of the number of complaints registered, number of complaints solved and number of complaints in progress in each complaint type and for each complaint under the complaint type. So the result consists of score, rank, performance graphs and statistical graphs. These results can be obtained as monthly report or yearly report or till date report.

Algorithms

Algorithm 1

Name: Complaint_Assignment_Forwarding ()

Input: complaint registration

Output: complaint assignment to officer and forwarding to corporator

Step 1: for each complaint registered

Step 2: assign unique c_id //complaint_id

Step 3: compute deadline using stipulated time in citizen charter

Step 4: Assign c_id to designated officer

Step 5:

for each complaint c_id

if ((complaint's deadline is elapsed) && (complainant's feedback is not received) && (officer's feedback is not received))

set deadline <- 2*stipulated time

forward complaint to corporator

else if(authority_feedback is received for c_id by OFFICER)

send push notification to complainant to provide feedback
if (feedback is received that the complaint is solved || no feedback is received till deadline)

accept authority feedback

if (feedback is received that the complaint is unsolved)

complaint forwarded to corporator

end if

Step 6:

if (authority feedback is received for c_id by corporator)

send push notification to complainant to provide feedback

if (feedback is received by the complainant)

accept the complainant's feedback

if (feedback is not received by the complainant before fixed time)

accept authority feedback

end if

end for

Algorithm 2

Name: Officer_Score ()

Input: authority_id, user_date

Output: score, rank

for each officer o_id

for each complaint c_id

if (stipulated_date < user_date)

if (feedback is received for c_id && its solved_byo_id)

score = 100

if feedback is not received for c_id || its not solved_byo_id

score = 0;

end for

end for

Algorithm 3

Name: Corporator_Score ()

Input: authority_id, user_date

Output: score, rank

for each corporator c

for each complaint c_id assigned to corporator c

if (stipulated_date < user_date)

if feedback is received for c_id

if complaint is solved

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if time_taken < stipulated_time
score = 100
else
deduction = 100 / (stipulated_time + 3)
score = 100 - deduction *
                    (time_taken - stipulated_time);
end if
else
if (response_type == "Unresponded")
score = 0
else if (response_type == "Unsatisfied Response") { score = deduction }
else if (response_type == "Satisfied Response") { score = 2 * deduction; }
end if
end if
else
score = 0
end if
end for
end for
    
```

Results and Analysis

Figure 2 and Figure 3 show the main screen presented in Authorities app and People app respectively, where the user can select desired option. People app provides the option to register complaint, provide complaint feedback, track their complaint, update their contact details, and check their area corporator's result. Authorities app provides option to access their complaint list, provide feedback, update their contact details and check out their results.

Designated Officer

Figure 4 is a graph of complaint versus score of designated officer. It shows the rise and fall in their performance. Figure 5 is a graph of complaint type wise breakdown. It shows the number of complaints registered in each complaint type and also represents number of complaints solved and number of complaints in progress. Figure 6 is a graph of complaint wise breakdown. It shows the complaint statistics of the complaint type pertaining to designated officer. For example, for the officer in Water department, it gives the complaint wise breakdown of the

Figure 2: Main Screen of Authorities App

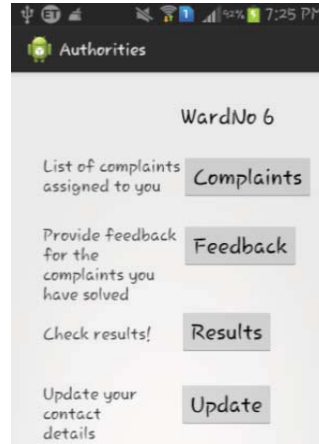


Figure 3: Main Screen of People App

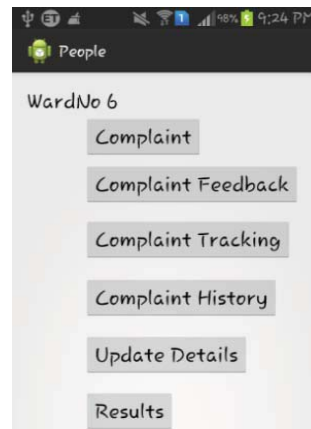
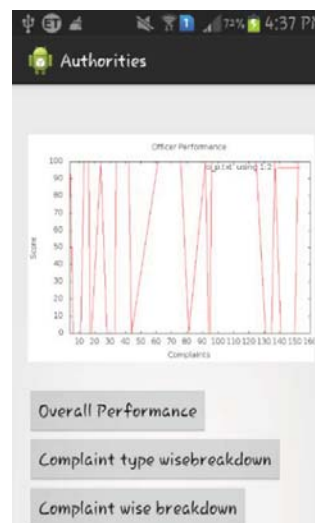


Figure 4: Officer Performance



complaints coming under Complaint type Water category and so on.

number of complaints registered, solved and in progress in complaint type Water, Sewerage, Roads, Street Lights from their ward. Figure 9 through Figure 12 represent the complaint-wise breakdown of each complaint type.

Figure 5: Complaint Type Wise Breakdown

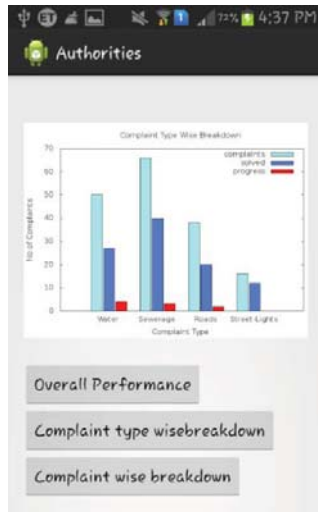


Figure 6: Complaint Wise Breakdown

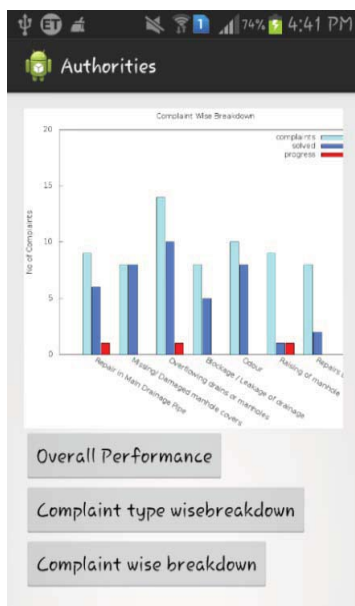


Figure 7: Corporator Performance

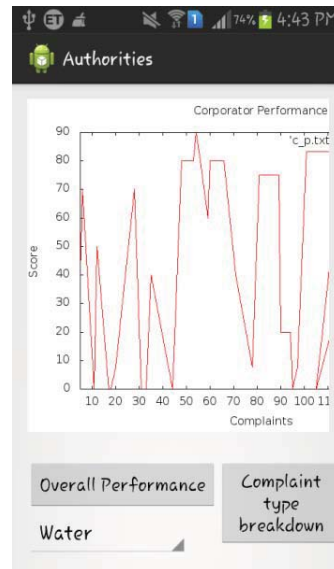
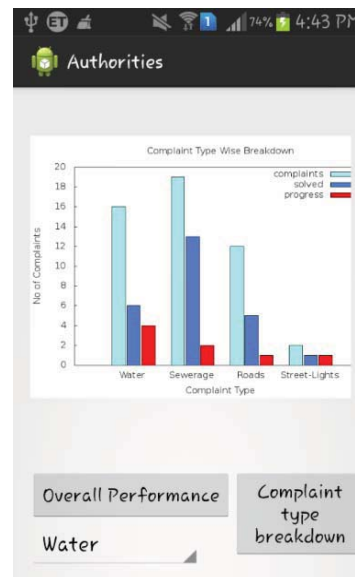


Figure 8: Complaint Type Wise Breakdown



Corporator

Figure 7 represents the performance of the corporator which is a graph of complaints versus score.

Figure 8 represents the complaint type wise breakdown of the ward of the respective corporator. It shows the

For officers, complaint-wise breakdown of the complaint type to which they are responsible, of all wards is given whereas for corporators complaint-wise breakdown of all the complaint types in their ward is given

Figure 9: Complaint Wise Breakdown-Water

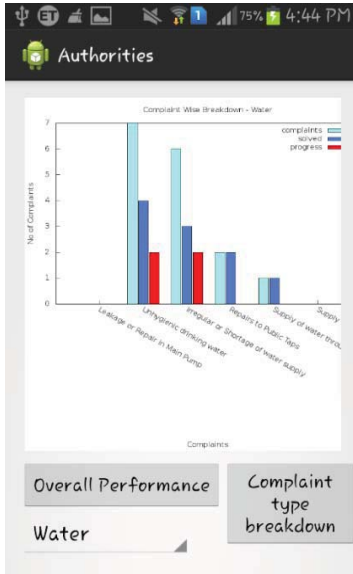


Figure 11: Complaint Wise Breakdown-Roads

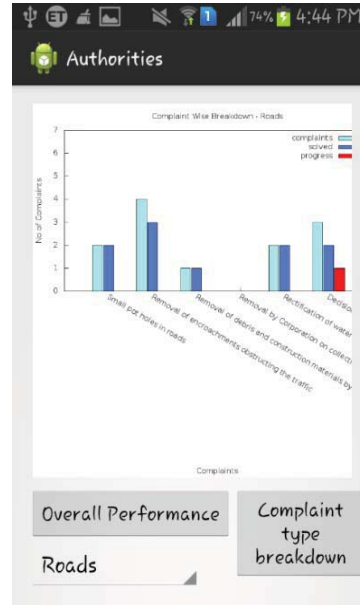


Figure 10: Complaint Wise Breakdown-Sewerage

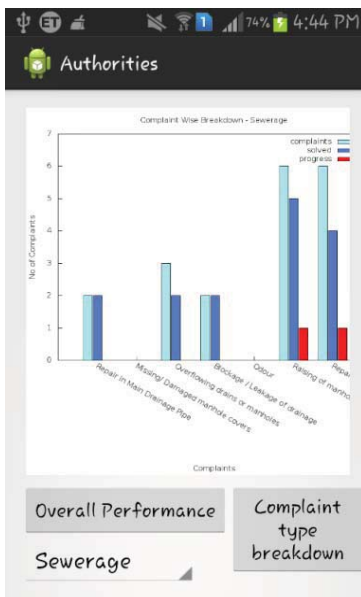


Figure 12: Complaint Wise Breakdown-StreetLights

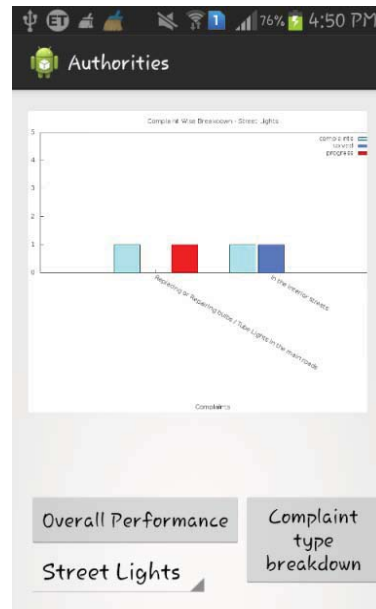
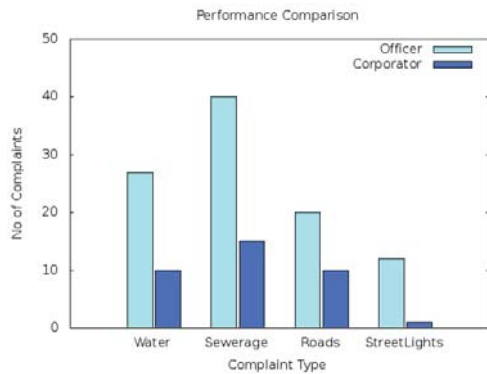


Figure 13 shows the comparison between officer and corporator. It shows the number of complaints solved by officers and those solved by corporator

Figure 13: Performance Comparison of Officer and Corporator

Conclusion

In this work, an android app has been developed to evaluate the performance of corporators and authorities based on public grievances redressal. Since there is no manual intervention in escalating the complaints, neither officials are responsible for escalating the problem nor people are expected to move to next level officers with the previous acknowledgements. It helps redressal of people's complaint in timely manner and is also a step forward in making officers and corporator more accountable and answerable to people's complaint. Results show that this app rates political representatives and authorities accurately which can further be used by both people and political parties to select better candidate in election and to select suitable candidate for contesting in election respectively.

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