G2C Factor Based Rating System

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Abstract — **The development of the city where citizens are living in, is important in all aspects. The standard of the city can be evaluated on various factors and services which the citizens of that city enjoy. The system helps citizens to rate their cities and location on various factors. These ratings given by the citizens of that area will help government bodies to allocate the budget and resources for those areas where there is a high need. The system taking into account various factors like General Cleanliness, Public Parks, Drainage System, Availability of dust bins, Availability of essential services, Rain water harvesting, Availability and maintenance of footpaths, Road conditions, Constructions and maintenance of bus stops and auto stands, Availability and maintenance of health centers which allows citizens to rate their experience on number scale for these factors. The average rating for each factor will be calculated on the basis of category wise, district wise, area wise, gender wise and age wise. Based on these average rating the overall rating area will be decided. The area which score low in overall rating will be given a priority by government bodies for allocation of budgets and resources. By giving a proper user name and password the registered citizens can log into the system and rate their cities on category wise by providing valid identification number which is provided by the government like voterid, adhar card number, pan card etc.**

Index Terms — **E-Governance, Factor Based Rating System, Citizens Unique Id, District and Area Id.**

I. INTRODUCTION

The G2C (Government to Citizens) Factor Based Rating System is a web portal which helps citizens to rate their cities and locations on various factor to improve budget and resource allocation and even development of the city in all aspects. In order to improve any particular area the problem should be identified by municipality office of that area based on the problem the action will be taken. Consider an example as per the government rule each area should have a basic facilities which is essentially needed for the publics who are all living in that area.

The basic facilities which are needed for the publics are as follows, The area should have a proper roads, public parks, footpaths, drainage system, rain water harvesting, proper bus stops, auto stands, health care centers and last but not the least the area should be clean. In order to maintain above mentioned facilities government release tender every year. Based on the tender particular area taken into consideration for the improvement only when a particular municipality approach to government. It will take a longer time to solve a particular problem of any particular area.

The above problem can be solved by following the given steps which is implemented in the current system. In order to identify any particular problem to government citizen is the main person who know well about their area where they are

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living. They can share their experience by rating municipality with the help of questionnaires which are categorized department wise.

The questionnaires are categorized into 9 types and each category contained 10 questions along with the rating in 1 to 5 scaling. Each questionnaires are related to particular department.

II. THEORETICAL BACKGROUND

The E-governance can be defined as "a government structure which is efficient and effective and is duly controlled by citizens" (Bedi *et al*, 2001). Perri 6 (2004) states e-governance tools can "be used to sustain the important elements of accountability and tension that a liberal democratic order requires".

On the other hand, *e-government* means "exploiting the power of information and communications technology to help transform the accessibility, quality and cost-effectiveness of public services" (Office of the Deputy Prime Minister, 2003). E-government also relates to the relationship between citizens and those in power. To increase accountability and empowerment, the use of e-government is vital, in order to achieve citizen participation.

The topic of e-government and e-governance has become increasingly acknowledged over the last few years, and many governments desire for online services.

Since the publication was released in 2002, the Office of the Deputy Prime Minister has gained success in promoting e-governance. This report aims to emphasize such success over the last few years with reference to investment from efficient use of e-Governance in programs. The importance of e-Governance is not limited to these years but for the future also [1].

The work achieved by the Pacific Council aims to improve leadership across the western United States and the Pacific Rim. The report contains useful definitions of e-Governments to "promote more efficient and effective government" through the use of ICT. The process of 'e-evolution' is crucial in understanding how e-Governments work [2].

There are fifteen member states included in the documentation. This survey aimed to document the degree of internet use for e-Governance in the Pacific states. The survey contains issues that the Pacific states have to deal with; the issue of access is still a problematic feature. The majority of the states acquired their own websites [3].

The report on the pilot project in Tanzania includes objectives, sustainability and conclusions, with recommendations. The two computerization projects took place in Tanzanian villages. Objectives of the projects incorporated access to information and provision of services to improve governance. In partnership with COSTECH, administrations within Tanzania aim to provide training and the use of equipment. Administrations of simple databases and statistics have been incorporated. E-mail systems and software have been set up [4].

The United Nations have devised a presentation of slides, related to e-Government within administration. The slides give a historical perspective of electronic use. The slides are basic and provide an overall summary rather than a detailed account [5].

This useful website aims to support local governments in order to promote sustainable use of electronic services. The website is also used by organizations and promotes good practice for digital use. The website intends to combine experience of past projects for all local governments to aspire to. Strategies and recent reports are included. The strategies page gives an overview of the strategies over the last three years, with reference to white papers and policies [6].

Picci comments on the model on e-Government relationships, policies and time. The article outlines mathematical equations. Investment of e-Government can only take place if they "are accompanied by appropriate complementary interventions" such as training and management [7].

III. OBJECTIVE AND METHODOLOGY

A. Objective

The main objective of G2C Factor based rating system is to identification of the cities for the improvisation by considering an average rating which is given by the citizens on various categories of questionnaires. The questionnaires are framed on various factors like general cleanliness, public parks, drainage system, rain water harvesting, availability and maintenance of footpaths, road conditions, constructions and maintenance of bus stops and auto stands, availability and maintenance of health centers. By considering all the questionnaires an average rating can be obtain category wise, district wise, area wise, age wise and gender wise in the form of graph. Based on the graph final result can be consider which particular city has less rating on what factor and also which city has good rating under what factor. With the help of ratings which are given by citizens a lower rating cities can be taken into consideration for improvisation and also concern department officer can request the government to release tender for improvisation of that particular city.

B. Methodology

Survey Monkey: Survey Monkey is an online survey development cloud based company, founded in 1999 by Ryan Finely. Survey Monkey provides free, customizable surveys, as well as a suite of paid back- end programs that include data analysis, sample selection, bias elimination, and data representation tools.

Survey Monkey provides data collection, data analysis, brand management, and consumer marketing for Facebook, Samsung and Kraft Foods. As of 2015, Survey Monkey has 25 million users completing 90 million surveys a month. The company was named to Forbes Unicorn List in 2015.

Random Stratified Sampling Method: Random Stratified Sampling Method is one form of the general set of sampling procedures referred to as probability sampling.

Sample: It is a collection consisting of a part or subset of the objects or individuals of population which is selected for the purpose, representing the population sample obtained by collecting information only about some members of a population.

Sampling: It is the process of selecting a sample from the population. For this population is divided into a number of parts called Sampling Units.

Tab I Random Stratified Sampling Method

Population	All people in the Bangalore district.
Groups	4 Zonal district in Bangalore (Bangalore East, Bangalore West, Bangalore North and Bangalore South)
Obtained Random Stratified Sample	Around 100 people from each of 4 zones.
Sample	100 x 4 = 400 selected people.

The above Tab I shows random stratified sampling method which is obtained by considering 4 criteria such as population of Bangalore city from 4 zonal districts such as east, west, north and south. The random stratified sample is obtained from various zonal districts of bangalore and the sample is calculated based on the selected people responses.

Survey Findings: The ratings are received from Survey Monkey from various referrals such as Facebook, Web link and Email. The questionnaires are categories into nine types such as General Cleanliness, Road Conditions, Availability and Maintenance of Public Parks, Availability of Auto stand, Availability of Health centers, Construction and Maintenance of Bus Stops, Drainage system, Rainwater harvesting.

For each questionnaires the user responses are taken into consideration in order to identify which questionnaire got highest rating on which factors and also to identify which questionnaire got lowest rating on what factor.

From Survey responses around 42.86% respondents are agreed their area cleanliness is good, around 38% respondents are agreed their area cleanliness is average and 14.29% respondents are agreed their area cleanliness is bad and around 4.76% respondents are agreed there are cleanliness is very bad. From survey responses around 55.71% respondents are said after cleaning house waste materials they keep it in dust bins and around 9.57% respondents said after cleaning house waste materials they throw outside the house similarly for each questions in the questionnaires the viewer responses are depicted in the diagram with the help of pie chart and bar chart.

From the Survey Monkey for each questionnaires the responses are as follows for General cleanliness questionnaire approximately 21 responses are received, for Construction and Maintenance of bus stops around 11 responses are received, for Drainage system around 5 responses are received, for Rain water harvesting around 6 responses received, for Availability of Health center around 5 responses are received , for Availability and maintenance of footpaths around 9 responses are received, for Road condition around 4 responses are received, for Public parks around 6 responses and Availability of Auto stand around 7 responses are received. The responses are taken into consideration from each referrals such as facebook, web link and emails. For each

questionnaire the responses may vary day by day depending on the viewers.

IV. ANALYSIS AND INTERFERENCE

By implementing a real time project many disadvantages mentioned early can be rectified. Nowadays it is very important to know citizens about their place where they are living. This paper is done by considering citizens rating which are given for the questionnaires. The project helps citizens to rate their cities and location on various factors. These ratings given by the citizens of that area will help government bodies to allocate the budget and resources for those areas where there is a high need.
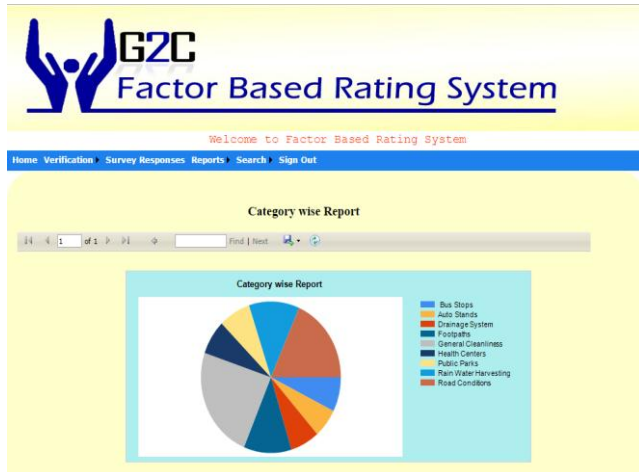

Fig 1 Categorywise rating report

The above Fig 1 shows Categorywise rating report. The graph shows all 9 category questionnaires types and rating. Each color in the graph indicates questionnaire categories and their corresponding rating which are received from users. As per the responses more ratings are given to general cleanliness and less ratings are given to drainage system.

Fig 2 District wise rating report

The above Fig 2 shows District wise rating report which are received from various bangalore zones such as bangalore east, west , north and south. Each color in the graph district names and their corresponding ratings. The table indicates total ratings given for questionnaires from various districts of bangalore.

Fig 3 Age wise rating report

The Fig 3 shows age wise rating report which are received from various age group for the given questionnaires. As per the report more ratings are received from age group 25 to 26.

Fig 4 Gender wise rating report

The above Fig 4 shows gender wise rating report which are received for various categories of questionnaires. As per the report more ratings are received from male gender.

V. CONCLUSION

The "G2C Factor Based Rating System" is a web portal which makes users to rate their cities in an efficient way. User friendly screens are provided for better performance. The usage of software increases the efficiency, decreases the effort. The admin can update the site and keep track of all the users. This web portal is useful in the society which enables all the users to use this service in an easy way. The user can make use of this web portal instead of visiting to the municipality office to complaint against their cities.

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