

E-Panchayat using Data Mining

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Abstract—Data mining is a process that is used to convert raw data into useful information. This information can be used to make meaningful decisions about a subject of interest. This paper presents a model for analyzing data from a village by discovering patterns and correlations within large data sets of a village that can be used to predict outcomes which will be helpful in deciding schemes for the village and better governance. Here sample data sets similar to original village data are used and analyzed. In this system linear regression and cluster analysis techniques of data mining is used for prediction and control of resources for future use and manage existing resources. Also, there is a lot of time wasted in completing the paperwork in a Village Panchayat.

Key Words—Village, Village Panchayat, Dataset, Information, Data Mining, Decision making, Data Analysis, Prediction, E-Governance.

1. INTRODUCTION

A Village Panchayat is a local governing body for administration in rural parts of India. E-governance is an electronic means that has applications which acts as a mode for interactions between government and citizens. Many developing country governments face these problems of inefficiency, internal and external communications breakdowns, poor service delivery, and corruption. There are many projects that have aimed of developing an E Gram Panchayat system. There is a lot of data in a village that can be analyzed digitally using data mining techniques which can provide us with valuable insights of the current situation of the village and can help to take decisions based on the need of the hour. Data sets containing population count, garbage consumption, water consumption can be analyzed to properly monitor the use and wastage of resources and waste management.

Implementing a centralized system which will be online to be accessed via internet which will be safe & secure, having single version of updated data with multiple access that can be accessed anytime

anywhere. With a feature of displaying data in the form of a graph. It will also have features such as

tracking applications with auto reminders & notifications, login access to staff and various stakeholders, online receipts, inward/outwards and easy plug n play of other integrated systems can reduce a lot of time of people who have to go through lengthy paperwork for applying for certificates, NOCs, permissions, licences etc. In this paper we have combined the approach of having a paperless village.

2. LITERATURE SURVEY

E-governance and E-services in India [1] ensures accountability activities and service response to be transparent. Also focuses on uniform growth and development of e-services in each sector & state of country. It uses big data analysis as its technology.

E-Gram Panchayat using ICT [2] is for villagers those require documents from gram panchayat, can apply online as well as on an android application. It uses technologies such as SQL server 2008 R2, Android, Firebase.

E-Gram Panchayat Management System [3] used for monitoring Gram panchayat activities. Anyone can access and public can search provided information regarding gram panchayat at any time.

Survey on Different Data Mining Techniques for Prediction [4] focuses on different data mining techniques that are useful for predicting student performance.

Data Mining concepts and techniques [5] aims to extract and mould useful information into understandable structure which can be used for future needs.

E Governance [6] is to outline an effective enterprise architecture framework and an innovative technological solution that can serve as the common platform for provision of all government services to the citizen of India.

Cross Platform Development using Flutter [7] ensure that we believe we have a solution that gives you the best of both worlds: hardware- accelerated graphics and UI, powered by native ARM code, targeting both popular

mobile operating systems.

Cost effective solution for effective e-Governance-e-Panchayat [8] main idea is if the administrative processes are streamlined and resources are conserved and citizens are empowered with efficient and responsive local administration at every village.

E-gram panchayat management system [9] published in the year December 2018 is aimed at the developing an E-Gram Panchayat Management System. It is an online based application that can be accessed throughout the internet.

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In our survey, we found 10 international papers out of which we have seen many technologies such as big data analysis, SQL server 2008, android, firebase.

3. METHODOLOGY

Linear regression is one of the simplest form of regression which attempts the model by showcasing relationship between two variables and it does so by fitting a linear equation to observe the data. The outcome of this linear regression is considered as linear model if it is a straight line and it is a non-linear model if it is curved line. The straight line helps in giving relationship between dependent variable and it contains only one independent variable.

$$Y = \alpha + B X$$

Model 'Y', is a linear function of 'X'. the value of 'X' changes when The value of 'Y' increases or decreases in linear manner. Regression is a data mining technique which is used to predict a range of numeric values (also called continuous values), given a particular dataset. For example, regression might be used to predict the population count, resources available, resource used by people and various other future prediction and statistics.

4. PROPOSED METHODOLOGY

Linear regression quantifies the relationship between one or more predictor variable(s) and one outcome variable. For example, it can be used in count of age, gender, and resource (garbage, water, etc.) count on resources available. Linear regression is also known as multiple regression, multivariate regression, ordinary least squares (OLS), and regression. It's carried make sure that the data you want to analyze

can actually be analyzed using linear regression. This can help us detect sacred resources of the villagers and implement ways to maintain the resources for our next generations.

5. CONCLUSION

In this paper we examined different data mining techniques for the analysis of village data. We performed a analysis using linear regression and clustering techniques. It was observed that the data which is analysed using linear regression and clustering if used in proper way can be effective in prediction of resources for future and grouping of entities can be best carried out using clustering.

6. REFERENCES

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