

E-Governance using Sentiment analysis

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ABSTRACT

One of the challenges in delivering e-government services is to design the Web sites to make it easier for citizens to find desired information. However, little work is found to evaluate e-government services in this sense. In addition, current efforts on government Web site design mainly concentrate on Web site features that would enhance its usability, but few of them answers why some Web design is better than others to facilitate citizens information seeking. This project aims to contribute to both aspects: it equips government agencies with a model that can not only evaluate their Web-based e-government services, but also helps them understand why their Web sites succeed or fail to help citizens find needed information. In addition to the model itself, instruments for applying this model are also developed.

Keyword: - e-government, Sentiment Analysis, Naïve Bayes.

1. INTRODUCTION

One-Stop-Government refers to the integration of public services from a citizens or customer of public services-point of view. Online one-stop government allows citizens to have 24 hours access to public services from their home or even on the move. Currently however online one-stop government is at its first only steps. Ideally, online one-stop government requires that all public authorities are interconnected and that the citizen is able to access public services by a single point even if these services are actually provided by different departments or authorities. Furthermore, that the citizen is able to access these services in terms of life-events and without knowledge of the functional fragmentation of the public sector. For example, getting married is a life-event and ideally the citizen should have been able to electronically handle all interactions with the public sector.

1.1 RELATED WORKS

According to the European Commission the issue at stake is not that Member States should produce more Information, but that the information which is already available to the public should be clearer and more accessible to potential users. The e-Europe 2002 Action Plan suggests: e Government could transform old public organisation and provide faster, more responsive services. It can increase efficiency, cut costs, increase transparency and speed

up standard administrative processes for citizens and business similar project was implemented in us on small scale basis. Which was not that successful. Also following UK countries like France also tried the similar concept. In India also official government websites are present .But only information about schemes are present not all the forms and detail procedure.

2. PROPOSED SYSTEM

Portal for Government Schemes that implies to develop an online application for citizens through which citizens can know different schemes that are provided by government and they can apply for those on same portal submitting required documents .The citizens can register on this portal and get the confirmation and notifications through sms and email.

3. SENTIMENT ANALYSIS

Sentiment analysis is a task that involves information extraction from customer feedback and other authentic sources like survey agencies. As the word suggests it includes detecting sentiments of any individual from the text that is writes in digital format. There are a wide array of applications of this concept. This concept became centre of attention since industry got revolutionized with the change in paradigm of Seller's Market to Buyer's Market in order to capture market share.

3.1 Classification

Classification is a stage in sentiment analysis that can described as a process in which we predict qualitative response, or in this case we classify the document into its polarity. Predicting a qualitative response of a document can be referred to as classifying the document since it involves since it involves assigning an observation to a category or class. There are many possible classification techniques, or classifiers that one might use for to predict the qualitative response or class of a document. In sentiment analysis some widely used classification techniques are as follows:

- Nave Bayes Classifier
- Max Entropy Classifier
- Boosted Trees Classifier
- Random Forest Classifier

3.2 Naive Bayes classifier

Naive Bayes classifier is based on Bayes theorem. It's a baseline classification algorithm. Nave Bayes classifier assumes that the classes for classification are independent. Though this is rarely true Bayesian classification has shown that there are some theoretical reasons for this apparent unreasonable efficiency. There are various proofs that show that even though the probability estimates of Nave Bayes classification are low it delivers quite good results in real life examples. Nave Bayes just over estimates the class that certain object belongs too. Assuming that we are using it only for making decisions (which is true in case of sentiment analysis problem) the decision making is correct and the model is useful.

4. IMPLEMENTATION USING NAIVE BAYES

We have used Naive Bayes Algorithm for implementing problem described above. The Naive Bayes algorithm was best choice for described problem because of its simplicity, performance, accuracy, memory requirement and other applications. Here the concept used was 'Bag of Words' - it is a simple collection of different words which are frequently used in comments such as good, bad, useful, etc. We have used a database including all such words to compare. There are two sets positive words and negative words. Whenever the user post a comment on the web page the comment is split into different words. The database words are called as 'Training set' while words in comments are called 'Test set'. Both training set and test set words are saved in an array. These test array is compared with

positive word array and negative word array. Whether the words match with positive or negative array if found and thus the nature of comment is decided. e.g.: if "good scheme" is users comment then it is split into 'good' and 'scheme' words and stored in array. Later it is compared to database arrays, it will match with positive word array. Thus we can conclude that comment is positive regarding that scheme. Note that the collection of words in the bag are discarding grammar and order of words but keeping multiplicity. The most important and useful advantage of Naive Bayes is probability. And we can find the feasibility and usefulness of the scheme can be determined by calculating the probability of comment to be positive or negative.

4. CONCLUSIONS

Opinion mining is a rising field of data mining used to extract the knowledge from huge volume of online resources like consumer interpretation, feedback and reviews on any product or topic etc. A lot of work has been conducted to mine opinions in form of document, sentence and feature level sentiment analysis. Sentiment analysis helps in determining the attitude of people regarding various contexts, products etc. This paper basically discusses the sentiments of the citizens regarding e-governance projects. The E-Governance plans benefit at wider level from villages to cities. We have discussed how opinion mining techniques help in recovery of information and relationships from textual data sources, thereby support policy makers in discovering relations between policies and citizens. We present here, methodology of using opinion mining for e-governance decision support. We have tried to find out the reviews of different people regarding the upcoming Schemes provided by government. Our concern was to know whether the E-Governance is acceptable by the mass or not, and tried to know their expectations in this field.

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