

# Recommendation System based on Opinion Mining using Hadoop

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**Abstract-** In a function democracy there need to be a competent and useful implementation of multiple bills is needed on the large scale bases the bills are very much part of the democracy of country and create laws for effective administration there is trend in multiple bills where citizens need to know exactly what that bill represent. We see multiple bills being passed with no consequence and the citizen is completely not aware of what a particular bill exactly means hence our product deals with what the bill is, its implementation and the information that needs to be known by the people the resultant product is a informative portal which introduce to the people the bills and information of the product help government to know public opinion for particular bill and helps to creates viable and systematic plan of action this is the most requirement in any democracy function in a better manner by educating the people.

**Keywords-** Democracy, Bill, People, Opinion

## I. INTRODUCTION

Democracy is sustained when people know information that is of at most information and can provide opinion in dynamic manner there is need for government to understand requirement and opinion of masses[1]. This helps the government the need requirement of the people and can go long way to create value and pass the bills which are backed by masses. Formal governments needs this kind of portal to get an give preference to the bill[5] which are at most importance and bring loyalty an recognition for the government the implementation using portal is better and gives realistic expectations and implements in comprehensive manner this tool creates developmental stage to determine the people can be made to use and to govern in a better manner using the web based portal creates the opportunity for the people to easily use an deliver their expectation in easy manner[2]. The basic analysis reveals the urgent requirement of the tool effectively know how impactful are the bills to particular person or people.

## II. REVIEW OF RELATED LITERATURE

### A. Review on Bills

In recent years bills have been pass by government according to the views of parliament[7]. Being a socialist Page | 1500

population these bills need to be made public by citizen and give opinion. A bill is nothing but a proposed legislation by legislature[5][7]. A bill does not become law until it is passed by law and in most case approved by legislature[5]. Once the bill has been enacted in law is called an Act[6]. Multiple bills which are seen in parliament are created by the assembly these bills need to be examine and given to the people for its understanding[5].

### B. Conceptual framework

There are several factors that relate to bill being passed[7]. Some bills are beneficial for country and these need to be passed quickly[5]. While there are no need to pass while there some bills which are old an obsolete new bill need to be changed and new bills need to replaced. Understanding what exactly the bill is utmost important and product exactly do this. The bill typically passed by the legislature usually require a president of government legislature's signature [5][7]. This bill when signed by competent authority becomes a law. The people get to know when particular bill get signed and come into law. This can create problem for the masses who do not agree with that bill. It is better that the government consider about the bill and then with the sign of president enforce the law[7]. Typically the approval by president is formality it is better. The opinion of masses are considered, an act is typically promulgated by being publish in official gadget.

## III. RESEARCH METHODOLOGY

Using a random sampling technique the data was collected form the participant the republic of India. 60 citizens of the country of India took part in this study multiple requirement of this product were seen when people were asked the questionnaire was prepared to see if the requirement of the product is there or not an expert from industry was ask to critically evaluate questionnaire with regards to the objective[1]. contents and in addition to the prior study to determine the response of the people in Pune for this kind for responsive an thought provocation product[2].

### A. Trends observed in India

Given increasing significance and visible impact of bill (laws) in wealth creation in business ,in public life, we considered the subject of immense importance of India’s growth and development this studies explore factor[7] that need to be consider for smooth govern an passing of bills the methodology adopted for exploration includes structured one on one interview with citizen and other stakeholder in our country most citizen where and shown immense enthusiasm for the product and were interested for the use[2].

#### IV. DISCUSSION

The discussion comprises of requirement the review and opinion of the citizen in context of particular bill. In order to achieve high level of governance while creating such product the people need to explore the bills and give adequate and authentic reviews so that the government can capture and use this analytics for better performance in the implementation. Due to this technological era the government must know what needs to be done to gain people approval. In a layman term satisfaction on citizens end, In terms of the bill, its implementation, its effectiveness has to meet the citizen satisfaction[1]. This study was undertaken to create better understanding on the intention of using such web portal and how that intention transform into action. The result of study indicate that the factors affecting the intention usage are highly reliable due to advancing technological era[2]. As an overall result intention of using the portal affects the actual usage and that ultimately leads to better governance

Majors	Items	Frequency	Percentage (%)
Citizens	Full time	10	50%
	Part time	10	60%
	Free	5	80%
Highest Qualification	Degree	10	70%
	Diploma	12	85%
	Other	3	40%
Frequency of usage	Less than an hour	7	20%
	1-2hrs	8	33%
	2-3hrs	10	20%

Table 1 Survey on frequency of usage

In this survey lawyers are more probable to use this portal multiple time to check new laws which are passed.

But it's better with the focus of multiple citizens.

#### A. Existing related Systems

The following list showcases examples of some of the more prominent efforts to engage citizens in the parliamentary legislation processes using web-based technologies and online platforms

- The “e-Democratia platform” in Brazil is a simple web-based tool that allows citizens to interact with lawmakers on specific issues, helping to connect Brazilian citizens to national lawmakers across thousand miles of geography. Citizens can use the portal and social media to engage congressmen, markup legislation, and propose and debate solutions to policy problems .
- The “Rahvakogu project” in Estonia is an online platform for crowdsourcing and proposal to amend several laws aimed to improve Estonian democracy. It was created by the President of Estonia .
- The “Investing Finland again” project was aimed to test if and how citizens can meaningfully contribute to a law-making process

#### VI. TECHNOLOGIES

##### A.Hadoop

To handle these huge amount of data , we require a robust system. Now the question remains: How do we analyze that amount of text data? The most popular answer to this is: Hadoop framework. Hadoop is an open-source framework for developing and executing distributed applications that process very large amount of data[6].Hadoop provides its own file system called HDFS (Hadoop Distributed File System). When we deploy our text data on Hadoop file system, Hadoop distributes all the data in different clusters and performs operations parallel. Hadoop also keeps multiple copies of data in case of hardware failure.HDFS represents data in the pair of {key, value} associated with specific key. Here we have data in the form of text then each word can identify with a key and its associated value represent its weightage or occurrence in the whole dataset. Applying the concept of map reduce where mapper class work as partitioner and reducer class work as combiner[6] .

#### VI. SYSTEM ARCHITECTURE

Main Perspective of the system is to view all the BILLS and SCHEMES. Use of Hadoop concept is to store large data and process on that data using Sentiment analysis using NLP.

Expected output will be of the same as per the input given by the admin, as adding the new schemes and policies on to the portal.

User is able to view the comments of all the users that has been commented. Graphical Analysis of the comments is as per the positive negative or neutral.

There will be mainly 2 user roles :-

1. Admin
2. User (People)

1. ADMIN ROLE:

Admin is the member of the government who is able to add the new schemes on the government Portal. Admin has all the rights on the portal to make any changes on the portal like adding the schemes and the new Policies under it. Admin is able to do the Sentiment Analysis on the comments that has been entered by the User.

2. USER ROLE:

User is able to view all the schemes and the related policies on the portal. If the Admin has added the new schemes on the portal and if the Particular user likes it, User can comment on the scheme. For the next user who will log in for the first time is able to view the maximum positive rated comments for the Particular Scheme. That would be the Government Scheme Recommendation for the newly logged in user. All the schemes which government will add onto the portal will be stored into Hadoop as a big data analytics and further Map-Reduce will be applied it onto the same.

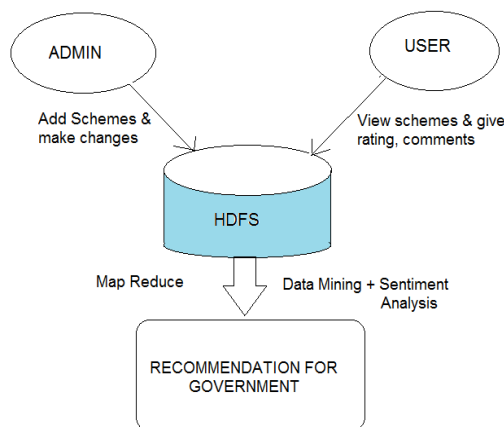
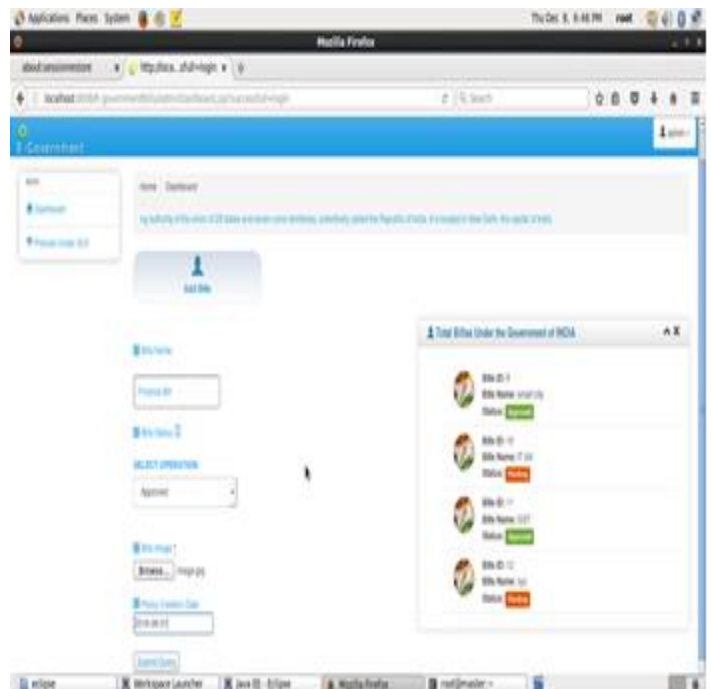
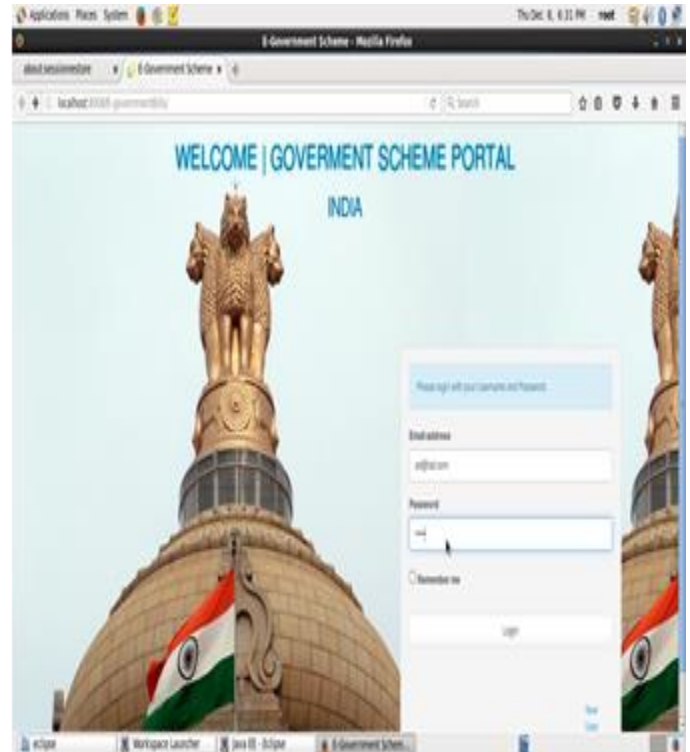


Figure 1 : System Architecture

VII. RESULTS

To test the comment classification or mining in the proposed system, sample training dataset of around 150

comments has been created with positive and negative labels manually depending upon the type of words the comments contain. Data processing has been done to remove stop words, to tokenize the training dataset. Stanford Core NLP jar (classifier) has been used to classify the comments as positive, negative and neutral Fig.3 and Fig.3 shows login page for the different users and admin page for adding different bills and policies.



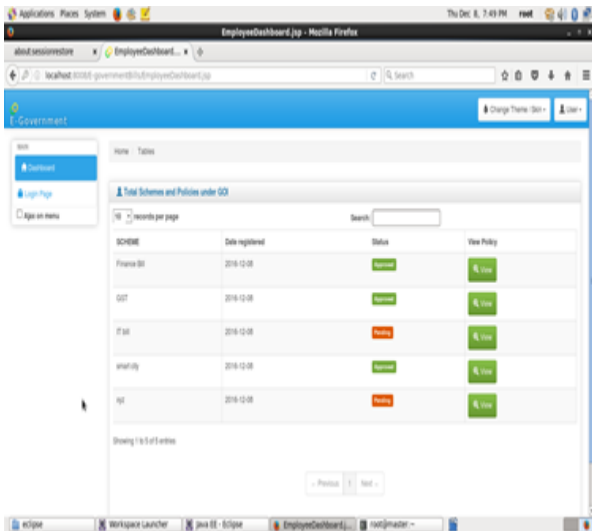


Figure 4 : Snapshot of user viewing different Bills and Policies.



Figure 5 : Classification of positive and negative comments

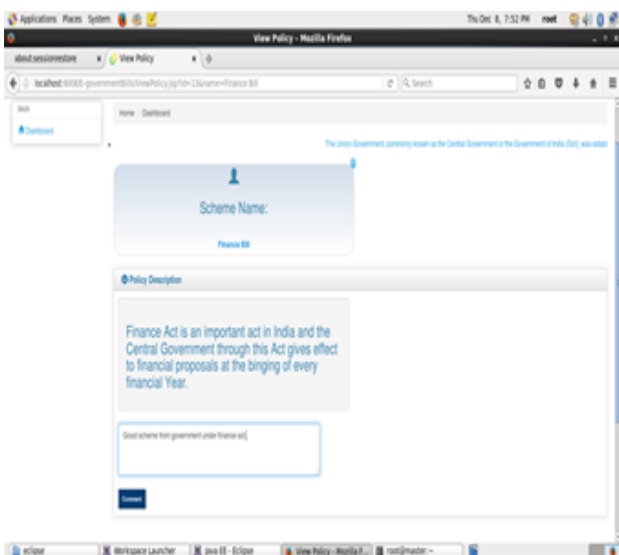


Figure 6: User views scheme and comments

Fig. 6 shows the snapshot of the user viewing different schemes and Bills and commenting on those to give government their views about those bills and schemes.

### VIII. CONCLUSION

There is no doubt how important the bills are when presented in parliament. Using new technologies Hadoop and using social portal can effectively lead the government to take effective inform decision. In this context it allows the people of this country to be better inform which leads to spread of better information that is to support or reject bill. Multiple democracy use this technology to get increased information flow and progress more than the others who may not use this. It is there by evident of how important this portal is. It creates informative based approach for citizens and brings in opinions on larger scale the finding of this application is to improve in order for the government to utilize internet and there portal a few suggestion will be needed. The technology base is very much essential for very much effective opinion generation on larger scale.

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