

Analytics of Intelligent Forum

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Abstract: There is an increasing indication that users are prejudiced by internet based opinion forums. Anonline forum is a place where people can post things such as text, images, and occasionally video, and people can respond with similar content, answers/advice, and other things. The idea of this online forum has been adapted from lots of forum in many websites. This forum differ from chatroom's in that posts are frequently longer than one line of text, and are at least momentarily archived. Also, depending on the access level of a customer or the forum set-up, a forwarded message might need to be approved by a moderator before it becomes visible. This forum (named as iForum) is a web based information exchange platform where the users can register and present their content on conversation threads. The system also presents automated suggestion by making use of intelligent web analytics and content inspection. Forum also provides a well attractive interface to the user so that user can easily see all its analytics regarding to its profile view and posts. So this proposed work basically highlight the benefits of Internet forum over Chat rooms.

Keywords: iForum, mongoDB, NoSQL.

1. INTRODUCTION

IntelForum (iForum) is a web based application for the users who want to get the answers of their questions on various topics. Users of the forum can post their questions and queries related to any current affairs, latest technology, politics, geography, history and all types of curious and interesting topics [1].

The respective results of given queries can be resolved by some other users who are scholar in their fields and our system also provides the benefit of automated generated results before any other user provides its own answer. Thus the end user need not to wait for the answers of other fellow users but instant results are provided by the system itself.

For better and interactive user interface, the system has been developed to provide the graphical and statistical analysis of user data and regarding information [2]. The user can himself/herself analyze his/her activity and progress over the forum after viewing all these type of intellectual features in the system.

User can login to the Forum using his own unique ID and password which were provided during the sign-up/register process. Then he/she can view his/her dashboard where the whole processing like viewing, liking any post, commenting or answering other posts, generate the graphical results to the

corresponding post, edit the profile and all other kind of quality acts can be performed straightforwardly[3].

2. PURPOSE

The main objective of this proposed work is to provide our user a well-furnished user interface so that the user is able to get all information regarding to his profile and all analytical in a well looked graphical manner. Also we provide a functionality to our users that all posts provided by it and all questions will be responded in time. User does not have to wait for another user to respond to its regarding question because we are providing a way so that all questions asked by user responded in time by machine with regarding suggestions. The graphical user interface of the system is very attractive so user can easily render through the whole system without any complications and difficulties. Statistics of user data regarding to the profile and posts is well convenient for user to know his current activities over the system. In this proposed work system generate quicker and proper information according to the given user query. So this work provide graphical user analytics based on his responses compare to other chartroom's.

3. SCOPE

Forum is able to provide fully well-furnished user interface with handy functionalities so this is very vastly useful for all those user who are well addicted to write blogs or posts.

User can login to the Forum using his own unique ID and password which were provided during the sign-up/register process. Then he/she can view his/her dashboard where the whole processing like viewing, liking any post, commenting or answering other posts, generate the graphical results to the corresponding post, edit the profile and all other kind of quality acts can be performed straightforwardly.

4. ARCHITECTURE OF DJANGO FRAMEWORK

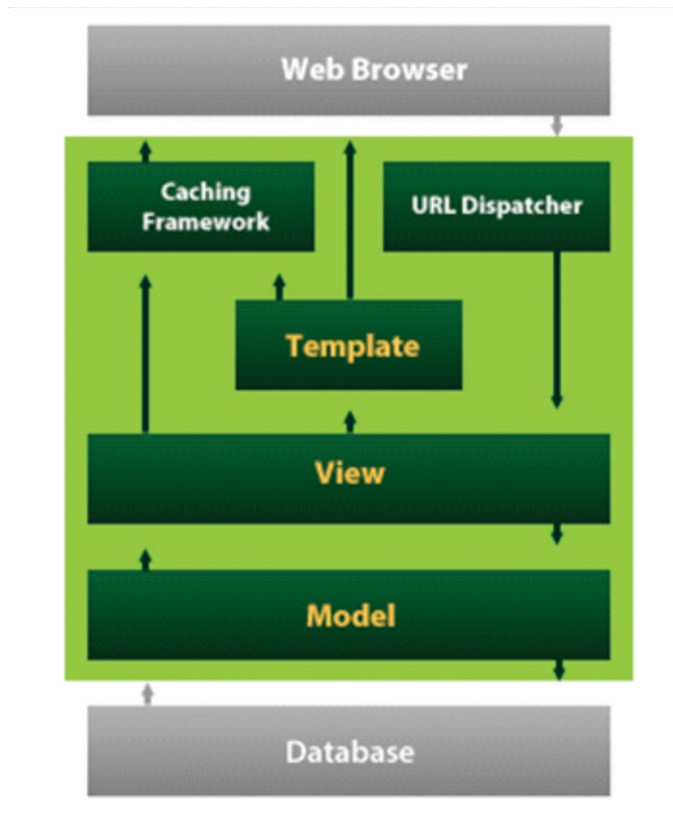
In a strict sense the MVC architectural pattern is defined as follows:

Model - is all about the data persistence necessary to fulfil the application/service behaviour. Common misunderstanding is that the model is a database, the model is a representation of the

application domain, and it includes rules and data normally represented in high-level object classes.

View - is about presenting information based on the state of the model, the key concept being to separate the presentation and data layers. UI should be presenting information that is obtained via the view and never directly to the model or data.

Controller - is about managing change in the state of the model. It should be the only channel back from the UI to request changes to the Model and underlying data.



5. NoSQL Database

With the development of the Internet and cloud computing, there need databases to be able to store and process big data effectively, demand for high-performance when reading and writing, so the traditional relational database is facing many new challenges. Especially in large scale and high-concurrency applications, such as search engines and SNS, using the relational database to store and query dynamic user data has appeared to be inadequate. In this case, NoSQL database created[4,5].

NoSQL systems are dispersed, non-relational databases intended for extensive data storage and for enormously-parallel data processing through a huge amount of commodity servers. They also use non-SQL languages and appliances to act together with data (though around new feature APIs that transform SQL queries to the system's intrinsic query language). NoSQL database systems ascended beside key Internet companies, such as Yahoo, Flipkart, and Facebook; which had challenges in

dealing with massive amounts of data with conventional RDBMS resolutions could not manage [3]. They can support many activities, comprising experimental and analytical, ETL-style data conversion, and non-mission-perilous OLTP (for illustration, handling long-duration or inter-organization transactions). Firstly encouraged by Web 2.0 applications, these systems are intended to measure to thousands or millions of users exploit updates as well as reads, in divergence to outdated DBMSs and data warehouses [6,7].

6. PROPOSED WORK

i. Objective of the proposed system:

- To generate advanced, highly efficient and distinctive forum system which is capable of offering some fundamental as well as exceptional features.
- The system is enabled with some intelligent characteristics with user behavior analytics.
- The system generate quicker and proper information according to the given user query.
- To make more efficient and accurate calculations.
- To provide user data security and huge maintenance of records.
- To develop flexible, reliable and time-saving environments for end users.

The Description of the qualities and unique attributes of the forum is illustrated as:

ii. The use of elegant colors and aesthetic look of the system:

The System is comprises of graceful color combinations and artful designing with appropriate blueprint. The prototype of the system attracts users for easy navigation and proper readability of the content. The user can easily work upon the system without too much complexity and difficulties. Use of neat graphics is used while creating the templates of the system for providing less load on server.

iii. Use of customized script:

The font and script selection for templates is done very precisely so user can easily render through the whole system without any complications and difficulty while reading and understanding the content provided upon the site. Attractive fonts are added additionally to the system which are not provided by default for the aesthetic look of the system. Except these, client site scripting such as JavaScript is also provided for user behavior analysis in tactical and graphical manner.

iv. Intelligent grouping of Posts and comments:

Any forum based system basically based upon the Post of different verity of queries and their corresponding replies in the form of comments. Hence, the system has been evolved to handle multiple type of queries and their instant comments so the users can easily calm their curiosity.

Posting can be done directly via dashboard and user can see the posts of other user directly upon his own time-line. The posts are

only visible if user has followed the account of other intended user, otherwise he/she can search the related content in all-posts' option.

v. Purely Django framework (Python) based forum:

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Many web-site are currently using this framework as the base of their systems. Django has its own powerful authorization tools and in-built functionality to develop any web application very striking and customized manner. Posts' handling with their corresponding timestamp of posting and updating, content handling, parsing, encryption and filtering is quite very easy while working with this advanced framework.

vi. Authorized access and Password Encryption:

To perform any posting and commenting action, only an authorized user can log-in to the system and do so. A unique ID and password is provided to the users during the sign-up/register process. User can log-in to the system only using these distinctive attributes. Django framework provides the password encryption technique so any other can't know the password any user directly through the database. Hashing technique is used for password encryption which combines the username and entered password as the unique pair and generate its own unbreakable unique password. So the user data remains secure in the system.

vii. Non-Relational database (Mongo dB) support:

A NoSQL (originally referring to "non SQL" or "non-relational") database provides mechanism for storage and retrieval of data which is modelled in means other than the tabular relations used in relational database. Schema-less database architecture is basically used for big-data handling over the cloud in the current scenario. Post content and the structure of the data that enters into database related to the posts is not well defined and not having a particular schema. Hence, the document oriented non-relational database mongo dB is used as the back-end to store the data in BSON format (keys and values). The retrieval of data is faster than other SQL based schematic databases.

viii. Time-line architecture of user's content description:

A well-suited and appropriate time-line architecture is used for users' content description. User can view the posts and queries submitted by other users directly on his/her own time-line in timely ascending (latest to oldest) order. For this, user has to follow the account of other users to see what have other user posted? User can also unfollow the account if he/she is not further interested in the contents related to followed user. Thus, user can keep in touch with the activities of concerned users and

interact directly with their content through the time-line.

ix. Profile view and post view counters:

For enhanced and interactive user behavior analysis, profile and post view counters are provided upon the dashboard of the user account. Users can view the total number of times his profile and particular post were being opened by the several other users. This functionality has been appended for better interaction for user's current activity upon the system and user can easily rank his profile according to the number of times his profile and posts are being viewed.

x. Analytics of user contents in graphical manner:

The graphical manner of users' activity description is the best way to interact with the system. Histogram, pie-charts, circular and bar-graphs represent data very precisely as well as in comprehensive manner. In the system, Bar graph such as Histograms are used for total number of post and profile views arranged day by day manner for past 30 days. Every day's explicit activity can be shown so that the user may know how many times his/her content is being viewed by other users. It's an interesting and essential feature because every user wants to know his commercial merit upon the system. Hence, this is the best way to display Users' behavior over the system. JavaScript library nvd3 is used for generating graphs upon the templates.

xi. System generated results:

This is the most important and unique feature of the system. It predominantly differentiates this forum from the currently existing forums. Wherever any users submit any query, the system is trained to generate automatic result according to the given query instantly so the user need not to wait for other users' response for a long-time. For achieving this purpose, the system is comprises of dictionary of keywords. The user query is broken into the related words and those words are compared with the keywords existing in the system's dictionary. Filtering of the words is done so precisely such that only required keywords are searched and compared with the actual expressions. Python dictionary concept is used to store the expressions in key-value format. On the perfect matching of any keyword, the value attached with that key is posted over the templated.

To remove the conflicts which keyword suits best for the desired query, an appropriate algorithm is used for generating the System generated results so the system prefers the most suitable result according to the user queries.

The algorithm is designed so precisely that it removes the contention between two or more alternative results and choose the best one among all the related outcomes.

```

BEGIN
COUNT=0
INDEX_COUNTER=-1
TOTAL_MATCHING_IN_EACH_KEYS = []
POST_TITLE_WORDS =
      CD['TITLE'].LOWER().SPLIT()
FOR KEY IN ANSWER_DICT.KEYS():
INDEX_COUNTER += 1
FOR W IN KEY.SPLIT():
IF W IN POST_TITLE_WORDS:
COUNT += 1
ELSE:
BREAK
NO_OF_WORDS_IN_KEY = LEN(RE.FINDALL(R'W+', KEY))
IF (NO_OF_WORDS_IN_KEY == COUNT):
TOTAL_MATCHING_IN_EACH_KEYS.APPEND
((INDEX_COUNTER,COUNT))
COUNT = 0
IF TOTAL_MATCHING_IN_EACH_KEYS:
INDEX, VALUE = MAX(ENUMERATE
(TOTAL_MATCHING_IN_EACH_KEYS),
KEY=OPERATOR.ITEMGETTER(1))
END

```

This is the pseudo-code for the system generated result Algorithm. This algorithm takes the basic keywords as the input and search them with the given expression present in the system and produce the most preferable outcome in the result.

7. CONCLUSION AND FUTURE WORK

This Forum is able to provide great graphical user analytics based on his responses compare to other chartroom's.

This also provides all queries of user fulfilled with extra suggestions along with other user's responses.

The Proposed algorithm is intended so precisely that it eliminates the conflict between two or more alternate results and select the finest among all the associated outcomes.

In future this Forum can be extended with extra machine learning concepts like on basis of user's post contents system will provide related suggestions.

Also user will able to add liked topic post and add users in its group to make chatting threads.

Automatically no of viewers or followers will be added to the group of that user and other able to see the posts without going itself.

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