

Interaction Forum of Nano materials for Designing the Construction Process Using Nanotechnology

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Abstract: *Nanotechnology can be used in many different areas of design and construction processes since, nanotechnology generated products have many unique characteristics. These characteristics can, again, significantly fix current construction problems, and may change the requirement and organization of the construction process. Forum as termed in the American Heritage Dictionary is a “public place or medium for open discussion”. This project is aimed at developing an interactive online forum for researchers pursuing research on nanomaterial. Any user can post their queries related to Nanomaterial and discuss with other researchers. This forum will serve as an abling platform for sharing information and knowledge related to nanomaterial for construction, medicine, cosmetics and etc.*

Keywords: Hypertext preprocessor, PHP, Structure query language (sql), windows apache MySQL php (wamp).

1. Introduction

Nanotechnology is one most important technique in the 21st century. Nanotechnology is used to creation of new device or materials mainly for the small scale. Nano distance range from 1 to 100 nanometers. Nanomaterial and nanotechnologies used in the many Departments and many organization such as medicine, construction, health care, cosmetics, agriculture, etc. Nanotechnologies and nanomaterial used and important concept of present and future. This forum mainly for nanomaterial researchers shares their knowledge to the other researchers.

A Web Forum, also referred to as an internet forum, is a type of online discussion site similar to a message board. An **Internet Forum**, or **message board**, is an online discussion site where people can hold conversations in the form of posted messages.

They differ from chat rooms in that messages are often longer than one line of text, and are at least temporarily archived. Also, depending on the access level of a user or the forum set-up, a posted message

might need to be approved by a moderator before it becomes visible. Scope of this forum is to investigate and design an Online Discussion Forum which can facilitate the researchers to discuss interactively on the topics related to the nanomaterial used in construction, medicine, cosmetics, etc. The system can facilitate in improving the quality of research. This system enables the researchers access all required information as and when needed. It will serve as a platform where all researchers can exchange their ideas and thoughts in an open forum. It will also help their research activity to progress and

avoid duplication of efforts. The researchers also have access to different sources of information such as journals, patents, etc.

2. Current system of forum

In today's fast paced society, it's very hard to be competitive without using cutting-edge technology available in market. After years of research technology has grown at a rapid pace challenge for researchers to gain access to information. The researchers are unable to interact with their peers and fellow researchers in an efficient manner. Though they are able to exchange information through emails. The sharing of ideas is not very interactive.

2.1. Demerits:

- In the current system, the researchers can discuss among their colleagues in the same organization, but unable to interact with the researchers in other organization in an interactive way.
- They are also unable to keep track of the current developments particularly with the rate of information growth.

3. Proposed approach of forum

The proposed system will help researchers to share knowledge in a more effective way. The system will serve as a platform where all researchers can exchange their ideas in an open forum. This will help their research activity to progress and also avoid duplication of efforts. The researchers can also have access to different sources of information such as journals, patents etc. through the system. This interactive forum will ensure efficient sharing of knowledge and information among all researchers. This forum also containing the online chat it is used to chat with other users related to the nanomaterial.

3.1. Merits

- Interaction will be easier.
- Users articles can be viewed by others
- Less time consuming.
- Immediately get response to their queries.

4. Materials and Methodology

The project has the following Sub Modules

- Registration
- Post queries
- Replies
- Search
- Online chat

A. Registration process

This Sub Module helps to users register with the online forum all details of the users are captured in this module.

B. Post Query process

This module can be accessed only by registered users.

The Administrator manages the queries being posted through this module.

C. Replies process

Each and every posted question will receive the appropriate response from the other participating members. The queries and responses are suitably moderated by the administrator.

D. Search process

This module helps in searching for their queries, replies, journals, articles posted based on date, topic, etc... Can also be searched a link to the main portal.

E. Chat room process:

This helps works to have discussion online in a very interactive mode.

5. Architecture design

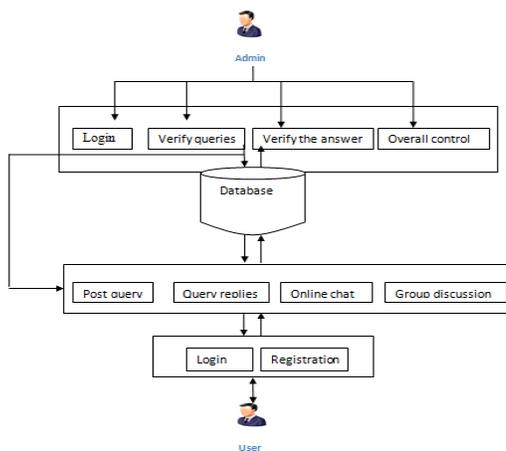


Figure 1. Over all architecture forum design

A. Forum design

The tools used to develop interaction Forums include PHP, MySQL, and Wamp server. **PHP**, which stands for *PHP Hypertext Preprocessor*, is a server-side scripting language that is used for web development code is embedded into the HTML pages and executes whenever a user visits the HTML page. The “PHP code is interpreted at the web server and generates HTML or other output that the visitor will see”. The web server application used for this project is Apache. PHP is open source and has many advantages including the following:

- Very fast
- Performance
- Scalability
- Interfaces to many database systems
- Built in libraries for common web tasks
- Easy to learn
- Strong object-oriented

Database is used to store, sort and retrieving the data from the database. MySQL is a relational database . It is the most popular open-source database in the world. A1 relational database uses

tables to store information. “Each table has multiple columns and each column has a unique name.” MySQL uses **Structured Query Language (SQL)**, which is the standard database query language, to store and retrieve data from the database. By using PHP and MySQL we can quickly store and retrieve information submitted and requested on the Forums web site pages.

A. Database design

Database design is the important concept in the forum it is used to identifying the tables and attributes and how they working together to store and retrieve the data from the database. When user create the new query and post reply, store into the database in efficient way. When the user view the forum page it will show the all the details on the screen page. In this forum have the 4 tables users, forum_questions, forum_answer and message. Users table contains detailed information about the users. All the posted queries are stored into the forum question table and all the replies are stored into the forum answer table these two tables are link with the foreign it is also called reference key. When a message is posted to the forum questiontable, it is automatically assigned a question_id, which is also the primary key for thetable.

6. Result and Discussion

Design and implementation forum will require following components

1. What purpose we are going to do the forum and how will interact with the users.
2. Database design it is used store the all the information such as username, message, replies, etc. database should be more efficient because it store and retrieve the all the information without database the forum does not exist.
3. Forum front page application it contains html (hypertext markup language), php (Hypertext preprocessor) and css(cascade style sheet). Php that communicate to the backend (MySQL) to store and retrieve the information.



Figure 2. Forum home page

In this forum contain queries, group discussion, online chat, and search links.

When the queries link selected that will ask the login after completion of the login displayed what are the queries login user posted and also show how many replies will come and how many users can see our queries. User what to create the new query just click the new query button it will display the query title and content title describe what type question user what to ask and content describe the question in detail.

Now question will posted by pressing the submit button. Then show the list of question user what to posted question will sorted by time last question will appear on first in the queries page.



Figure 3. Creating the new query

User want to add answer for the particular query just move the arrow on the question and click then press the add answer button. Before that query detail (question, posted by, time) in top of the page.



Figure 4 reply for posted query

User replies the query in three ways

1. Reply for the query only texts
2. Reply for query text and also uploading document, pdf and images files related to the question.
3. Reply for the query uploading document, pdf and images.

This forum mainly used for sharing their knowledge about the Nanomaterial in interaction way.

In this forum have the following

1. User want add the queries.
2. User want to reply their knowledge related to the query.
3. User wants to download the uploaded files.
4. online chat with other online users it is not one to one chat it is visible by everyone.
5. Search the queries and answers



Figure 5. download the uploaded files

Group discussion is used to show all queries posted by the users. Every user can see the all queries and also reply to that query. All queries and replies should be related to the nanomaterial and nanotechnology.

Moderator

Moderators are users of the forum and who are granted access to the posts and replies of all members for the purpose of moderating discussion and also keeping the forum clean.

Common privileges of moderators include deleting, merging, moving, adding, editing, removing the queries.

Results and tables

S.no	Years	Visitors	Forum
1	2008	700	Low
2	2009	650	Low
3	2010	780	Low
4	2011	800	Medium
5	2012	820	Medium
6	2013	950	High
7	2014	1010	Very high

Above table shows the visitors details of forum for last six years. In year 2008, the visitors of forum is low. But in last 2 years 2013 and 2014, visitors of the forum is high.

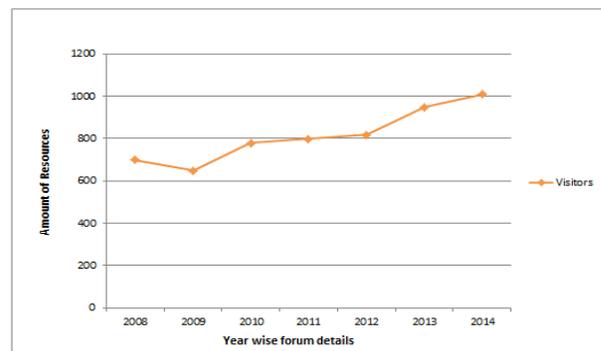


Figure 6 Last six years forum details based on resource wise.

7. Conclusion

The online discussion forum will enable researchers pursuing research in nanomaterial used for construction to establish contact with other researchers in the same area. They can share their knowledge in a very efficient and effective manner. Thus the researchers can be updated on their topic of research interest. They can have instant access to the latest information in their field of interest. The discussion forum can be extended to enable researchers to share not only their ideas but also technical context in a very effective way. A collaborative platform can be envisaged to take the research and researchers to unexplored realms.

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