Intellectual Knowledge Sharing System

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Abstract

“Knowledge is power”. By sharing the knowledge, one can contribute to the aspiration of wisdom and excellence, within himself and others. Here, we are proposing a structured WEB BASED SYSTEM through which people can share their knowledge. The purpose of the system is to provide a platform for communication for the people such as professors, students, scientists, engineers and specialists in different technical and non-technical areas who are interested in sharing their knowledge. The system should enable members to ask questions, get answers, discuss recent technologies, post articles about new technical innovations, participate in competitions, exhibitions, research activities and chat with the members who are currently online. The member will also have the option to set their homepage according to their preferences. If a user wants to find out the similarity and dissimilarity between two different technologies, they can do so by clicking on the “Compare and Contrast” Link. The members who participate actively will also be awarded.

The major motivation for this project is that, in academic life, students come up with many questions. To find out the answer they need to browse through a number of websites, trying different combination of words and sentences. Even after a long search they may not find the correct answer. This problem can be solved by having a common web-based discussion board. This will contain a hierarchy of different technical areas and different technical section. If the user wants to add sections, he can make a request to the moderator.

Our proposed website can be accessible via WAP enabled PDAs or cell phones by using a software tool such as Intellisync or AvantSoft which synchronizes the services of the website with the mobile devices.

The website analyzes the details such as the most frequently visited topics, the most frequently asked questions, the number of people using the website, the browsing behavior patterns of most of the users, etc., by analyzing data from different perspectives using data mining process

Description of the domain

Knowledge Sharing provides support by ensuring that people have just-in-time access to the latest information. The system assists users to find the most up to date knowledge needed for their tasks and to use this knowledge effectively. Initially the user who is looking for some information can create an account using their name with a password. They can give details about their area of expertise so that they can answer other people’s questions.

This web-based development will have different sections such as Computer Engineering, Electrical engineering, etc. Each section is divided into subsections, for example Computer Engineering is divided into Computer Architecture, Systems Software and related subjects. These
subsections can be further subdivided into more specific areas like Memory and Input/Output sections. So if a user has some questions about computer memory, they can go to the memory sections of Computer Engineering and can check all the questions and answers related to memory.

For topics that do not fit under a certain domain, we have a separate division called “miscellaneous”, which contains the other sections that are not present in the main topics. If the user wants to add sections, they can request the moderator. The Moderator can open sections as requested by members.

The members who answer frequently will be rewarded. The best questions will be highlighted. If a member answers a question, they get one point. There is also a provision for the inactive members, who only take the advantage of the discussion board, without contributing anything. There is a minimum limit for members to ask questions. They must answer some questions in a year, if they can not fulfill this requirement, the moderator can ask them to contribute more otherwise their membership will be restricted. There is no maximum limit for giving answers.

Description of the program that is wanted

When a user goes to the website, they are given an option of opening an account or just browsing the website as a guest. A user who chooses to create a new account will be taken to the registration page and is prompted to fill out the registration form. In the form the user chooses a username and password, fills out details which include their e-mail address, area of interest, area of expertise and experience in that field. Once the user logs in to the system, they will have the choice of setting their home page according to their preferences. This includes displaying the page of their area of interest, area of specialization, displaying the list of people who are interested in the same area and who are currently online, and showing the links to their favorite articles.

They will have access to all the recently posted articles and to all message boards that contain questions and answers listed chronologically and/or listed by message threads. The articles posted more than 6 months ago will be archived and can be retrieved via the archive folders. The members can ask questions, reply to the others’ questions, participate in discussions, competitions, research activities and chat with the experts who are currently online.

There is also a “Compare and Contrast” Link, which shows similarities and dissimilarities, advantages and disadvantages between two different technologies. All the
information related to the topics will be collected from the posted articles and presented to the user. If the user cannot find the required result, they can post their question on the message board check back at another time for any replies. Each question and answer will have a status such as open for discussion, closed for discussion, answered completely and disagreement in the answer. If there are some unanswered questions for quite a long time, then after solving that question the sender is notified by e-mail.

The moderator of the group who maintains the website will devise some policies and guidelines to be followed by all members of the group. These policies will ensure the privacy of the members and the quality of the website. They will arrange for some technical competitions or exhibitions in which the members of the group can participate and contribute their inventions or exhibits. The moderator and other active members may attract sponsors for funding these activities.

There is an option available for the guests, i.e. the users who are not registered as members. The guests can access a limited number of articles and discussion forums, but they cannot take part in discussions or post questions unless they become members.

Use Cases and User context

1) Register
If the user is new and they want to sign up, then the system displays a registration page and asks the user to choose a username and a password. They gives details including e-mail address, their area of interest, area of expertise and experience in that field.

2) Login
A member can login to the website using their username and password. The system will verify that the username matches the user password. If they do not match, the error message will be displayed to the member. The member can retry for another 3 times. If they have forgotten their password, then they can seek help from the system and a new password will be sent to their e-mail address.

3) Check Message Board
The members can check the Message Board for questions and answers where they may be able to find an answer for the question they post. Also they can look at the recent discussion topics.
4) Place Question
If the question is not already available in the message board or in the archive, the member can post the question.

5) Answer Questions
If the member finds an unanswered or partially answered question in the message board in their area of expertise, they can directly answer the question or give some references to web pages or books to reach the exact answer.

6) Read recent articles
The members of the group can read the recently published articles in any field.

7) Post recent articles
The members of the group can post recently published articles, discoveries and innovations in their related field.

8) Search the archives for answers
If the member wants an answer to a question that was asked before, but not available on the message board, they can go to the archives to search for the answer.

9) Look archives for the Articles
The recently published articles will be available in the category of recently published articles. The articles posted more than six months ago will be archived and the members can retrieve them via the archive folders.

10) Take part in the current discussion
The members can discuss the current technology, the demand of a particular technology in the market, future predictions, advantages and disadvantages. As students can also be the members of the group, this discussion may help students in selecting their career in state-of-the-art technologies.

11) Chat online
The members of the group from all over the world can chat with the individual members of the group or they can have a conference. The members can decide who they want to chat with from the list of currently logged on members.

12) Participate in the Competitions/Exhibitions
The members can participate in different types of exhibitions such as science exhibitions or technical exhibitions which are arranged by the moderator and the active members of the group.

13) Arrange Competitions/Exhibitions
The members can voluntarily participate in arranging exhibitions or competitions, encouraging companies for sponsorship and awarding the winners in the competitions.

14) Maintain web site
The members who have experience in developing and maintaining websites can voluntarily help to maintain the website and solve the problems along with the moderator.

15) Access website through handheld devices
The members who have WAP enabled mobile phones or PDAs can access the website in their handheld devices by downloading software such as Intellisync into the mobile device.

16) Compare Technologies
The members who want to compare two technologies can simply click on the “compare and contrast” button and get all the information about the two technologies that have been posted so far.

17) Analyze behavior patterns
The website will analyze the browsing behavior pattern of its users by using a data mining process.