KNOWLEDGE SHARING APPLICATION

Namrata Pradhan

Grand Valley State University

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KNOWLEDGE SHARING APPLICATION

BY

NAMRATA PRADHAN
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Knowledge Sharing Application

By

Namrata Pradhan

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Dr. Yonglei Tao

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Abstract

Information sharing these days is becoming very common in the Internet through various website, be it news website, be it educational forum, etc. Everyday people depend more and more on the sources available in the Internet.

However lot of people can’t acquire information and at the same time contribute information using the same platform on various topics.

The objective of this system is to provide platform to everyone who wants to contribute their ideas or any articles, or even ask questions, etc. that can be developed as an innovative Web based application called “Knowledge Guru” which is a knowledge sharing application.

The front end web designing was done using bootstrap framework in Adobe Dreamweaver CS6 using HTML5. Bootstrap framework comes with CSS, JavaScript and JQuery which makes it easier to design the front end. One of the important features of bootstrap is providing scalability over multiple devices. Adobe Photoshop CS6 was used to edit and customize images. A web server known as XAMPP was used as the development environment. The programming language used is PHP, the database server used is MySQL and the Web Server used is Apache. PhpMyAdmin is used as a tool to control database.

This application allows users to register in the system using Username, email id, profession and creating a password. After they register, the system will create a profile for each user which would be accessible and viewable by other users. The users can then access this application using their email id and password. The users from any profession or background can use the system. They can be anyone from Doctors, programmers, teachers to students, historians, etc. This application would benefit large diversity of people wanting to share any information with among them and mostly those who doesn’t have a lot of experience using the knowledge sharing application.
1. Introduction

The project is about sharing one’s idea, writing articles, asking questions or answering questions using the application as a platform. The article or idea can be of any subject or category like news or some health tips, beauty tips, etc. that users want to share with other users in the system. This information contributed would be available for all the users to view and the question asked could be asked in general or users could choose other users of specific profession to ask questions. All these questions asked could be accessed by any users in the system and be a part of that discussion. So this application gives users the flexibility to contribute their ideas or articles of any subject and also gives them the diversity to ask questions of various subjects and have their queries answered by experts.

My motivation of doing this project was to provide a single platform for users to multitask i.e. to be able to share ideas and ask questions of any subject using just one application. This application was developed especially for novice users. There are lot of such forums where one can contribute their story or even ask questions but they always come with the restrictions of only being able to one task, like contribute stories but not ask questions or being able to ask questions but not contribute stories or even if you can do both you can only ask questions of specific subject. Most of the applications that are available online are targeted to specific users like programmers, scientists, Business managers, etc. and there aren’t many platforms for the general public who might or might not belong to these professions and they might just be someone sitting at home like a homemaker, a student but would like to ask variety of questions without having to use different forums to ask two different questions.

So this project is intended to provide the diversity to large community of these users and also the novice users who may not have used any forum to ask questions because it was too subject oriented.
2. Scope

- Allows user to register in the system
- Allows user to log in with email address and password
- Maintains a profile for all the users
- Allows users to keep track of the questions they asked, questions they were asked and articles they contributed.
- Allows user to select other users, view their profile and ask them questions and also see the history of questions those users have asked and articles they have contributed.
- Allows user to ask question in general as well.
- Allows user to contribute ideas, stories or any article for any topic they prefer.
- The articles contributed show up in the home page which will give users a glance to topics and authors. Users can also view articles they have contributed in their own profile and can do the similar for articles contributed by other users’ their respective profiles.
- Maintains a database of all the articles shared and questions asked with users’ name and date of contribution.
- Users can search for articles that have been contributed by providing title name as a search key.
- Users have to specify title and subject before they write the content while contributing stories and specify subject while asking questions.
3. Background and Related Works

3.1 betterfly.com/takelessons.com

This web application provides forum for users to ask questions to experts like teachers, doctors, etc. It is more like an online lesson learning forum for those who want to learn and users are given a choice to select their tutor which is very nice.

3.2 wikipedia.com

It is an online encyclopedia about things, person, place, etc. It has abundant information and flexibility of multi-linguistics. But it is a forum more for research work than general and relatively small information. And also there is no platform to ask questions.

3.3 examiner.com

This knowledge sharing application provides forum for users to write in their site and it also has the latest trending news and other related information but don’t have a forum to ask questions. They have a nice menu bar to choose the category of information like sports, science, leisure, sports, tech, etc. This page is more like a news websites.

3.4 Squidoo/hubpages.com

This application allows users to contribute ideas from category of topics that are already present. The topics are very diverse and users have more options to choose but the users won’t be able to define their own topic. Users can ask questions in this website but users can’t view other users or ask questions to them.

3.5 Stackoverflow.com

It is a very nice site for programmers and those who want to learn about programming. It provides a nice forum for an individual to choose others users to ask questions too. They can browse the already discussed questions. The drawback is, it is only a question and answer site and also a site only for programmers. It doesn’t provide the flexibility to ask questions from other areas.
3.6 Yahoo Answers

A Yahoo answers is very easy to use forum to ask question and answer with wide range of topics. Though it has a diverse topic for question answer session, it still doesn’t provide the platform to just contribute stories or ideas. But it is very easy to use application. It is very easy to ask question and browse various questions you can give answers to.
4. Design description

4.1 Database model

Database consists of five tables. The following diagram only shows four because they are dependent on each other. The fifth table is for Contact details which is not related to any of the table shown below but just to record the details of the users who sends the messages to the admin.

USER_DTL table is the only table which is linked to all other tables and user_id from the USER_DTL table acts as foreign key in all others because each time a user asks questions or contributes articles, the user’s name has to be reflected. Q_id from QUESTION_DTL acts as a foreign key to the REPLYDETAIL table.

![Database Model Diagram]

Figure 1: Database model
4.2 Use case diagram

![Use case diagram](image)

*Figure 2: Use case model*
Figure 3: Overall Navigation Structure
4.4 Client- Server Architecture

![Client-Server Architecture Diagram]

**Figure 4: Client-Server Architecture**

4.5 Authentication process

Every registered user who would wish to access/use the system has to log in using their email id and password. If they aren’t member already, then they have to register. None of the features except for Guidelines page and contact page is accessible to user without logging in.

![Authentication Image]

**Figure 5: Authentication**
4.6 Log in /Authentication

Users can access the system only if they are registered members of the system. They have to go through the authentication process of registering and logging in to get into the system and use the system features. They have to register using their email address and specifying their profession. They have to create their own username and password.

![Figure 6: Login/Register](image)

4.7 Home Page

Home page consists of the articles contributed by users. The article would appear with the title and the author’s name responsible for contributing the article. The title link will redirect the users to the contents of the article. The page also provides users with option to search for contributed articles.

![Figure 7: Home](image)
4.8 Search Bar

Search bar is used for searching articles that have already been contributed by the users. The key to search should be the title of the article. This function makes it very easy for users to locate the article.

![Search](image)

*Figure 8: Search*

4.9 Guideline

Guidelines consist of instructions explaining the users how to use various features of the system to perform certain tasks.

![Guidelines](image)

*Figure 9: Guidelines*
4.10 Forum

Forum is used for contributing articles. Users have to mention a title and a subject before filling the content of the article. The contributed article would then appear in the home page and also in the profile page of the user responsible for the contribution.

![Figure 10: Forum](image)

4.11 Discussion

Discussion page is a general question and answer forum. Any registered member of the system can have access to these questions and answers.

![Figure 11: Discussion](image)
4.12 User

The user page lists the registered members of the system with their name and profession. Each user would be able view other users profile and ask questions that they wish to ask. These questions would also be accessible anyone who wishes to respond to them.

![Figure 12: Users](image)

4.13 Profile

Profile link in the system directs users to their profile where they would have access to the questions they were asked by other users, questions that they have asked and the articles that they have contributed. There is a settings tab where users would be able to edit their information such as user name and password.

![Figure 13: Profile](image)
4.14 Contact

The contact page would be used to contact the admin regarding any questions about the application. The users have to specify their name, email id and a message. The message would be sent to the admin without having to mention admin’s email address.

![Contact Us](image-url)

*Figure 14: Contact*
5. Tools and Technology

5.1 Adobe Dreamweaver CS6 with Bootstrap framework
Adobe Dreamweaver with bootstrap was used as a front end to design the web application. Bootstrap is an open source hosted, built and maintained on GitHub [16]. It is built with CSS, JavaScript and JQuery. Bootstrap has what is called “One framework, every device concept [16]” because it provides scalability over any device such as desktop, tablets and mobile device using CSS media queries [16]. Since it contains JQuery, it provides user with the flexibility to move forms, buttons, textbox, navigation bar, etc. anywhere we want on the page. JavaScript in bootstrap comes in handy to a prompt message to user indicating an event was a success or not.

5.2 Adobe Photoshop
This photo editor tool was used to create the logo using layering feature to adapt different styled fonts for the name “Knowledge Guru”.

5.3 XAMPP
XAMPP is a free web server tool to run the project at the backend. It is very easy to install and comes with multiple features. XAMPP stands for Cross-Platform(X), Apache (A), MySQL (M), PHP (P) and Perl (P) [13]. It is a completely free, easy to install Apache distribution containing MySQL, PHP and Perl [15]. XAMPP control panel is used to start and stop Apache and MySQL server.

5.4 Apache Web server
XAMPP Apache HTTP web server is a web server application that helps to deliver the web content [23] to the client. It is developed and maintained by an open community of developers [23].

5.5 PhpMyAdmin
PhpMyAdmin is free software written in PHP, intended to handle the administration of MySQL over the web [18]. It is known as intuitive web interface [18]. It is used as an Admin tool in XAMPP to run MySQL server at the backend and maintains the database and database tables. We can create, modify and delete database and database tables using this tool.
5.6 PHP

PHP is an open source server side scripting language which is used to build dynamic and interactive webpages [19]. The advantage of using PHP is, it blends well with HTML language and doesn’t require any separate environment for coding since it is a server side script executed on the server [14]. This means that the server hosting .php files interprets what code is within PHP tags and then displays the entire page to the browser just as any HTML page [17].

5.7 MySQL

MySQL is an open source database which is popularly used these days and its easy compatibility to PHP language makes it one of the best options for database creation for applications coded in PHP.

Most of the tools and technologies were new for me. I had to learn how to design using bootstrap framework; I had to learn Dreamweaver and XAMPP. While I had basics of PHP and MySQL I still had to go through few tutorials. It was a new learning experience. I had initially used only Dreamweaver to design the web using Dreamweaver design tools but it became challenging as JavaScript and JQuery coding were needed for the flexibility of the forms and button. So I then used bootstrap framework which already has these codes embedded in their framework.

I tried to implement my project in Eclipse using Java but the challenge was to convert the html files to web archive files to load into eclipse and the whole process was complex and tedious which directed me towards using PHP.
6. Conclusion and User Evaluation

6.1 Conclusion

This project is very “simple to use” web application targeting large community of general users. The interface is user friendly and understandable. Everything the user needs to access is just a click away. There isn’t much hierarchy leading to confusion to users. Different pages were created as navigation for different purposes to avoid complexity and confusion since the goal of the project to provide platform for mostly general and inexperienced users. Project is efficient in its design, organization and methodology. Users don’t have to remember in which page they are to go back to previous pages as there is a little or no hierarchy. As mentioned earlier everything is just a click away and extremely easy to use.

6.2 User Evaluation

Users were asked to register in the system and the only instruction I gave them was to read the guidelines page to understand how to use the system. Then users were asked to give their evaluation based on following checklist.

6.2.1 Ease of Usability

The application is very simple to use and the different pages used for different tasks makes it extremely easy to keep track of what you are doing or what you were planning to do. There is absolutely no confusion.

6.2.2 User Interface Design

The Design of the application is very simple and functionalities are easily accessible. You don’t need to be an experienced user to use this system because everything is readable and easy. But design lacks picture of any kind except for logo. It should have pictures to make the app look lively.

6.2.3 User Friendly

Yes the system is very user friendly and nothing is complex about the functionalities and they don’t create any confusion.
6.2.4  Features

Features are very limited. Need to add more options for user profile like uploading pictures, their company name, years of experience, etc.

6.2.5  Time Effectiveness

The application ran fast enough not to disappoint user with loading time.
7. Drawback and Future Work

7.1 Drawback

- No image uploads for the user profile
- No user rating or article rating option
- Unavailability of multi-lingual feature
- No “guest” facility
- Search content only available for the home page
- User search for desired skillset becomes a problem if the number of users increases drastically.

7.2 Future work

- Provide with an option to upload picture for the profile page.
- Provide privacy setting to Users to limit the viewers
- Build advanced search option for all the content across all pages.
- Provide rating facility
- Provide an automatic score to each user based on their contribution to the site.
- Provide category option in the home page to make search easier but doesn’t mean contents will be restricted to those categories.
- Provide a drop down menu containing lists of professions to make easier search for users with specific profession. Choosing a profession using drop down menu will load only the users with the chosen skillset. This will decrease the search time user will have to spend in searching for individuals with particular profession, especially if the user increases over time.
- Provide more option as suggested by users who used the system to fill in their profile with information such as years of experience, location, etc.
- Chat messaging feature with an addition of status showing if the user is available to chat or busy or unavailable.
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