

Principle Of Database System

Web Answering System

Project Part 1

Hrushika Patel (hp2307)

Shlok Goswami (sg6862)

INTRODUCTION

As we know people require help for different questions and platforms like piazza, stack overflow and Chegg have made it easier for them to get solutions for their problem. Therefore, the goal of the project is to build a web-based system for question answering services like them.

This is the first part of the project where we have developed a relational schema for the service that can store all the information about users and user profiles, questions, answers. We have created several tables for our database system using PostgreSQL and Data grip considering the requirement based on our design.

OBJECTIVES

The purpose of this project is to construct a web-based answering user interface for the database that was designed in the first stage. Users can register, login, and read their profile information using our interface. The project's main goal is to allow users to login to their account and answer the questions posted by the other students and they can even post their own questions if they have.

Our system has search mechanism in it which will allow them to search from the Question or the Answer. We have also added the Voting system where user can vote when they like a answer .We also have the questions arranged in the chronological order , so the questions which are posted recently will be on the top and the one that are posted after will be on the bottom.

Our Objective as a whole is to provide a user experience where the person looking at the answer gets the brief idea about the quality of answer based on the voting feedback provided by the different users. This is a simple demonstration of a web answering system like stack overflow , Chegg , and Piazza , where we try to make as much features as possible available to the users.

DATABASE DESIGN

This task will be accomplished using our relational structure, which comprises of 4 relational tables. The following is the description for these tables:

1) Users

This table stores user information like userId , name, address, e-mail. The userid in this table is the primary key as it is unique for each user. In the second part, we would allow users to create the profile and sign in when they want a question or answer. Users also have been given rank based on votes they have received for answering questions.

2) Questions

This table stores questions asked by users and each question has a unique questionid. Question has title and body for further explanation which would make it easier for searching relevant questions based on the weights which we are considering to provide in the second part of the project.

3) Answer

This table stores the answer for each question and also Userid for maintaining record about who answered the question.

4) Vote

Whenever user cast a vote Aid and Uid are stored in the vote table , and whenever user clicks on the vote again it deletes the vote it casted earlier.

RELATIONAL SCHEMA

User(Uid, Fname, Lname, Username, Email, Password, city, state, country, RankId)

Foreign Key: RankId References Rank(RankId)

Question(Qid, Uid, Tid, Title, Body, Date)

Foreign Keys: Uid References User(Uid) References Topic(Tid)

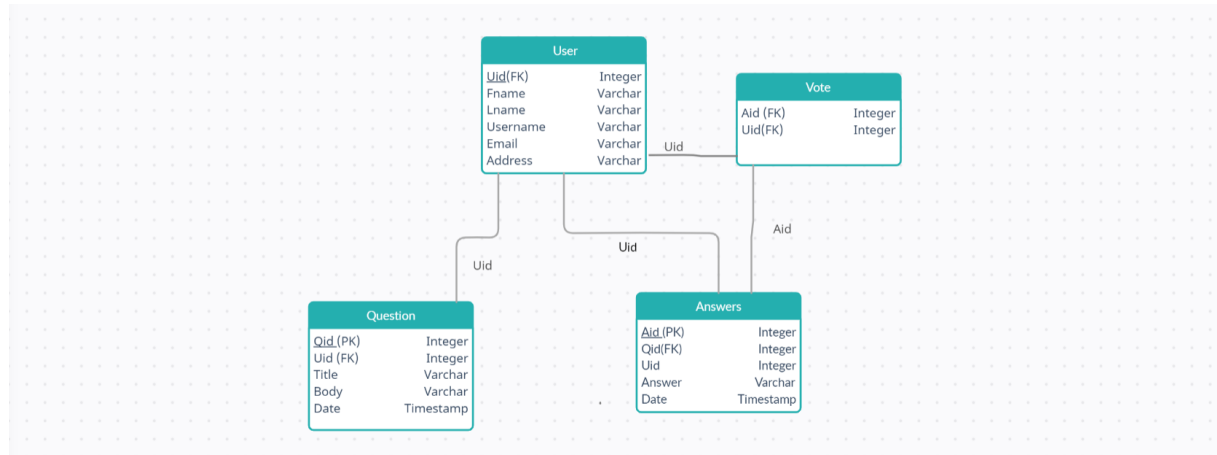
Answer(Aid, Qid, Uid, Answer, Vote, Date)

Foreign Keys: Qid References Question(Qid) References User(Uid)

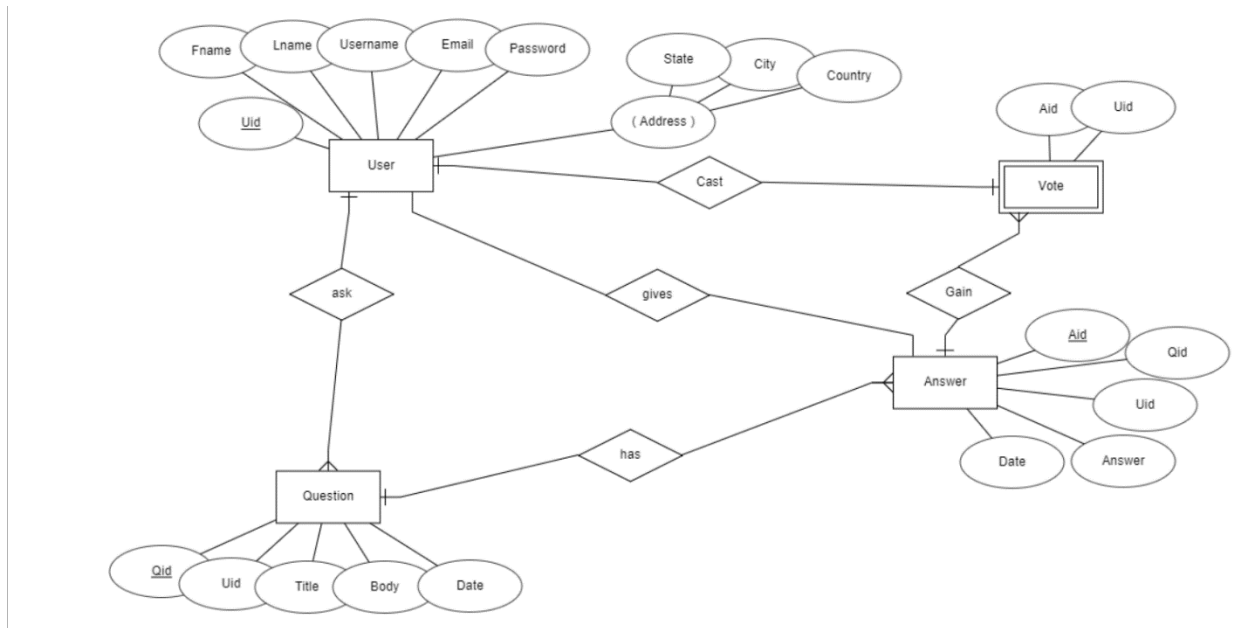
Vote (Aid , Uid)

Foreign Keys: Aid , Uid References Answer(Aid) References User(Uid)

RELATIONAL DIAGRAM



ENTITY RELATIONSHIP DIAGRAM



FRONTEND

The following frontend technologies were used to create our website's graphical user interface. From the user's perspective, the frontend is everything with which they interact, thus it should appeal to them. We have made it as interactive and User-friendly as possible.

HTML

HTML, or Hypertext Markup Language, is the standard markup language for texts that are intended to be viewed on a web browser. Technologies such as Cascading Style Sheets (CSS) and programming languages like JavaScript can assist.

Web browsers receive HTML documents from a web server or locally stored files and convert them to multimedia web pages. HTML originally featured cues for the document's look and described the structure of a web page logically.

CSS

CSS (Cascading Style Sheets) is a style sheet language for describing the appearance of a document authored in a markup language like HTML. Along with HTML and JavaScript, CSS is a key component of the World Wide Web.

CSS was created to separate display from content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics.

In our website ,we have also used CSS for styling and giving proper formatting based on our design.CSS have made the website more impactful and user friendly.

JavaScript

Front-end developers use JavaScript to create dynamic web sites. The main advantage of using JavaScript rather than other programming languages was that it is useful for activities such as verifying submission forms and updating particular sections of a page without updating the full page. It's a multi-paradigm, with event-driven, functional, and imperative programming approaches all supported.

In our project we have multiple tabs like Home page, Profile page, My Questions, My Answers , and this all have been loaded on single page using JavaScript. It helps the application to be faster and smoother as the rendering time is very less. I haven't used the react part in it.

The Advantages of using JavaScript are :

1. Code Reusability
2. Faster Development
3. Less Server Interaction

PHP

PHP is a programming language that enables web developers to produce dynamic content that interacts with databases. PHP is an HTML-based server-side scripting language. It can handle dynamic content, databases, session tracking.

PHP also includes a number of hash algorithms for encrypting user data, making it a secure and dependable server-side scripting language. These are some of PHP's features that make it suited for usage as a server-side scripting language.

So , in our project we have used PHP to connect the pages , and also we have used it to connect the frontend to the backend. We have also used PHP for authentication and also protecting from the SQL Injection.

The Advantages of using PHP are :

1. Easy Integration and Compatibility
2. Reliable
3. Stability

Login Form

Username hp2307

Password Enter Password

Please fill out this field.

[QUESTIONS]

[ANSWERS]

Home

My Questions

My Answers

Profile

Search...

Search

Ask Question

Title

Body

Ask

Title:Apple

Body:What is their new product

Answer:Mac air is going to launch soon

1

Vote

Enter your Answer

localhost:63342/webanswering/main.php?id=1

Update

HomeMy QuestionsMy AnswersProfile

Search.....Search

Ask Question

Title

Body

Ask

Title:Apple

Body:What is their new product

Enter your Answer

Submit

localhost:63342/webanswering/main.php?id=1

Update

HomeMy QuestionsMy AnswersProfile

Title:Python Basic Hello World

Body:Getting Print("Hello World") error Python

Answer:You are probably using Python 3.0

Answer:In python 3.x. you use print("Hello, World") In Python 2.x. you use print "Hello, World!"

Answer:Since Python 3.0 you have to write: print("Hello world!") And someone still has to write that antigavity library :(

Answer:Mac air is going to launch soon

Title:Microsoft

Body:facebook

Title:Microsoft

Home	My Questions	My Answers	Profile
Title:Classifying MNIST dataset using Tensorflow Description:What model should I use? Answer:epoch_x, epoch_y = mnist.train.next_batch(5000) will give you the first 5000 train examples and their labels.			
Title:Python Basic Hello World Description:Getting Print("Hello World") error Python Answer:In python 3.x. you use print("Hello, World") In Python 2.x. you use print "Hello, World!"			
Title:CSS styling Description:How do we use flex box to align the container Answer:Flex had direction column and row you need to set flex direction first			

Home	My Questions	My Answers	Profile
Profile First Name:Hrushi Last Name:Patel City:NY State:NY Country:USA Username:hp2307 Email:hp2307@nyu.edu Logout			

BACKEND

MY SQL

In our Project we have used MySQL. MySQL is a relational database management system (RDBMS). A relational database organizes data into one or more data tables where data can be related to one another, allowing the data to be structured.

SQL is a programming language that allows programmers to create, change, and extract data from relational databases, as well as control user access.

MySQL makes use of a standard version of the widely used SQL data language. MySQL is compatible with a wide range of operating systems and languages, including PHP, PERL, C, C++, JAVA, and others.

MySQL is a fast database that performs well even with enormous data sets.

Web-Answering – Answer [mysql]

tables | Answer

console [mysql] | Questions [mysql] | Users [mysql] | Answer [mysql] | Vote [mysql] | WebAnsweringSystem

SQL Updates | 16 rows | Tx: Auto | DDL

WHERE ORDER BY

	Aid	Answer	Qid	Uid	date
1	1	You are probably using Python 3.0	1	3	2022-04-12 00:00:00
2	2	epoch_x, epoch_y = mnist.train.next_batch(5000) wi...	2	1	2022-04-27 00:00:00
3	3	You need to give an alias to the column in the SEL...	4	3	2022-04-11 00:00:00
4	4	The import statement should look like this=from mn...	2	3	2022-04-13 00:00:00
5	5	In python 3.x. you use=print("Hello, World")=In P...	1	1	2022-04-20 00:00:00
6	6	Since Python 3.0 you have to write:=print("Hello ...	1	4	2022-04-16 00:00:00
7	7	Using withColumnRenamed, notice that this method a...	6	9	2022-04-18 00:00:00
8	8	using alias, in Scala you can also use as.	6	10	2022-04-09 00:00:00
9	9	Using sqlContext.sql, which lets you use SQL queri...	6	4	2022-04-18 00:00:00
10	10	df = df.withColumnRenamed("colName", "newColName")...	6	2	2022-04-06 00:00:00
11	48	Flex had direction column and row you need to set ...	8	1	2022-05-13 15:29:05
12	53	Try to use css grid	8	1	2022-05-13 22:30:08
13	54	Php is a simple language	31	1	2022-05-14 19:51:57
14	55	Php is good	31	1	2022-05-14 19:59:23
15	56	Helloooo	34	1	2022-05-14 20:00:34
16	57	Mac air is going to launch soon	38	1	2022-05-15 12:26:41

Web-Answering – Questions [mysql]

tables | Questions | columns

console [mysql] | Questions [mysql] | Users [mysql] | Answer [mysql] | Vote [mysql] | WebAnsweringSystem

SQL Updates | 14 rows | Tx: Auto | DDL

WHERE ORDER BY

	Qid	Uid	Title	question_body	Date
1	1	1	Python Basic Hello World	Getting Print("Hello World") error Python	2022-04-11 00:00:00
2	2	2	Classifying MNIST dataset using TensorFlow	What model should I use?	2022-04-12 00:00:00
3	3	3	img src path will not update on vite build	Is there syntax for the path??	2021-04-11 00:00:00
4	4	4	NodeJS MySQL DATE() returns undefined	Not able to return the value	2022-04-04 00:00:00
5	5	5	Image Progressing using ml	How do read images to files	2022-04-04 00:00:00
6	6	5	Big Data pyspark dataframe	How to change dataframe column names in pyspark?	2022-04-18 13:01:34
7	7	6	Hadoop Map Reduce	How do we use Map reduce to count the words	2022-04-18 13:31:53
8	8	5	CSS styling	How do we use flex box to align the container	2022-04-12 13:32:47
9	31	2	Can you explain me about php?	How is php connection made?	2022-05-13 20:21:06
10	34	2	Hello	python	2022-05-14 20:00:06
11	35	1	Microsoft	facebook	2022-05-14 20:01:35
12	36	1	Microsoft	Facealjfjdlf	2022-05-14 20:01:52
13	37	1	Microsoft	fgggfgsa	2022-05-14 20:02:04
14	38	1	Apple	What is their new product	2022-05-15 12:26:13

Web-Answering – Users [mysql]

console [mysql] × Questions [mysql] × Users [mysql] × Answer [mysql] × Vote [mysql] × WebAnsweringSystem ×

SQL Updates

WHERE ORDER BY

	Uid	Fname	Lname	Username	Email	Password	City	State	Country
1	1	Hrush	Patel	hp2307	hp2307@nyu.edu		1234 NY	NY	USA
2	2	Shlok	Goswami	sgsu09	sgsu@nyu.edu		1234 NY	NY	USA
3	3	Utsav	Patel	ut038	ut038@nyu.edu		1234 TX	TX	USA
4	4	Devarsh	Patel	dp19	dp19@nyu.edu		1234 Bos	MA	USA
5	5	HRUSHI	pATEL	hp23077	hrushi.patel7@gmail.com		1234 SURAT	Gujarat	India
6	6	Micheal	Holding	mh2309	mh2309@nyu.edu		1234 NY	NY	USA
7	7	Steve	Smith	ss2907	ss2907@gmail.com		1234	NY	USA
8	8	Ayushi	Patel	apate362	apate362@nyit.edu		1234		
9	9	Dev	Patel	dp23078	dp23078@gmail.com		123456 Mi	Gujarat	India
10	10	HRUSHI	Patel	hp2307777	hp2307777@gmail.com		1234 SURAT	NY	India

Web-Answering – Vote [mysql]

console [mysql] × Questions [mysql] × Users [mysql] × Answer [mysql] × Vote [mysql] × WebAnsweringSystem ×

SQL Updates

WHERE ORDER BY

	Aid	Uid
1	57	1
2	56	1
3	57	2
4	55	2
5	54	2

FEATURES

Registration Page :

Each user who wants to take advantage of the website has to create an account and for that we created a page which takes users input and stores it in the database so that it can be accessed at the time of login for authentication. The user is required to enter few fields which are necessary for example Name, Email, Username, Password etc, we also provided few optional fields for a user like county. Once the user registers he/she can sign in using the Login page.

Login Page :

Each exciting user can sign in using this page, A user has to enter his/her Username as well as Password for authentication. Once the user hits Login button the entered details will be matched to the database to verify if he/she exists or not. Once verified they are taken to the home page and a new session will be created for that user.

Home Page :

This is the main view of our site, each user can see all the questions and answers written by different users or my himself/herself in a chronological order. User can also post his/her own question/questions. This page has a subpage which contains questions which the specific user(logged in user) can see, and also another section where he/she can see the answers that has been posted by that user. It has a user profile section where the user can see his/her profile details.

MyQuestions page :

Logged in user has the ability to view only the questions posted by him/her.

MyAnswers page :

If a user wants to keep a track of the answers that he answered to the questions he/she can visit this page to see do that.

Profile page :

Any User can see his/her details which were entered during the registration phase. He/she can also wish to logout of the site. Once he/she logouts the session that was created will be terminated.

MISCELLANEOUS FEATURES

SQL Injection :

We have implemented the code that prevents from SQL injection attack. Where it checks for any backslashes entered into the fields.

Search functionality :

On the home page, as there are many questions, user can search for particular keywords or even anything related to that and all the questions based on that search will be displayed. We gave priority to the Title of the questions as the main keywords are in the title.

Vote functionality :

On the home page user has the ability to like any other user's answers. In our page we made sure that a particular user cannot like a particular answer more than once. User can also dislike the answers that he/she once liked.