Computer System, Data Management with Query Manager: Case Study for Query of the Students and Universities

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Abstract-*Student query System provides an interface for smooth response and maintenance of student query. University can use this for maintaining the data of the students in an easy manner. The conduction of accurate and updated data to a student's query is critical and equally important in the educational institution towards academics, examination, and even general information. It tracks the details of a student which can be used for responding queries like tracking or fetching queries, progress in the query, answered or not, a mostly asked question, solution to the queries, this website will provide a secure, online interface including faculty details, visitor details, student and its execution details. Various reports and Queries can be produced dependent on immense alternatives identified with group, course, staff, tests, semesters, affirmation etc.*

Keywords: **Student Query System, Query, Query manager, HTML, CSS.**

1. INTRODUCTION

The plan and usage of a broad understudy question framework and UI is to supplant the current physical records framework. Administrators have all the control to directly access the student's query through a secured, online interface embedded in the university website. In addition to a user interface, the web application allows users to access query information and submit any information requests online [1][2]. All data is securely stored in SQL database and provide better security services. It provides a secure login interface to keep a check on users, and confirms to record approach rules, builds the productivity of the university management which helps in the decrease of work hours. Previously, the university relied mostly on manual efforts and physical records for this initiative. While maintaining records in papers are a past way of maintaining the data of the students, having disadvantages. At first, it was difficult to give/carry information/solutions to the student's query, before the information was given through a call or the student has to visit the office to get the required information under a specific time period. This process usually takes quite a long time to give the proper response to the student, whereas physical records are very difficult and time consuming to manage and track any particular information for the student, risk of losing or displacement also takes place. This system provides a general interface for the maintenance of student query [4][5]. The paper focuses on presenting information of asked queries in an easy manner which provides facilities and reduces manual effort and automates the record generation process in an educational institution.

1.1 SCOPE AND OBJECTIVES

The purpose is to develop a university website which contains updated information about university's query asked/ raised by the students/staffs/faculty which will improve efficiency of university record management. This could be an expressed non-verbal discussion. It can run on local computers and phones, though most of the time it is accessed through the internet with logging process.

2. DESIGNING OF SYSTEM (DFD)

A (DFD) Data flow diagram is a representation through the graphs showing the data "flow "of Student query Management System. It can also use to represent how the data flows from one to another, analyzes movement of data through a system. It is major focus, and on that basis development of other components takes place. The information flow graphs show the growth and running environment between user, admin and modules. A full explanation of the module consists of a lot of information stream outlines. Every part in a DFD is marked with a clear name. Cycle is additionally related to a number that will be utilized for recognizing the entries [9]. DFD's evolution is done in different levels. Development of information through the plan of action and changes in the framework are appeared in**Fig.1.**
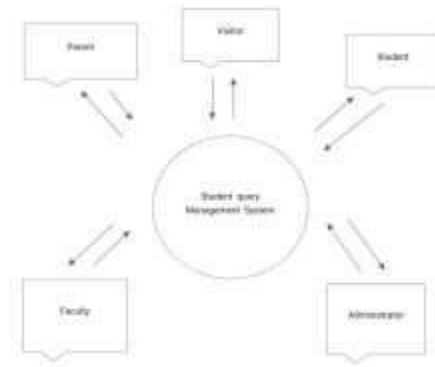
Fig 1. Design of the system

The main focus of this research paper is to deliver the non-confidential information of the university to the required user consistently and managing the query information of the students, faculty and others which is going to be maintained by the university administrator through various levels of controlling.

2.1. Detailed Data Flow

As the DFD shown in Fig.2. Defines the outline of student query manager, basically the structure of the page which provides pathway/access to all the other users and staffs, to get to the Student Query Management System. Every user of the SQMS has a distinctive username and password which is going to be provided by the admin/authority of the university. The home/landing page mostly consists of a login page through which a new or existing user can register/login into the system by simply giving the required details.
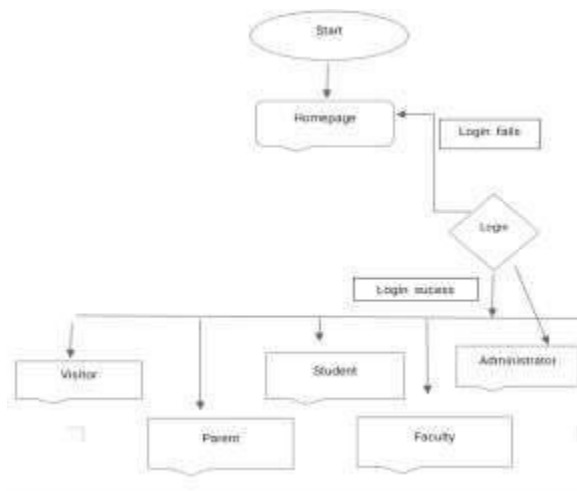

Fig 2. Detailed diagram

STUDENT: The understudy is of focus center, on the grounds that in each college understudy assumes the significant job. Understudy can access/ask the data or can put inquiries related to university.

FACULTY: The staff can refresh the inquiry with respect to the under studies participation, inner signs of the understudies and any data with respect to the course they assigned. They can likewise see the understudy subtleties to have better command over the understudy execution and improving the proficiency of the understudy.

ADMINISTRATOR: The executive is liable for entering and managing the changes with respect to the inquiry asked. The executive will check the all the updates for example understudy refreshes, staff refresh, and so on. The head has the most significant level of intensity in the understudy question the executive's framework.

PARENT: Apart from the major three sections parent module is there, where queries can be asked regarding the university.

VISITOR: The last module of this design and development is for outsiders or guest users who put their queries and can get information/solutions for it, these all are not the permanent users of university so this module gets accessed rarely.

3. REQUIREMENT ANALYSIS

The fundamental prerequisites for the improvement of SQMS are:

- Every client ought to have their own identity and login credentials.

- User can refresh the inquiry data and can see the outcomes/arrangements.

- Faculty and administrator can refresh any data and can reply/react to the inquiry.

3.1. FUNCTIONAL REQUIREMENTS

SQMS has the motive to make university management process more efficient and smoother. The two crucial and important need of this system is student and admin. The admin will have the highest level of power to control the system (empower/debilitate/update) than other existing users.

3.2. NON-FUNCTIONAL REQUIREMENTS

Performance Requirements:

The proposed system, that will be developed, will be used as a helping hand of organization for maintaining all the sets of data of the students studying in the organization.

Safety Requirements:

The information warehouse may get shut at a specific time because of infection or working framework disappointment. Subsequently, it's needed to have the information base reinforcement.

Security Requirements:

A settled database going to be created by us in which there are several categories of people with respected modules and depending upon those categories the access rights are pre- decided/allotted, which signifies that if the user is an administrator then he/she has the overall control on the proposed framework.

4. DATABASE DESIGNPROCESS

It would be very true if we say that database plays an important role in most of the areas where systems are, included starting from business to science.

Database Management System (DBMS) is an assortment of projects that empowers clients to make and keep up an information base. DBMS is a general – reason programming framework that encourages the way toward characterizing, developing, controlling, and sharing information base among different user and applications. Characterizing an information base includes the determining the information types, structures, and requirements of the information to be put away in the data set. The data set definition or expressive data is additionally put away in the information base as word reference; it is called Meta information developing the data set is the way toward putting away the information on the capacity medium that is constrained by the DBMS. Manipulating a data set incorporates capacities, for example, questioning the information base to recover explicit information, refreshing the data set to reflect in creating reports from the information. Sharing an information base permits a different clients and projects to get to the data set at the same time. Application program gets to the information base by sending inquiry or solicitation for information to the DBMS [11][8]. A question regularly makes some information be recovered; an exchange may make some information be perused and some information to be composed into the dataset.

TECHNOLOGIES USED HTML

HTML- stands for "hypertext mark-up language" which is actually a spine of any site. Each site can't be organized without the information on html. Our web page is being developed and designed by the helping hands of html, as we cannot include a considerable amount of the attributes in a web page, for making it more productive and fruitful.

CSS- CSS stands for "Cascading Style Sheet." It is used for making and designing of Web pages. It helps in changing the text and size of the tables and different parts of Web pages. The main goal is to isolate the substance of a web report. There are several benefits that one can get through it like Better fulfillment and many more. It has a good control power and has better accessibility and flexibility. It ensures to reduce the difficulty and save the time of demonstration. It is also capable of providing different styles and set of protocols.

JAVA SCRIPT- JavaScript is viewed as one of the most celebrated scripting dialects ever. The primary utilization of this scripting language is to include different Web structure approvals, functionalities, program recognitions, etc. That is the reason it is upheld by practically all internet browsers accessible today like Firefox, It is regularly utilized for the advancement of user side web improvement. It is utilized to help site pages to perform more intelligent and dynamically.

PHP- PHP is widely used open source scripting language for designing dynamic web applications, in PHP, dynamic and united website can be built quickly and easily. This fits straight into the heart of html and is consistent with many other web servers like Apache and the Microsoft's IIS. PHP contents are also executed on the worker and it upholds different information bases like MySQL, Oracle, Solid, Generic ODBC and so on; in any case, it is utilized with MySQL more**.**

SQL- SQL stands for "Structured Query Language" it helps us to match and manipulate the databases. SQL can execute queries, insert records, delete records, update records, retrieve data, create new tables, views, procedures, database and set access rights in databases.[1]

5.   RESULTS

Fig.3. Home Page

The web application starts with this page, giving pathway access to all the modules from here, as you can see in **Fig.3.**you can access to various given modules.
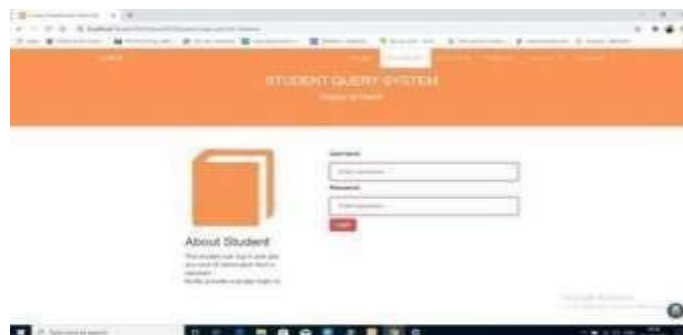

Fig.4.Student login

Fig.4.shows that students can access their accounts and can put their queries, as given **Fig.5.** You can see the options given to the students after logging successfully; they were taken to my account Option where they can ask queries, change their passwords and see details.
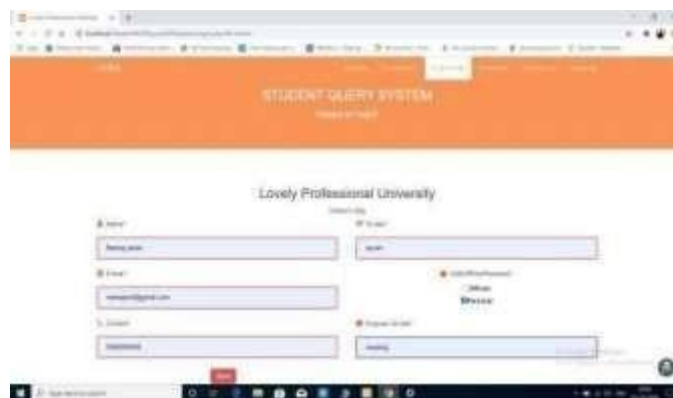

Fig.5. Myaccount

Fig.6. Visitor page

Visitor page is a temporary access used by the University for Guest Users, where they can enter their details with purpose of visit.
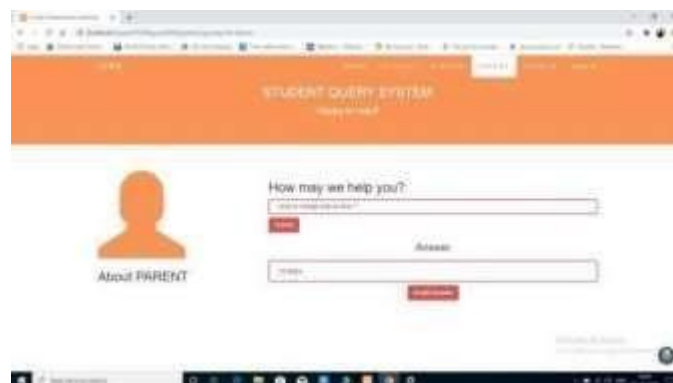

Fig.7. Parent query page

Parents can simply put their queries and gets the answer for it anytime in their free time, exactly same in **Fig.8.** Shows the faculty page where they can put their queries according to their requirements after logging.
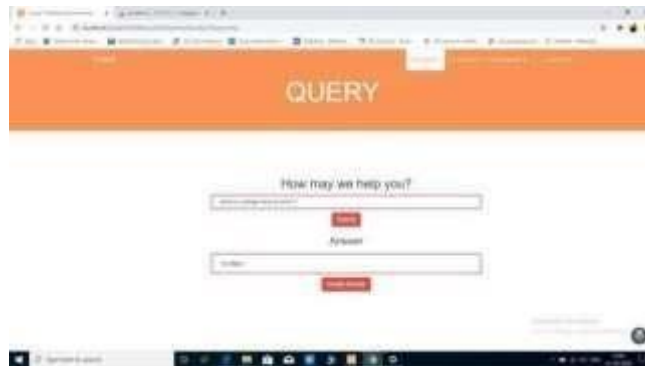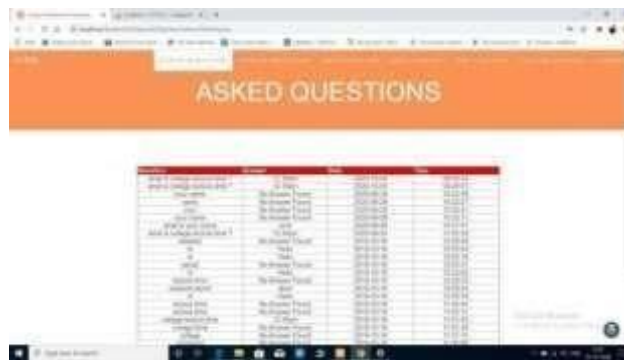

Fig.8. Faculty page

Fig.9. Admin page

Admin module has also the same login interface as others but as admin has the overall control over the system, after logging as you can see in fig.9. Admin has all the access to see the asked questions, invalid questions, can add new queries, update student and faculty details and can even see the visitor details.

6. CONCLUSION

This research paper helps with the process of the current manual structure called "A paperless procedure", it is quite well and can be checked and controlled distantly. It also decreases the day to day effort required. It gives precise data consistently. The information which is collected and stored helps in deciding for managing, it is finer to have a query manager system. All the users and the admin can get the necessary details without any delay. This system is basic in the Universities. The principle thought process behind the project were to build up a system to give general information in detailed that will be used to recognize answers related to questions submitted by the users. To build up an 24/7 information warehouse were all the related information will be put away and to build up a web interface which consists two sections, one for the basic users and one for the admin or the higher authority who updates or address the queries asked by the users. An information warehouse is created, which stores general data related to academics, examination, fees scheduling, upcoming skill enhancing or extra-curricular events, watchwords, logs and input messages. A similar framework is planned, created.

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