

Management Information System For Educational Organization :A Precious Tool Used For Managing Huge Information And Decision Making.

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Abstract:

The Management information system is a tool that is used for managing the huge information of an organization and for decision-making. In order to manage this huge information it should be stored in structured manner. For this purpose DBMS i.e Database Management System is used. Database is a collection of interrelated data which helps in efficient retrieval, insertion and deletion of data from database and organizes the data in the form of tables, views, schemas, reports, etc. DBMS is a software which is used to manage database. With the help of DBMS it becomes easy to access information whenever necessary as information is stored in the form of tables that is in structured manner. Also it provides additional functionalities like Multiuser Access, Authorization and Privilege control features and also Functional Dependencies and Constraints.

For retrieving the required data from database we use the concept of Information Retrieval. Information Retrieval is the activity of obtaining information from warehouses as here we are collecting information from various resources. Information Retrieval deals with the representation, storage, organization of, and access to information items. The representation and organization of the information items should provide the user with easy access to the information that is needed. User information need cannot be used directly to request information from the database. Instead, the user must first translate this information need into a query which can be processed by the search engine (or IR System). In its most common form, this translation yields a set of keywords (or index terms) which summarizes the description of the user information need. Given the user query, the key goal of an IR system is to retrieve information which might be useful or relevant to the user.

Data retrieval, in the context of an IR system, consists mainly of determining which documents of a collection contain the keywords in the user query which, most frequently, is

not enough to satisfy the user information need. An information retrieval process begins when a user enters a query into the system. Queries are formal statements of information needs. In information retrieval a query does not uniquely identify a single object in the collection. User queries are then matched against the database information. The required information is then given as an output in the form of projection or aggregation as per the features provided by database.

Keywords: MIS, Information retrieval, Educational MIS.

1.1.1 Existing Traditional System

The existing system used in the college is a complete manual process. As we have to maintain records monthly, yearly the records are stored using files, registers. Using present manual process it is difficult in maintaining data, moreover it is time consuming and error prone. There is wastage of stationary and more human resources effort is required

1.2.2 Drawbacks of Traditional Existing System

- Takes lot of time and also requires more man power.
- Wastage of stationary and error prone.
- Difficult to maintain records.

1.2.3 Motivation for Study

The existing system used in the college is a complete manual process. As we have to maintain records monthly, yearly the records are stored using files, registers.

Using present manual process it is difficult in maintaining data, moreover it is time consuming and error prone. There is wastage of stationary and more human resources effort is required. So by automating the system traditional concept of managing information can be modified. Because of this there will be effective utilization of time and human effort and also data can be made available to user at anytime.

Literature Review:

Sr no	Title	Author	Year	Description
01	MIS system to help managers for providing decision making in organization	G.Satyanarayana Reddy, Rallabandi Srinivasu	2011	In this paper, we studied the actual purpose of management information system.
02	A review paper on Management Information system	S.S.Kadam and Prof. M.A.Sutar	2017	In this paper, we studied the importance of MIS, Applications and methodologies used in MIS.
03	MIS and its role in Decision Making	Lahar Mishra, RatnaKendhe and JanhaviBhalerao	October 2015	This paper focuses on understanding the concept of MIS, MIS model, how decisions are made using MIS and the working of MIS. Also How to generate reports as an output in MIS.
04	Term Paper on MIS	Rahul P	2015	In this paper ,we got an idea about the approach needed in MIS, different models and data processing to be done in MIS.

2.1 Problem statement

In all the organizations vast amount of data is present. And that data needs to be maintained systematically so that whenever that data is required for any processing it is made easily available. To maintain this huge amount of data manually, it becomes very complicated and time consuming task. So to make it more efficient and easy to maintain, we propose a web application called “Management Information System”. By automating the present manual system leads to more effective utilization of time

2.2 Objectives

- To provide information for decision making on planning and organising the vast data of the organisation.
- MIS is highly computerized so it provides accurate results.
- To reduce time and paperwork.

2.3 Technologies and Associated Platforms

2.3.1 Hardware Requirements

- Processor: Intel(R) core™ i3-4030U CPU@ 1.90GHz*4
- Installed Memory-(RAM)-4GB

2.3.2 Software Requirement:

- System Type- 64-bit Operating System
- Operating System used- Windows 7
- Programming Language used-PHP
- DBMS used- Oracle 10g

3.1 Functional Requirements

- Input: 1.Role based user access.
2.Collection of information from various academic departments/ sections.
- Output: Monthly and yearly records and analysis of organization.

3.2 Non Functional Requirements

- Performance
It will generate analysis reports faster than manual process of analysis.
- Security
The system is password protected only authorized person can access it by entering his user name or password.
- Usability
It is easy to handle this software and there is simple user interface that does not contain any complex design.

4.1 System Architecture

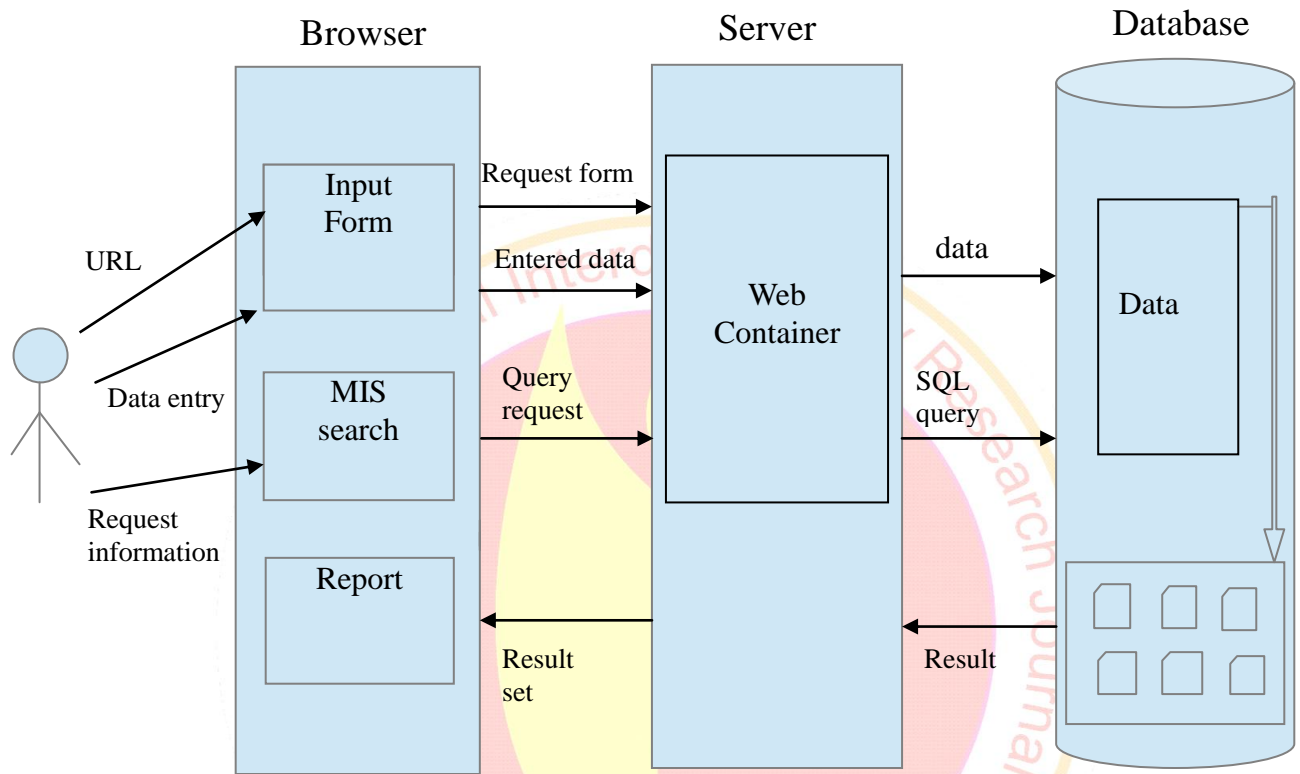


Fig 4.1: system architecture

4.2 Activity Diagram

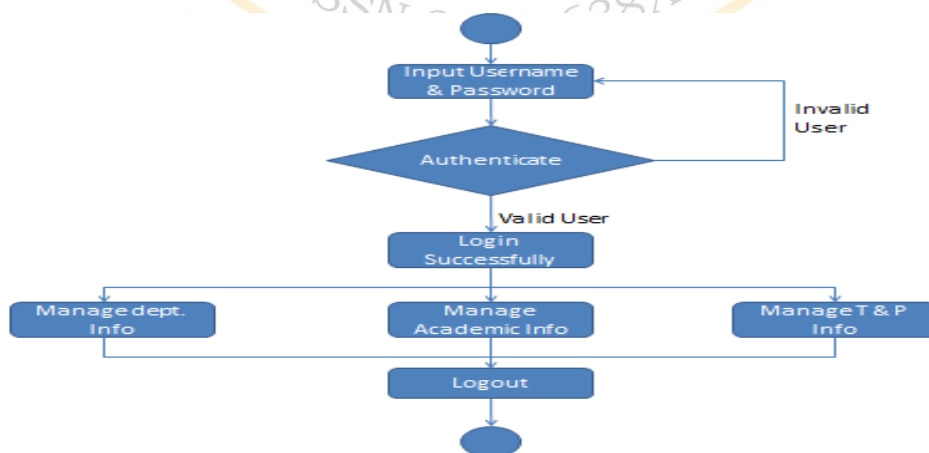


Fig 4.3.4: Activity Diagram

The main modules involved in college MIS are

5.1 Data entry

Information is collected from various resources like department, training and placement cell and activities and workshops conducted. After collection of information every department will be given an interface in a given format.

The incharge of every department has to fill the form with required details. The entered information will be differentiated into various fields like activities, events, training and placement activities etc.

5.2 Data storage

The collected information is stored in the form of tables in the database. There are two types of tables- Master tables and Transaction tables.

The entire collected data from all the departments will be stored in the Master Tables.Roles based access to information is provided.

5.3 Report

All the above mentioned data are stored in the back end and can be retrieved in the form of reports. For this, the user has to give composite queries and the result set is given in the form of reports. Data will be retrieved from database in the form of aggregation or projection as per the need of user.

These reports will be generated as per the need of various committees, like NBA, NAAC, etc.

6.3 Test Cases

Test cases for login form

TestcaseId	Step	Input	Expected o/p	Actual o/p	Status
1.Login Form					
1.1	Username should consist alphabets or numbers	System	It should be accepted	It is accepting	Pass
1.2	It should not take null	No input	It should show that it is mandatory field.	Gives notification of mandatory field	Pass
2.Password field					
2.1	Password should be encrypted	Enter password	It should be encrypted format(*)	Shows "*" in place of password	Pass
2.2	It should not take null	No input	It should show that it is mandatory field.	Does Not take null input	Pass

Test cases for Data Management

Test case Id	Step	Input	Expected o/p	Actual o/p	Status
3. Operations on data					
3.1	Click on Add tab	Given data	It should be successfully stored in database	It is Stored	Pass
3.2	Click on Delete tab	Given data	It should be successfully deleted from database	It is Deleted	Pass
3.3	Click on Update tab	Given data	It should be successfully updated in database	It is Updated	Pass

8.1 Conclusion

It gives more accurate and precise analysis for student performance with help of graphical representations. The existing Management Information System used in organizations is completely manual. As it is required to maintain records monthly and yearly, there is lot of paperwork and the process is error prone and time consuming. So to avoid this, we propose a web application called "Management Information System". Because of this automated system, time and manpower can be more effectively utilized and online information can be easily available to users. Also it becomes beneficial to authorities to analyse the data easily and effectively.

8.2 Future Scope

As the Management Information System is limited for only college academics so it can be further extended at University level.

References:

1. Management information systems research papers- www.enotes.com
2. This paper focuses on understanding the concept of MIS, MIS model, how decisions are made using MIS and the working of MIS. Also How to generate reports as an output in MIS.
 - Software Engineering- PankajJalote
 - Object-oriented Modeling & Design- James RambaughFor referring the project diagram.

