

# Student Information Management System

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**Abstract**—The mission of the Student Information Management system is to create an integrated information technology environment for students, HOD, faculty, staff and administration. Our goal is to focus on services and integration for end users. It is a web based self service environment for students, prospective students, and employees; an administrative transaction processing environment for yearly admissions; an informative environment for all levels of faculty and staff to do reporting, data extraction and information analysis. It is mainly useful for educational establishments to manage student data which also facilitates all individual associated information for easier navigation on daily basis. It provides capabilities for entering student test and other assessment scores, building student schedules, tracking student attendance and managing many other student-related data needs in a college. Our easy-to-use, integrated college administration application would be used to reduce time spent on administrative tasks, as to concentrate on other skillful practical activities other than book worming. It can accept, process and generate reports at any given point of time accurately.

**Keywords**—Student-Information-System; TSFS-security-algorithm;

## I. INTRODUCTION

The design and implementation of student information system is to replace the current paper-based records [1]. College Faculties are able to directly access all aspects of a student's academic progress, attendance-details and various activities of students through a secure, online interface [6]. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, the system plans for student user interface, allowing users to access information and submit requests online thus reducing processing time. All data is stored on servers managed by the college administrator and ensures highest possible level of security. The system features a logging system to track all Users-access and ensure conformity to data access guidelines and is expected to increase the efficiency of the college's record management thereby decreasing the work hours needed to access and deliver student records to users. This system provides a simple interface for the maintenance of student information. Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using student information management system: -Providing the online interface for students, faculty etc., Increasing the efficiency of college record management, Decrease time required to access and deliver student records, To make the system more secure, Decrease time spent on non-value added tasks.

## II. LITERATURE STUDY

### A. *Toward a Student Information System for Sebha University*

This paper [1] basically focuses on providing a simple interface for the easy collation and maintenance of all manner of student information. The creation and management of accurate, up-to- date information regarding students' academic careers is critical students and for the faculties and administration of Sebha University in Libya and for any other educational institution. A student information system deals with all kinds of data from enrollment to graduation, including program of study, attendance record, payment of fees and examination results to name but a few. All these data need to be made available through an online-interface.

### B. *A Study of Student Information Management Software*

This paper [2] focuses on providing information to support the operation, management and decision-making functions of enterprises or organizations. In the face of huge amount of information, it is required to possess the student information management system to improve the efficiency of student management. Through this system, the standardized management, scientific statistics and fast query of student information can be realized, and thus the workload of management can be reduced. In this paper, a typical student information management system will be established to realize the systematization, standardization and automation of student information relationship.

### C. *Web Based Student Information System*

This paper [3] focuses on simple interface for maintenance of student information. The creation and management of accurate, up-to- date information regarding a student's academic career is critically important in the university as well as colleges. Student information system deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details, placement details and other resource related details too. It tracks all the details of a student which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters, years. Different reports and Queries can be generated based on vast options related to students, batch, course, faculty, exams, semesters, certification and even for the entire college.

### III. METHODOLOGY

In this study [3], both quantitative and qualitative approaches will be used. The design phase was studied by examining documents and researching existing systems for clarity and verification of facts to be collected that are going to be adhered in our system. It will be carried out as illustrated by the diagram below:

#### 1. SYSTEM DESIGN

The design of the student information management system includes the design of the home page which provides the way for all the students, staff and other user to access the system. Every user of the system has a unique username and password. The home page mainly contains a login form through which a new user can register, or an existing user can login to the system by entering the username and password.

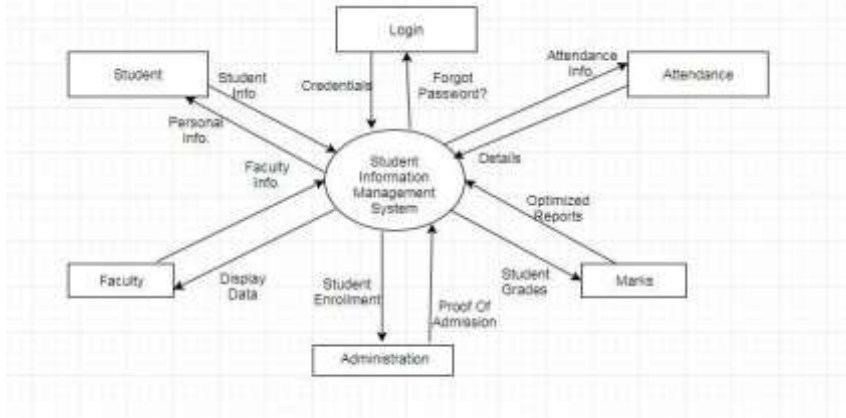


fig 3.2 System design

#### A. STUDENT:

The student is of center focus ,because in every college student plays the very important role . Student can access the information of the college, course details, subject details, faculty details, training and placement cell information and exam section information wherein the course details include information regarding branch of studying, the academic calendar of the college, year wise subject offered by the branch, the subject details include the syllabus of the subjects, information regarding the staff handling the subjects, the subjects he presently registered for the semester he is presently studying, attendance and internal marks of the subjects, he can also ask any queries to the staff regarding the subjects. The placement details include the information about the companies , the eligibility criteria for attending recruitment of the companies, the process of recruitment, the date and time of the recruitment. The placement cell updates the students information who got selected for a company. The exam section details include the internals and external time tables, the room allocation for the exams, it also contains the semester end results.

#### B. FACULTY:

Each teacher has one file that enables them to keep their schedules, students, and classroom information all in one place. That single database file allows administrators to have up-to-date information about the teachers and their classes at any time. It is faster for teachers to fill out classroom reports and forms using the interactive teacher database because all of the basic information including the teacher's name and classroom details are automatically placed in the form. Teachers simply fill in the details and click OK. Reports and forms are automatically saved to the teacher's file. They can also view the student details for better understanding the student performance and improving the efficiency of the student. The staff also gets the updates from the college regarding any events occur in the college. They can also get the notifications from the placement cell and exam section.

#### C. EXAM SECTION:

The examination section is responsible for updating internal and external examination time table. They also allocate time slots for the updating the supervision list for the faculty by generating unbiased schedule to equally allocate the duty and also provides benefit of work if faculty supervises supplementary and classroom allocation for the students in the examination. The verification of marksheet and approval of the internal marks are done by the exam department.

#### D. PLACEMENT CELL:

The placement officer is responsible for updating the placement related information like eligible criteria for a particular company, arriving date for the company which is coming for recruitment, the list of students who are eligible for attending the recruitment process. The list of student who got placed in a company and the placement officer can access the student information from the student database for selecting the eligible candidates list for placements. He also can send notifications to students regarding any information.

#### E. ADMINISTRATOR:

The administrator is responsible for entering the new student, promoting the student from one class to another, from one semester to another and from one year to another. Managing the student accounts like any changes regarding to the name, address etc. The administrator also manages the faulty accounts like entering a new faculty, assigning the faculty to the subjects. The administrator also updates the college related information like calendar of events, information regarding any other events that occur

in the college. The administrator will check the all the updates i.e. student updates, faculty updates, exam updates etc. The administrator has the highest level of power in the student information system.

## 2. SYSTEM SECURITY

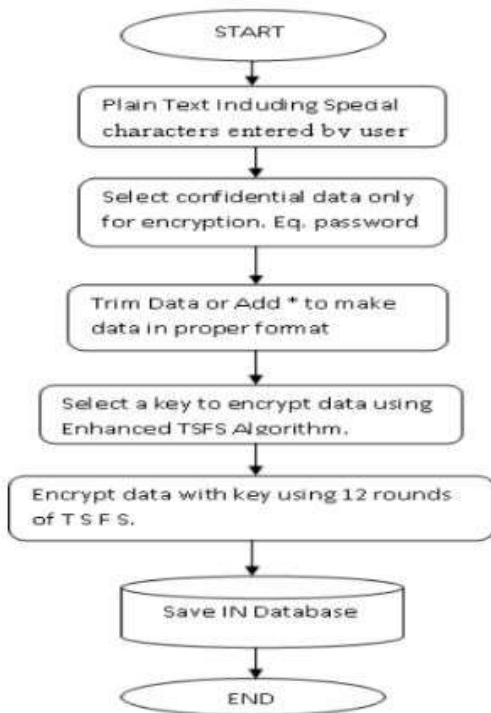


fig 3.3 System security

The TSFS algorithm [4] is implemented whenever dealing with sensitive data such as passwords, address, marks, etc. It processes the data with 3 keys which are splitted into 12 sub keys, the given keys are stored into 4 X 4 matrix, so length of key must be 16 digits and if user provides less than 16 keys then padding is done to store into the matrix. After that we'll shift the rows for key expansion to perform 4 operations on them.

## IV. CONCLUSION

It is always prudent to opt for a student information system that is designed using modern system architecture to cope with changing requirements. This system should encompass very solid information coding and distinctly outlined business applications. The overview of system elaborates the ease of information delivery at the tip of your fingers with precise data and increases the retention rate of student and teaches them how to manage their time efficiently.

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