Assignment

Experiment No: 05

Experiment Name: School Management System

Course Title: CSE 326

Course Code: System Analysis and Design

Submitted To:

Supta Richard Philip

Senior Lecturer

Department of CSE

City University Dhaka

Submitted By:

Name:Hafijur Rahman

ID: 171442648

Batch: 44th

Program:CSE(Eve)

Submission Date:

Introduction:

This System Requirement Specifications Document forms the basis for the design and development of the" Student data management". The purpose of this document is to define all the processes involved in the function of Student data management. The requirements of the software relating to the functionality, interfaces, logical database requirements and various other aspects of the software are also explicitly defined. The SRS document will also act as the basis for understanding between the end-user and the designer/developer.

Information Description:

The development of this system assists in the maintenance of the information and to fulfill the complete software requirements of the system.

Functional Description:

A processing narrative is provided for each function, design constraints are stated and justified, performance characteristics are stated and diagram is included.

School Management System

School management is concerned with the planning and formulation of educational policies of programmes with a view to achieving educational goals.

School Management System is a is a complete school management software designed to automate a school's diverse operations from classes, exams to school events calendar. This school software has a powerful online community to bring parents, teachers and students on a common interactive platform.

Some problems are old School management system

1. Paper-based processes

Educational institutions are burdened by cumbersome paperwork and manual processes, and they find it difficult to maintain records on attendance, fees, admissions, transport, etc., and track the information they need. Using School Management System, automate academic processes to save time and reduce staff workload.

2. Online Registration

Students no more have to stand for hours in the queue to pay fees. Simplify registration and fee collections with online forms, with the ability to send automatic notifications, alerts and reminders via email, SMS alerts and push notifications from mobile devices.

3. Admission & Enrollment

Colleges and Universities are finding hard to achieve admission and enrollment targets. Aligning people, processes and technology with simple & user-friendly cloud-based education solution will help institutions to manage information from inquiry and application to admission and enrollment.

4. Course Management

Designing a course curriculum that can adapt to the changing needs of the institution is crucial. With a Course Management System institutions can accomplish a lot with limited resources. Create and track course-work, assignments, and exam papers in a conducive classroom environment to support the goal of graduating students.

5. Teacher Evaluation

Tracking the progress of teachers and evaluating the effectiveness of teachers' work is significant. Teacher evaluation system improves communication and collaboration between evaluators and teachers. Student's feedback will measure teacher's performance in the classroom and the automated evaluation process improves student's learning skills, achievement and success.

6. Communication & Collaboration

There is apparently no platform to provide seamless communication between students, administrators, staff and teachers. Moreover, increasing student discipline incidents happen as a result of big communication gap between students and teachers. Web and mobile-based education management system improves communication through instant notifications and alerts via email, SMS and push messages to keep the constituents informed at every step of the journey to build relationship and improve student retention.

7. Classroom Management Strategy

Schools are finding it difficult to handle tardy students, and solve indiscipline and behavior issues. Improve classroom environment with discipline tracking and behavior management system to easily handle tardy students and uninformed absences.

8. Student Monitoring

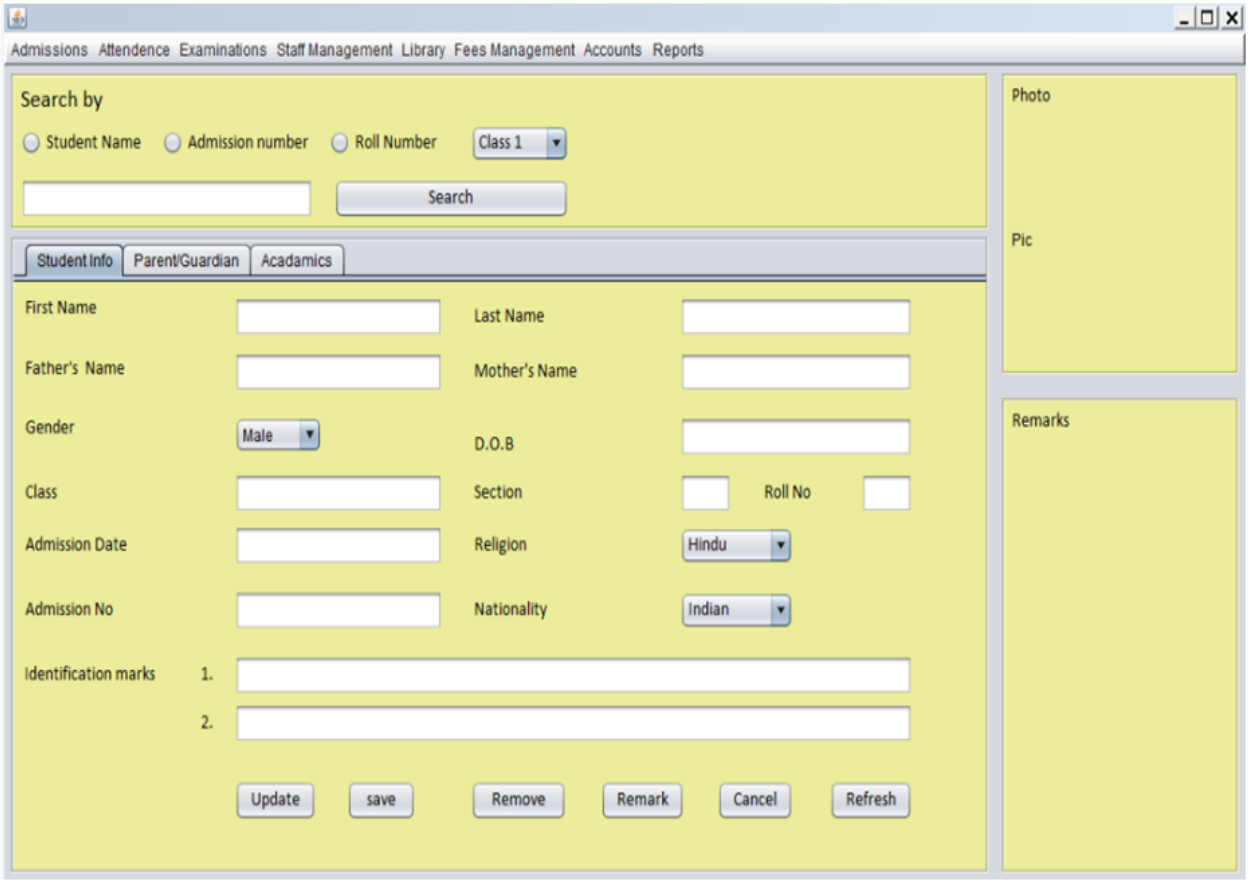
Teachers are struggling to monitor student's activities including attendance, leave, discipline, assignments, etc. School administrators are lacking in result-based monitoring tools to track student progress. Automate and streamline student attendance and absenteeism using student information system which delivers real-time status updates of student activities to support learning needs.

9. Revenue Management

It is difficult for institutions to cope with their finances and track their fee collections and contributions. Seamlessly connect and engage with students, parents and alumni to strengthen relationship and drive greater success.

10. Forecasting the academic achievement

Institutions are unable to manage information and there are endless delays in taking decisions based on complete analysis. Dashboard reports and intelligent analytics are useful indicators for educators to examine attendance, assignments, grades, etc. and predict student outcomes. Using data analytics will help institutions to identify students at-risk and deploy resources to improve achievement and success.



Our School Management system

The School Management System provides an online solution to support a school's diverse operations related to the management of the entire student's life-cycle and of the school itself. Key features include:

1. User Management, enabling different user profiles that allow for each user to manage and access the right information, depending on their profile (student, teacher, staff, etc.) as well as improved security throughout the system.
2. Reporting of operational, HR and financial data, integrating with Turismo de Portugal's central financial system – based on the Oracle eBusiness Suite – and HR management systems;

3. Student Management (Absence Justification, School Fees Management, Social Support / refundable expenses Management, Study Plan);
4. Class Management (Class List, Class Modules, Lessons, Exam Management, Grades);
5. Teacher Management (Teacher Timetable, Time Management, Summaries, Professor List, Substitute Professor Management);
6. Courses Management (Courses and Modules List, Itineraries and Professional Modules, School Degree);
7. School Management (Rooms and Equipment, Timetable Generation, Timetable View, Certificates);
8. Meal Plan Management (Buy / Sell lunch tickets, Meal Schedule);
9. Scholarship Management (Applications / Interview Candidate Process);
10. Student Applications Management (Applications / Application Status, Registration, Placements List, Admission Tests and Interview, Final Grades Submission);
11. Payment Processing, integrated with the central financial system including professors, restaurant, coffee shop, bar and hotel management activities.

REQUIREMENT ANALYSIS

System requirements specification

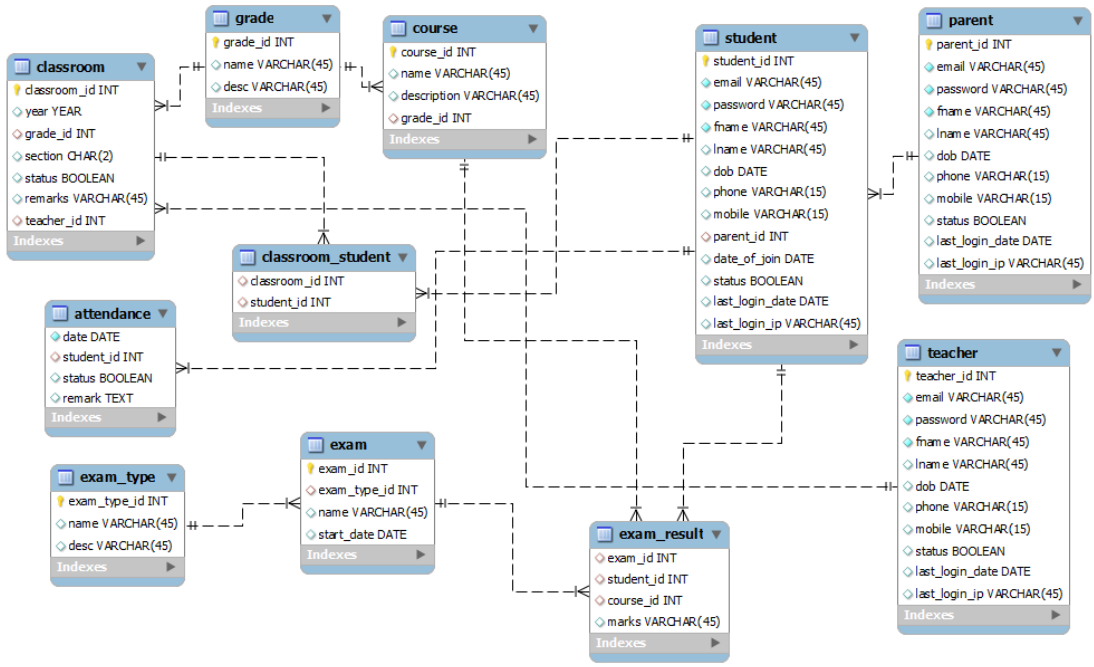
The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behavioral description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

DESIGN AND METHODOLOGY

Data Flow Diagram (**DFD):**

It stands for Data flow diagram it is a diagrammatic representation of the data objects of the system. Basically DFD is a way to show the how the data is processed in the system, it shows how data moves at different stages in the system. DFD is a graphical representation that depicts information flow & the transformations that are applied as data moves from input to output.

Class Diagram



Entity – Relationship Diagram:

Depicts relationships between data objects. The object-relationship pair can be represented graphically using the Entity-Relationship Diagram. A set of primary components is identified for the ERD: data objects, attributes, relationships, and various type indicators. The primary purpose of the ERD is to represent data objects and their relationships.

Data Objects, Attributes, and Relationships

The data model consists of three interrelated pieces of information: the data object, the attributes that describe the data object, and the relationships that connect data objects to one other.

Data Objects:

A data object is a representation of almost any composite information that must be understood by software. By composite information, we mean something that has a number of different properties or attributes. A data object encapsulates data only there is no reference within a data object to operations that act on the data. The data object description incorporates the data object and all of its attributes. Data objects are related to one another.

Attributes:

Attributes define the properties of a data object and take on one of three different characteristics. They can be used to name an instance of the data object, describe the instance, or make reference to another instance in another table. The set of attribute that is appropriate for a given data object is determined through an understanding of the problem context. One or more of the attributes must be defined, as an identifier that is identifier attribute becomes a “Key” when we want to find an instance of the data object.

Relationships:

Data object are connected to one another in a variety of different ways. We can define a set of object-relationships pairs that define the relevant relationships. Object-relationship pairs are bi-directional.

Requirement Analysis

Requirements analysis in systems engineering and software engineering, encompasses those tasks that go into determining the needs or conditions to meet for a new or altered product or project, taking account of the possibly conflicting requirements of the various stakeholders, analyzing, documenting, validating and managing software or system requirements.

Requirements analysis is critical to the success of a systems or software project. The requirements should be documented, actionable, measurable, testable, traceable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

Software Requirements

- Microsoft windows XP/ Windows 7/ Windows Vista/ Windows 8/ Windows 10/ Windows Server 2003, 2008, 2012.
- Visual Studio 2012 should be installed.
- .Net framework should be installed, Crystal report should be installed for report view (visual studio package not installed in OS).
- MSSQL Server 2012 should be installed.
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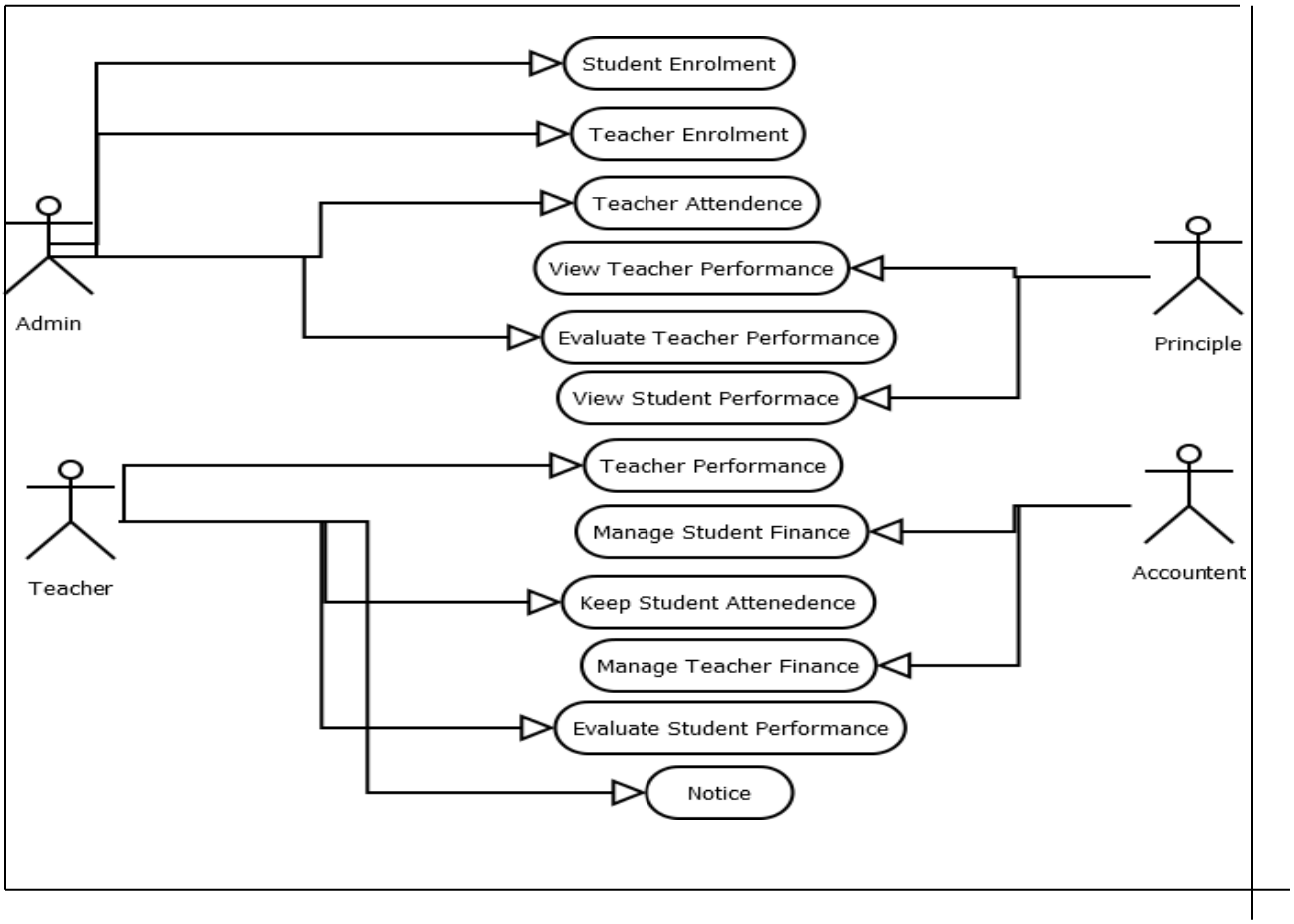
Use case Diagram



Activity Diagram