INSTITUTE OF PUBLIC ADMINISTRATION AND MANAGEMENT
UNIVERSITY OF SIERRA LEONE
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COURSE: BSC. *INFORMATION SYSTEMS*

MODULE LEVEL: *UNDERGRADUATE YEAR 3*

MODULE TITLE: *SOFTWARE ENGINEERING II*

SEMESTER: *SECOND SEMESTER*

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TASK: *PROJECT PROPOSAL*

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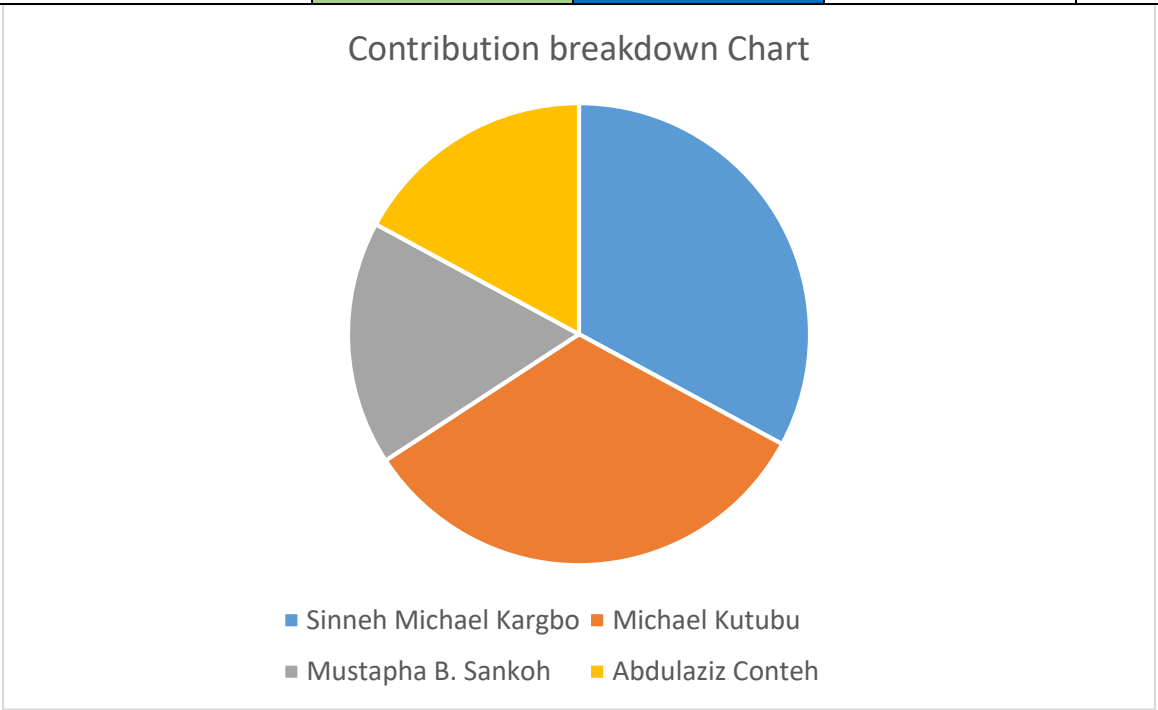
URL - https://github.com/mustaphamichaelaziz/mustaphamichaelaziz.github.io

PROJECT TITLE:___SCHOOL MANAGEMENT SYSTEM (SMS)

Contributions Breakdown page

Features	Sinneh M. Kargbo(A)	Michael Kutubu(B)	Mustapha B. Sankoh(C)	Abdulaziz Conteh (D)
Display form(username and password)	A	B		
Registration	A		C	
Fee Details				D
Enquiry	A	B	C	D
View Enquiry	A	B	C	D
Student Details	A	B	C	



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Section1: PROBLEM STATEMENT

The problem currently facing the school Sierra International School is the management of fast work delivery and revenue management problem. Here, the teacher does not properly handle their workload, and sometimes the subjects are not offered on time. The number of pupils who must study the subjects is not followed. The main problem is to manage the teachers work and subjects scheduling

Also the school Educational setup 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

Within this framework of ideas that our project: “will design and implement a School Management System” which will be use by Sierra International School

Sierra International Academy is located at 26 Main Motor Road Congo Cross, Freetown. This school has since been operating on a manual fees collection and manual receipts methods which poses a lot of challenging for the management in terms of accuracy and security of the monetary transaction.

With a very large population of students, the school is still operating in a paper and manual or file base system.

For student to be given admission, the staff needs to go through a lot of paperwork in order not to duplicate student information and also to know which student has paid a particular amount. All these matters make us thoughtful and instigate us to implement a system that will reduce the **labor**, **cos**t, and **time** of the traditional **record system.** For this reason, we have decided to design an automated School Management System that will minimize if not eliminate the manual and file base system in the school.

WHY SCHOOL MANAGEMENT SYSTEM

- **It will Creates a simplify paperless system**

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, will automate academic processes to save time and reduce staff workload

- **Admission & Enrollment**

School institutions are finding it hard to achieve admission and enrollment targets. Aligning people, processes and technology with simple and user-friendly which will help the school to manage information from inquiry and application to admission and enrollment.

- **Automatic calculation**

Calculates the fees of all students without any error, taking into account all the extra considerations from scholarships, hostel fees, sibling discounts, library fees and any other student-specific charges and discounts.

- **Computations**

Computation of student receipts and other records will be accurately done and easily control by the system.

- **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. The School management system will improves communication through inquiries notifications and alerts via email, and push messages to keep the student inform at every step of the journey to build relationship and improve student retention.

- **Safe and secure**

The system will be saving all the payment details of the students in a safe and secure manner which can be easily access by the school management

SYSTEM REQUIREMENTS SPECIFICATION:

Computer Software has revolutionized how we find, share, and store information. The digital world is moving at a rapid pace and doesn't show any signs of slowing. For business for example such as school, digitized operations have become a fundamental part of success. The title of the project is **"School Management system (SMS)".** This project will handle the current problem of the School.

SMS will have most of the facilities that a modern school requires to computerize its day-to-day transaction running.

- It will provide facilities to keep the records of **students name**
- Fees details of student
- Enquiry details of student
- Will handle total amount of payment quickly
- Will show the time the payment occur
- It will contain facilities to generate various types of reports such as enquiry report
- The old records system is a very laborious and lengthy procedure to operate. It required a lot of staff to do the work. But for this system, it will requires a limited staff to perform these operations:

Section 2: Feasibility Study:

What are the user's demonstrable needs?

User needs a solution which will have all school records, Information, transactions and students details which will remove all the above-mentioned Problems that the user is facing. The user wants a system which will reduce the bulk of records paperwork, provide ease of work, flexibility, fast record finding and modifying, adding, removing and generating students' reports easily

How can the problem be redefined?

We proposed our perception of the system, in accordance with the problems of existing system by making a full layout of the system on paper. We tallied the problems and needs by the existing system and requirements. We were further updating in the layout in the basis of redefined the problems. In feasibility study phase we had undergone through various steps, which are described under:

How feasible is the system proposed? This was analyzed by comparing the following factors with both the existing system and proposed system.

Cost

The cost required in the proposed system is comparatively less to the existing system.

Effort

Compared to the existing system the proposed system will provide a better working environment in which there will be ease of work and the effort required will be comparatively less than the existing method

Time

Also, the time required generating a report or for doing any other work will be comparatively very less than in the existing method. Record finding and updating will take less time than the existing method.

Labor

In the existing method the number of staff required for completing the work is more while the new system will require quite a smaller number of staff.

Aim of the system

This project is based on the Relational Database Management System (RDBMS) technology; the main aim of this project is to computerize the manual system & reduce the time consumption.
In other words, we can say that our project when develop, will contain the following:

- Make all the Records system Computerize
- Will Reduce time Consumption
- Will Reduce error scope
- All the fees transactions system are going to be automated
- All students' records and information will be Centralize in a database.
- It will be easy operations for operator of the system
- No paper work requirement

Section 3: PROJECT PURPOSE

This project as title "**School Management system**" will comes under the Relational Database Management System (RDBMS). This application will be develops with the help of **python language and pyCharm editor**. This Combination comes with high Flexible, Configurable and stable system that features many unique options and can be

easily enhance with custom options depending on the school features and current needs by request.

FUNCTIONAL FEATURES

- ❖ The system will includes functional features that will enable the user to perform the following functions

- **Registration**: Easily enter Student name and other details to the system
- **Fees detail**: Easily enter student name and amount pay ,amount balance and total amount paid
- **Enquiry**: easily enter enquiry details such as name, phone number and purpose of enquiry
- **View Enquiry**: Easily view all enquiry details made by different people
- **Generate Amount**: Calculate total amount pay by student as per course
- **Generate Student details**: Easily generate or display all enters student's details.

- ❖ The SMS will incorporate a multi-user, multi-level authentication system which will ensures that different users can only access them where their work is such student transaction and login

FUNCTIONALITIES/MODULE

The steps for the successful project are as follows: -

- We should define problem completely and the goals should be known before our destination.
- In the next step, we should specify inputs and outputs of our interest.
- Then the structure of various databases should be design which will be use during the programming.
- In the next step, we will specify inputs and outputs of our interest and always provide a way to the user to read back the origin if he/she fined any complex problem at any stage.
- We should know the function of each and every program which will leads us to or helps us to read at the specified goal.
- Then we write this individual program which later on joining solves our problem.
- Next steps involve then testing of program and corrections – if necessary.
- At last, linking all the programs in a well specified manner and combining in the form of a menu, submenu etc. Will be our defined.

- Out of these defined steps, few of the major steps will respect to Project

Section 4: MODULES TO BE USE IN THE PROJECT

This project shall include the following modules for development of the project. These are as follows**: -**

1. LOGIN FORM

This form shows the Login name and password when user enters a valid user name and password then he/she can operate the application.

2. MAIN FORM

This form is a menu-based form that displays the menu for operation of the application. It includes various options for **Registration**, **Fees details**, **Enquiry, view enquiry** and **student details** option.

3. ENQUIRY FORM

This form provides the option to add the name, phone number and purpose of enquiry

4. STUDENTS FORM

This form provides the option to add, delete, search and delete the information of Student.

5. REPORT FORM

With the help of this option from menu user of the system, user can see or take the print out of various reports that will provided by the system.

Section 7: FEATURES SCOPE OF THE PROJECT.

Project Scope Step 1:

1. Identify the project needs

We have clearly able to identify the needs of the project, more likely to set a sound benchmark from the beginning.

Understanding the ‘what and why’ of a project will enable us to set specific goals and objectives. We will also sets the groundwork for what tasks are to follow and how they are to be performing.

Project Scope Step 2:

2. Confirm the objectives and goals of the Project

The basis of the project scope should entail our goals and objectives to be one that follows a SMART guideline. That is, to be Specific, Measurable and Achievable. It should also be Realistic and complete within a specific Timeframe.

Specific–This involves stating accurately what the project wants to achieve. That is, what, why and how these will be done. Clarity we will reduce the chances of ambiguities and misunderstandings.

Measurable – our project will also be measurable in that our goals and objectives will be able to provide feedback and be accountable for.

Achievable –our project's goals and objectives will be achieved, given the resources on hand.

Realistic –our project will be realistic because the goals and objectives can be easy to deliver, especially if we face problems or complications.

Time Frame –our project time frame will meet the project goals and objectives within the allocated time frame. Is it a key criterion to meet these deadlines

Project Scope Step 3:

3. Project Scope description

We have clearly identified all the features and functioning requires for our product.

For example, in this School Management System, we have provided a list that provides how we will build the system, the type of branding requires and so on. In other words, what certain qualities will increase achieving our project's success.

Project Scope Step 4:

4. Expectations and acceptance

Successful projects are ones that take into account the satisfaction of the end-user. Whether they meet the end-users expectations and accept the product, service or process. **The end-users will be Sierra International School who is our customers for the project**

For our customers, we will include in this proposal the pricing, value, and quality of our

products as well as availability, delivery and return policies

Project Scope Step 5:

5. Identify constraints

There are always roadblocks to achieving what we were set out to do. When being aware of possible limitations along the way, it can help us minimize problems that may delay or constrain our ability to achieve our project's outcome.

These can be caused by dynamic environmental conditions (internal and external), technological glitches and/or lack of resources. Communicating such problems with our team early on and taking steps to overcome these hurdles will reduce delays in project completion and keep spending within budget. Whether these are based on assumptions or uncertainty, analyzing their impact throughout the projects timeline further reduces the risk of failure.

Project Scope Step 6:

6. Identify necessary changes

It is always best to avoid reworking the scope of our project, as it means investing in more time, money and resources.

However, at times these changes are inevitable and necessary. Our team will limit changes by taking on the perspectives of our customers, stakeholders, and employees involved in the project. This will minimizes disagreements later on.

Section 6: HARDWARE & SOFTWARE REQUIREMENT
Technologies we will be using:

This project will be a web application that we will develop in python language as backend along with many other supporting technologies such as HTML and CSS

Hardware Interface:
Client Side:
PC:
A personal computer with the following configuration.
Processor: Pentium IV 2.0 and above.
RAM:
512 MB

Server Side:
PC:
A personal computer with the following configuration.
Processor:
Pentium IV 2.0 and above.
RAM:
1 GB
Disk space:
40GB

Software Interface:

Client Side:
Web Browser, Windows XP/Vista and above
Server Side:
Apache Server, Windows XP/Vista and above
Data Base Server:
MYSQL

Communication Interface:

The system will be access over LAN or WAN. For Clients to access application Server the network should be running TCP/IP protocol.

System Interface:

Application would be a self-contained system. It will not access data of any other application nor will other application have access to its data.

Usability:
The user will be facilitated to view and make entries in the forms. Validations will be providing in each field to avoid inconsistent or invalid entry in the databases. Reports screen contains text boxes so that reports can be produced.

Security:

Application will allow only valid users account to access the system. Access to any application resource will depend upon user's designation. Security will be based upon the individual user ID and Password.

Maintainability:

The installation and operation manual of the School management system will be provided to the user.

Availability:

System will be available around the clock except for the time required for the backup of data.

Portability:

The application is going to be developing in python and pyCharm editor. It would be portable to other operating system. As the database will be made in MySQL, porting the database to another database server would be requiring some development effort.

Constraints:

User interface is only in English i.e. no other language option is available. The system will also be Limited to Microsoft services

Acceptance Criteria:

The system will meet the functional requirement and will perform the propose functionality effectively and efficiently.
A user-friendly interface with proper menus will be provided
Data transfer will be accurate and within a reasonable amount of time keeping in mind the network traffic.
The system will not allow entry of duplicate key values.
System will have the ability to generate transactional Logs to avoid any accidental loss of data.

Proposed Milestones:

Although it's not possible to calculate the exact time for the developing of the propose Project, we have made an approximate timeline for the development of our project and It is as follows:

Stages of Development	Starting Date	Ending Date	Duration in days
Initial Study	11/09/2020	18/09/2020	4 days
Feasibility Study	21/09/2020	30/09/2020	9 days
Requirement Analysis	4/10/2020	14/10/2020	10 days
Requirement Specification	16/10/2020	21/10/2020	5 days
Interface Design	23/10/2020	5/11/2020	13 days
Coding	6/11/2020	10/11/2020	4 days
Testing and	11/11/2020	13/11/2020	2 days

Debugging			
Implementation	14/11/2020	16/11/2020	2 days
		Total	49 Days

Proposed Cost:

1. Development Cost: Not Applicable
2. Maintenance Cost: Not Applicable

Acknowledgement:

We are hereby acknowledged that we will abide by the rules and regulations prescribed in the project manual and submit the project within the proposed time.

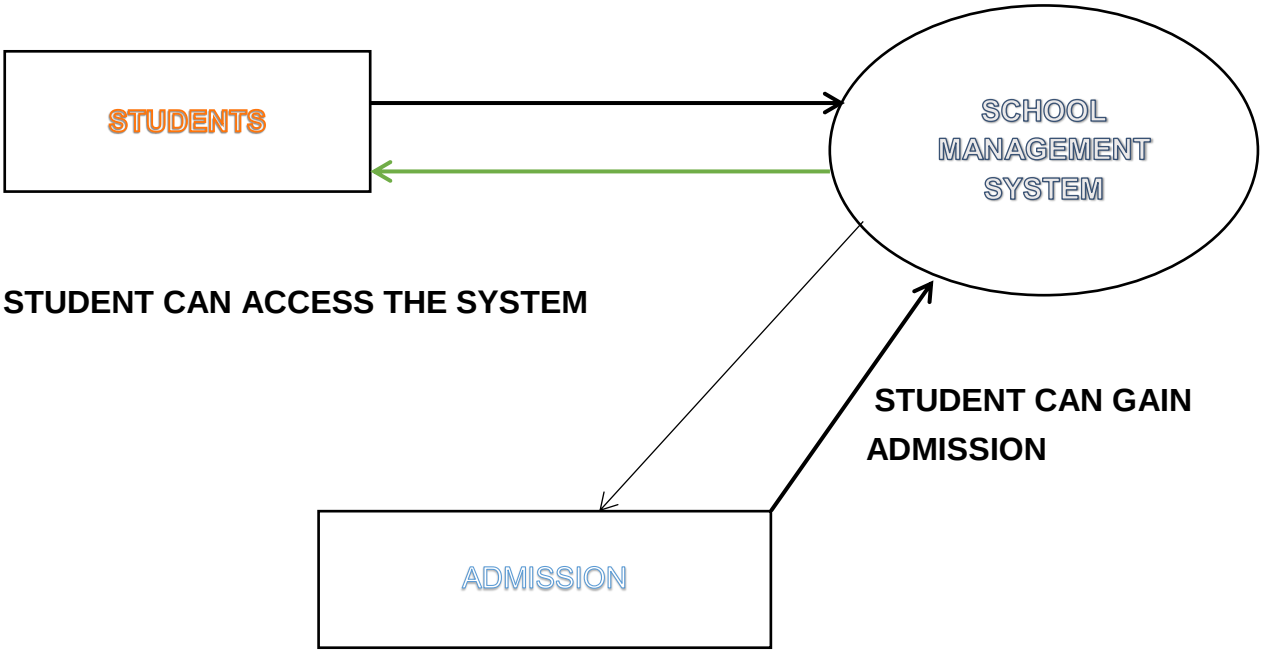
Class Diagram and Interface Specification

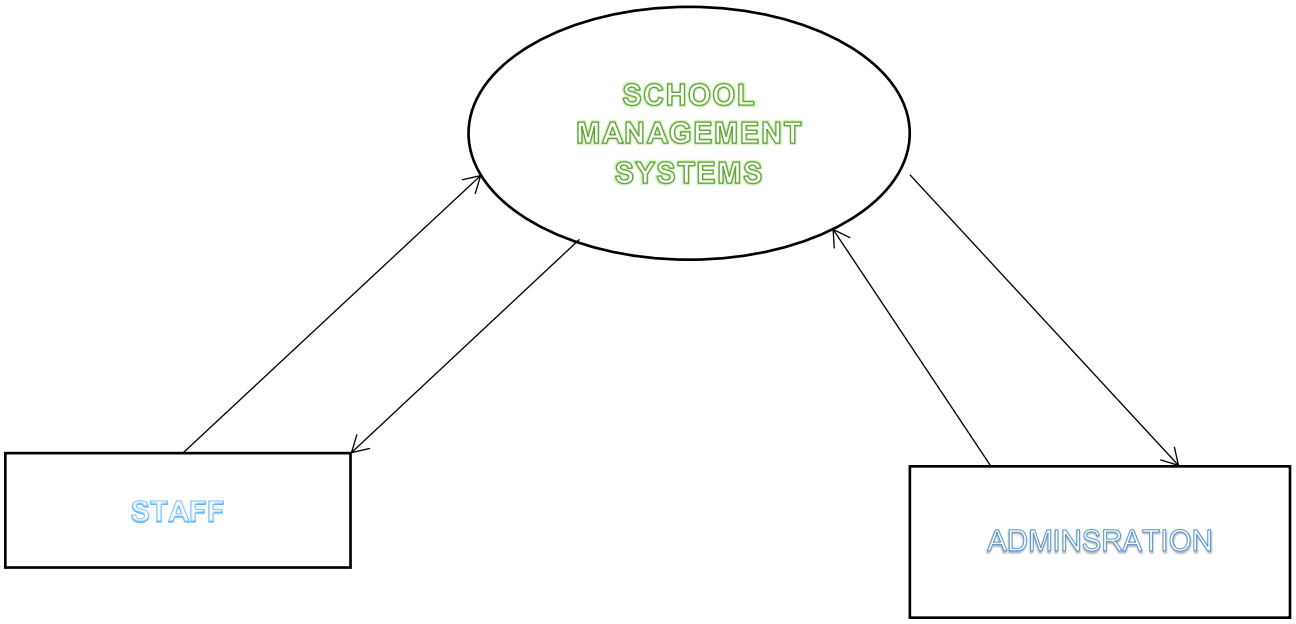
PROCESSING OF SMS

A School has to deal with two external Actors:

- **The student**
- **The school management committee**

The above process shows that students can directly communicate with the school management system through login and registration and management can do the same also. Management can also communicate directly to school management and school management can as well do the same.


STUDENTS
SCHOOL MANAGEMENT SYSTEM
STUDENT CAN ACCESS THE SYSTEM
STUDENT CAN GAIN ADMISSION
ADMISSION



STAFF INTERACT DIRECTLY WITH THE SYSTEM.

SCHOOL ADMISTRATION CAN ACCESS SYSTEM