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PROGRAMMING COMPETITION 2023

CASE STUDY PROJECT FOR TERTIARY INSTITUTIONS - (DURATION: 24-27 OCT. 2023)

DEVELOPMENT OF AN ALUMNI INFORMATION MANAGEMENT SYSTEM (AIMS)

Alumni management system is a dedicated solution or software aimed at enabling organizations - usually colleges and universities, to be in constant touch with the Alumni. An ***Alumni*** (Alumnus) is a graduate or former student of a particular school, college, or university. AIMS provide a platform for Alumni members to connect among themselves and maintain a close relationship with their Alma Mater. **Alma Mater** is *a* school, college, or university which one has attended or from which one has *graduated.* Using a reliable Alumni information management software solution, the platform can allow Alumni members and other graduates to connect.

SOME KEY FEATURES OF ALUMNI INFORMATION MANAGEMENT SOFTWARE (AIMS):

Teams may either develop the application to run either on the Web and/or Mobile and/or Desktop platform. Teams are encouraged to use frontend (users' interface) and backend (such as database file, and a lot more) to store the records of Alumni members. Teams are permitted to get additional information if they so wish by discussing with Alumni in any institution or get more information from the Internet. Any innovations from teams are welcomed. The following are suggested features/components:

Management and update of Alumni Database:

This allows for storing important Alumni data. A comprehensive Alumni management system or solution is capable of storing a dedicated database of the Alumni -including industries and companies information with which they are working and the subsequent positions/ranks. With this database, institutions can publish up-to-date and vital statistics of the Alumni. It helps in improving credibility. It also allows organizations to be in constant touch with the Alumni. The database gets updated with respective changes in the career of an alumnus as follows:

Maintenance of the Alumni database as students pass out of school, such as:
Add record-

- School contact address: Name of student, Student ID, Cell phone no, Faculty, Department graduated from, year of graduation, Final grade, position held in class or school, and a lot more.
- Home contact address: Home address and a lot more
- Current contact address: Office address, cell phone number, email, Next of kin, and a lot more.

Edit, Delete record-

- Keep the above records of Alumni updated, and a lot more.

An excellent Alumni management software will allow your institution and Alumni members to keep a track of exactly where the Alumni are working currently. Therefore, it becomes easier for them to understand the contact details to reach out to Alumni.

Electronic Voting (eVoting):
eVoting module handles election of Alumni executive members such as President, Vice President, Secretary General, Treasurer, External Affairs Officer (EAO) and Internal Affairs Officer (IAO). This module is used for voting and winners are displaced after voting. All members of the Alumni are permitted to vote for any candidate of their choice. The executive members are also members of the Alumni.

Plan and organize Alumni meetings:
As the data is managed properly of all the ex-students you can plan and organize online meetings with every member of the AIMS platform. Discussion and information about meetings can be done using the platform.

Payment of annual dues and management of income/expenditure system:
The platform must be able to allow members to pay and manage monthly dues of N$500. Payment list and defaulters/debtors are captured and displayed using the platform. The money/dues collected are used to organized social events, hold meetings, and engaged in projects. Such project involves developing housing projects, water system, hostels, roads for the Alma Mata and the community. The sum of N$2000 is giving to each Alumni member during invited ceremonies such as wedding, loss of loved ones, birthday celebrations, and a lot more. An amount known as profit sharing is giving to all members in December every year, the profit is calculated as Profit=Total contribution divide by 4.

Job placement:
The AIMS platform also provides one centralized area to post, or view, job opportunities and internships for Alumni members.

Company and Alumni News:
Engage members by posting company updates and event information on the AIMS platform.

Messages and mailing list management:
Push notifications to effectively communicate with your graduates and keep your Alumni engaged. Live chat/messages that help your Alumni to keep in touch with their classmates and fellow graduates.

Searchable Online Directory:
The information of all Alumni members can be searched using name or year of graduation or student number. The platform enables you to connect with an old classmate or looking for professional advice. The directory makes your network reachable at the click of a button.

Career Advice Content:
This supports Alumni as they build a career development plan or move through their career transition. The AIMS platform must showcase carrier information on the platform to advice members, particularly new members. Members can carry out research about organizations and potential employers, and use the information to advice other members.

Photo Gallery:
A centralized place to view all photos and albums of Alumni and previous Alumni activities/events and keep great memories alive.

PROGRAMMING COMPETITION 2023-SCORESHEET/RUBRIC FOR TERTIARY INSTITUTIONS.

Criteria	Implementation Level					Highest Mark	Mark Earned
Compiling and Execution	Program doesn't compile, full of errors [0 Mark]	Limited syntax and semantics errors [2Mark]	Less than 10 syntax errors and correct semantics [4Marks]	Code compiles but incorrect output half of the time [6 Marks]	Complete Compiling and executing, well-handled errors on runtime [10 Marks]	10	
Logic and correctness (Code and planning)	No logic and incorrect ness in the logic displayed [0 Mark]	Incomplete logic and solution partially correct [2 Mark]	ad hoc solution; program "designed at the keyboard" but correct [5 Marks]	Logic partially planned out [10 Markoos]	Logic well thought out and planned as per requirements [15 Marks]	15	
Completeness as per specification,	Incomplete program and no link to specifications [0 Mark]	Little to no specifications implemented [2 Mark]	Partial implementation and missing some specifications [4Marks]	Most specifications implemented but some incorrect [6Marks]	Program satisfies specification completely and correctly [10 Marks]	10	
Coding Style	No coding style and program code unstructured [0 Mark]	Incomprehensive code, appropriate language capabilities not used [2 Mark]	Code hard to follow in one reading; poor use of language capabilities [4 Mark]	Code semi-formatted easier to follow and most language capabilities used [6 Mark]	Well-formatted, understandable code; appropriate use of language capabilities. [15 Mark]	15	
Knowledge of language	Entry-level understanding of language [0 Mark]	Above-entry level of programming language [5 Marks]	Moderate knowledge of language [10 Mark]	Above average knowledge of language but no expert level [15 Mark]	In-depth knowledge, appropriate use of functionalities and optimized [20 Marks]	20	
Problem Understanding (Flowcharts and pseudocodes)	No understanding of problem/ specification [0 Mark]	Problem transformed and diverted from initial idea [4 Mark]	Partial understanding and transformed / simplified [6 Marks]	Most relevant components of problem well thought out [8 Marks]	All Problem components well analyzed and completely understood [10 Marks]	10	
Comments and Documentation	No comments at all [0 Mark]	Few random comments, not documentation formatted [4Mark]	Wordy, unnecessary, incorrect, or badly formatted comments [6 Mark]	Partial, well written or formatted comments and documentation style [8 Mark]	Concise, meaningful, well- formatted comments and professional documentation [10 Marks]	10	
Deployment	No deployment or plan to deploy [0 Mark]	System running as standalone components and not ready for deployment [4 Mark]	System only deployed on local machine [4 Mark]	System deployed locally but with complete plans to deploy [8 Mark]	System deployed on cloud platforms or distribution platforms or run live on test server [10 Marks]	10	
						Total Mark (100)	

Groups/Teams are to submit their project files/folder and documentation to GitHub or Google Drive.

The following steps show how to upload your project files or folder on Google drive, incase you are using Google drive.

Log into your gmail account
Enter this URL: https://drive.google.com/drive/my-drive
Click on New.
Select File upload to upload a file or Folder upload to upload a folder.
Right click on the File or Folder that you have uploaded.
Select Share.
Select Share again to share the Folder with people, enter this email: prg.competition@gmail.com
Click Done.

PROGRAMMING COMPETITION 2023 – TERTIARY INSTITUTIONS' DOCUMENTATION

Groups/Teams should use this document template in MS Word to suit their Group project-AIMS. The format of the MS Word file should be: Font: Calibri, Font size 12, line spacing: single

Your project documentation in the below format and the folder/files containing the codes must be submitted on GitHub or Google drive and share with prg.competition@gmail.com on or before 08h00 on Saturday, 28 October 2023.

GROUP MEMBERS

Sn	Name	Name of institution	Role played in the project
1	Daniel Muteka **(TL/Coach)**	IUM	I drew the flowchart for the system design
2	Ralph Dyakugha	IUM	I wrote and tested the program for viewing the patients on screen
3	Mutelembi Simtaa	IUM	Did not do any work
4	Tengeevandu M.Katjiuongua	IUM	I supported the Team Leader in the documentation of the software
5	Ritjiuka Kauapirura	IUM	I wrote the algorithm

This Table should be filled by the Team Leader (TL/Coach)

TITLE OF PROJECT:

Development of a Hospital Management System

DATE:

28 October 2023

TABLE OF CONTENT

1.0 DESCRIPTION OF PROJECT:

Type the description of project here

e.g. Our project **Hospital Management system** includes registration of patients, storing their details into the system, and also booking their appointments with doctors.

Our software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. User can search availability of a doctor and the details of a patient using the id. The Hospital Management System can be entered using a username and password. It is accessible either by an administrator or receptionist. Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

2.0 FUNCTIONALITIES PROVIDED BY THE SOFTWARE:

Type the functionalities and services here, similar to the one for HMS in group assignment. E.g.

The following are the functionalities and services that the HMS software will render:

S.No.	NAME OF MENU/ MODULE	ROLE OF THE SOFTWARE ACTORS	DESCRIPTION/ROLE
a.	Login	Patient Doctor Admin	**PATIENT:** Can login using unique Id and Password after which the system shall show his/her profile. **DOCTOR:** Can login using unique Id and Password after which the system shall show his/her profile. **ADMIN:** Can login using unique Id and Password after which the system shall show a profile with links to maintain the website.

b.	Registration	Patient	**PATIENT:** Can Register by filling all the required details, after which the system will verify the details and check if already registered or not. All records should be kept in a Database for storage and easy retrieval.
c.	Book Appointment	Patient	**PATIENT:** Can Select doctor, date time and make an appointment request after which the system shall show a confirmation for appointment request.
d.	Cancel Appointment.	Patient Doctor	**PATIENT :** Can Cancel appointment by just one click after which the system shall ask for re-schedule. **DOCTOR :** Can Cancel appointment by just one click after which the system shall send a message to the patient.
e.	Doctor Module	Admin	**ADMIN :** Can add a new doctor by filling all the details after which the system shall show a confirmation message. Can Remove a doctor by just one click after which the system shall show confirmation message.
f	Patient Module	Patient	**PATIENT :** Can also see or search for a doctor by entering dept, name or doctor id if known, after which the system will check for the doctor if found shall show doctor's profile.

3.0 PROGRAMMING LANGUAGES/TOOLS USED

Write the name of the programming languages/tools you used here.

For instance: Programming languages used: Java.

Platform Used: NetBeans or InteliJ

Database Used (If any): MySQL or any other relational database, such as MS SQL, etc.

4.0 FLOWCHARTS AND ALGORITHMS

Insert the flowcharts and algorithms here.

5.0 SOME SOURCE CODES OF THE PROGRAM (MAX 2 PAGES)

Copy and paste some source codes here

6.0 SCREEN SHOTS OF THE SOFTWARE/DATABASE

7.0 CONCLUSION

Working on the project was an excellent experience. It helped us to understand the importance of planning, designing and implementation so far we have learnt in our theory books. It helped us unleashing our creativity while working in a team. It also realized the importance of team working, communication as a part of this project. The project was successfully completed after a lot of efforts and work hours. This project underwent number of compiling, debugging, removing errors, making it bug free, adding more facilities in Hospital Management System and interactivity making it more reliable and useful.