NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY
Faculty of Computing and Informatics
School of Computing
Department of Software Engineering

13 Jackson Kaujeua Street
Private Bag 13388
Windhoek
NAMIBIA

T: +264 61 207 2052
F: +264 61 207 9052
E: dse@nust.na
W: www.nust.na

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Database Programming (DPG621S) Project Structure

Course Aim

- This course is designed to expose students to database programming techniques and skills needed to **develop secure and different database applications**.

Instructions to Students

a) The project contributes to your final mark.

b) Please feel free to contact your lecturer if you have any questions or problems regarding the project.

c) The project should be completed by a group of up to 5 students.

d) Each deliverable has a deadline. Please respect and deliver on time.

e) If students are found to have plagiarised, this is a crime, serious actions will be taken. (please read through the Course Outline)

f) All submissions will be done on eLearning – no email submission at all.

Project Description

a) Each group will be allocated a topic.

b) Your group development work is confidential and private, as the opposite group with the same topic is your competitor.

c) In the end, you will be presenting your work and competing with the other groups on the same topic.

d) The best project developed will get good marks.

Topics

Topic 1:	The kids' church could implement a system that assigns children to parents upon drop-off, allocates them to their respective classes, and generates a bar/QR code. This code, which includes the child's name, can be attached to the child, while the parents receive a copy. When picking up their child, parents would need to scan the code to complete the retrieval process.
Topic 2:	When someone signs up for a church event, a system should manage follow-ups on payment requirements, track and communicate important due dates, and send timely reminders as the event date approaches. This ensures that participants are kept up-to-date on their obligations, reduces

	the risk of missed payments or deadlines, and helps everyone stay organised and prepared for the event.
Topic 3:	When someone signs up for a ministry within the church, a system should automatically contact the ministry leader with the person's details via text or WhatsApp, ensuring that the leader is promptly informed and can reach out to the new member to provide further information, welcome them, and facilitate their integration into the ministry.
Topic 4:	A system that can book a church room or venue via email and integrates seamlessly with Google Calendar would be highly useful. For example, if someone wants to book a church meeting room, they can do so via email, and the booking will automatically appear on the church's Google Calendar.
Topic 5:	The proposed database system for a church youth group will streamline attendance tracking, receipt collection, and fund requests. Leaders can easily record attendance through a secure online portal, with data stored in a centralised database for real-time insights and decision-making. The system will organise receipts for accurate financial tracking and allow for detailed fund requests, which will be managed through an approval workflow with automated notifications. This centralised approach will improve efficiency and transparency in managing the youth group's activities and finances.
Topic 6:	The proposed database system will streamline managing company documentation submissions. Customers will submit documents via a secure online portal, where they are automatically categorised, time-stamped, and stored in a centralised database with advanced encryption for security. An intuitive interface will allow administrators to manage and review records efficiently, reducing human error. Automated notifications will keep customers informed about receipt confirmations, approval statuses, and upcoming expiration dates, enhancing engagement and ensuring compliance. This system will improve operational efficiency and record management.
Topic 7:	The proposed system will transform how the company manages client training programs. It will enable seamless client registration, store personal data, training schedules, progress reports, and certification statuses in a centralised database. Advanced analytics will track progress and tailor training experiences, while a user-friendly dashboard will provide insights into training effectiveness and client engagement. The system will also automate communications, sending personalised notifications about training sessions, schedule changes, and reminders, as well as follow-ups for feedback. This integration will streamline operations, enhance client experiences, and improve training outcomes.

Topic 8:	The proposed database system will centralise and streamline the management of project data, design assets, and research findings for a digital design and research company. It will allow secure, cloud-based storage with detailed metadata for easy access and collaboration. The system supports various file formats, integrates with popular tools, and features advanced search capabilities to quickly locate and reference past work. Automated notifications will keep team members informed of milestones, deadlines, and changes. This system will enhance productivity, collaboration, and the quality of the company's outputs.

Expected Skills (obtained after the project)

Definition of the problem	Usage of tools to solve the problem	Software Validation / Testing
Problem-solving Skills	Research Skills	Communication skills
Leadership skills	Self-confidence	Self-improvement
Programming skills	Self-motivation	Technical skills
Taking initiative	Teamwork	Writing skills

Advice to the Groups

- Before you start with your project, please brainstorm and have discussions in the group to revise and have a common understanding of skills gained from previous courses like Database Fundamentals, etc.
- NOTE: Please do a lot of research (online, library, etc.) and reading.
- Try to handle all project issues such as group members not participating.

Deliverables / Deadlines

- Please respect the deadlines.
- All submissions are done on eLearning (no hard copies, nor email submissions will be accepted).
- NOTE: Only ONE member from the group is uploading the project components. Therefore, please agree on this before the submission of eLearning.
- Please make sure to submit a log sheet for each deliverable stating each (by each member on the deliverable) contribution. This is very important.

Project Deadlines		
Tasks	**Due Date**	**Weight**
User Requirements	16 August 2024	10%
E-R Model	30 August 2024	10%
Logical Design	18 September 2024	10%
Physical Design	18 September 2024	10%
Prototype	18 October 2024	60%

IMPORTANT NOTE: For any project-related matters or inquiries, always CC all group members. This is crucial to ensure transparency.