NICHOLE RM DENGA
UNIVERSITY ENROLLMENT DATABASE APPLICATION
2025
COMPUTER ENGINEERING – DATABASE ENGINEERING SPEC.

This document includes an implementation of a University Enrollment Database Application
mockup that I did at the conclusion of my Web Service Database Design.
It includes: mockups, erd diagrams, UML diagrams, table diagrams, documentation about
limitations and assumptions.
Tools used: Microsoft Visio, Mockflow.com, Draw.io, etc
Please have a look :)

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DESCRIPTION

This project is centered on a database application for enrollment into university. Its focus is on registering new students such as first-year students, transfer students or postgraduate students to their courses and programs and linking them to their professors. This system also takes into account school fees payments which may need to be done to enroll into the first classes. After successful enrollment into the courses, it also displays schedule of classes to prospective students.
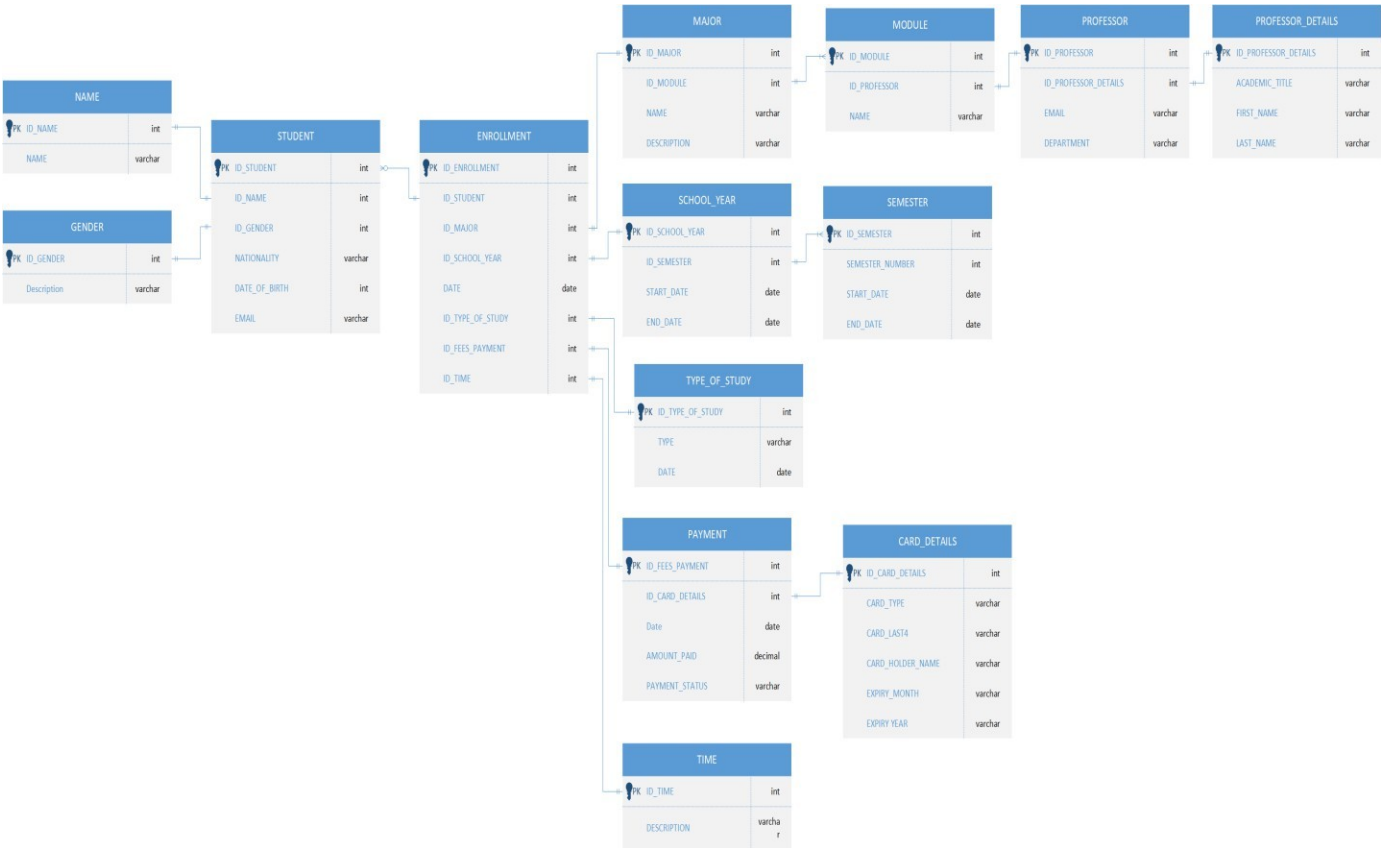
ASSUMPTIONS(LIMITATIONS)

- <u>No withdrawals</u>- the system assumes that all students registering are making their final decision and are not going to withdraw their decision. This ensures consistency and avoids the build of too much data.
- <u>No double majors</u>- students will only take a specific course and the system will not support dual degrees or concurrent majors. This is to simplify enrollment and curriculum tracking.
- <u>One Course One Professor</u>- the system assumes one professor teaches one course/subject. This is to avoid inconsistencies and to reduce complexity.
- <u>Enrollment during intakes</u>- enrollment is only during active academic sessions. This is to avoid data inconsistencies and complexities.
- <u>Classroom Capacity</u>-classroom capacity is not considered during enrollment. The focus of the system is on enrollment and not facility or logistics management.
- <u>Students must enroll themselves</u>- no third-party enrollment allowed; advisors, sponsors and agents cannot enroll students. This is to reduce data duplication and admin errors.
- <u>Single Currency</u>- the system only accepts payments in USD. This simplifies invoicing and pricing.
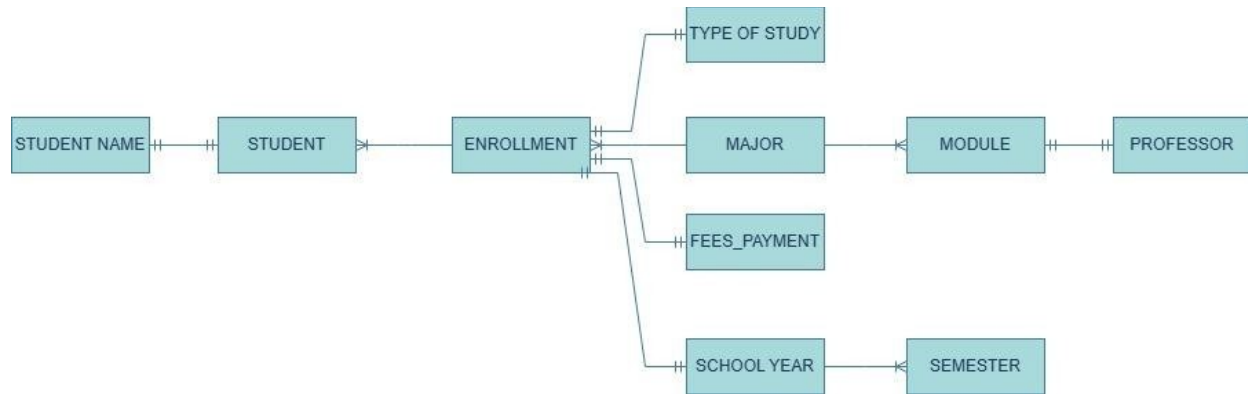
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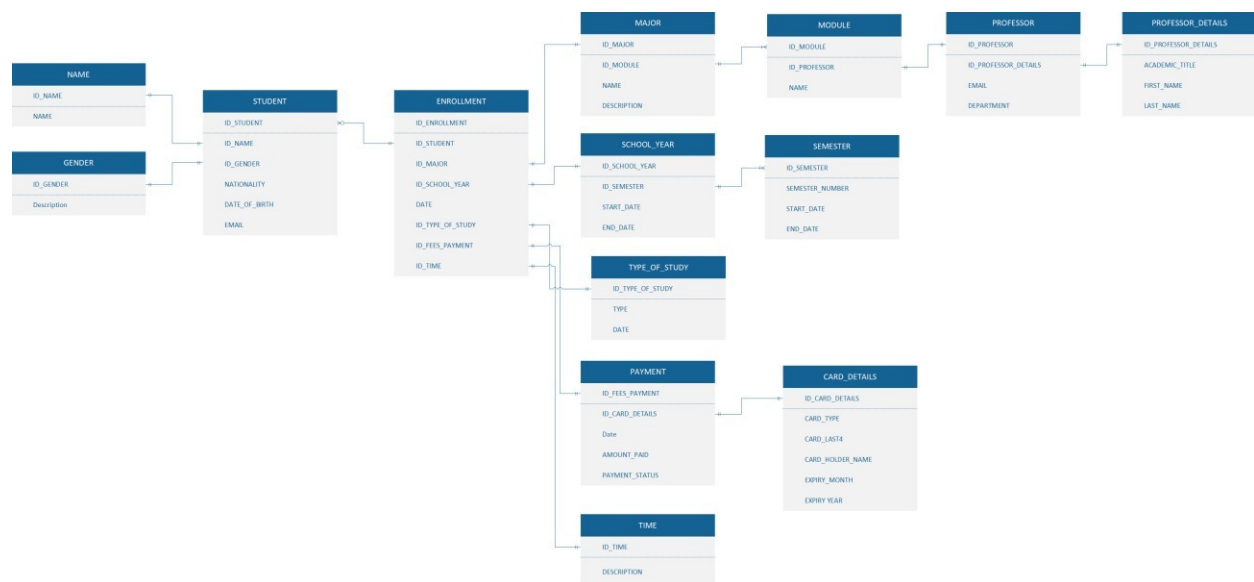
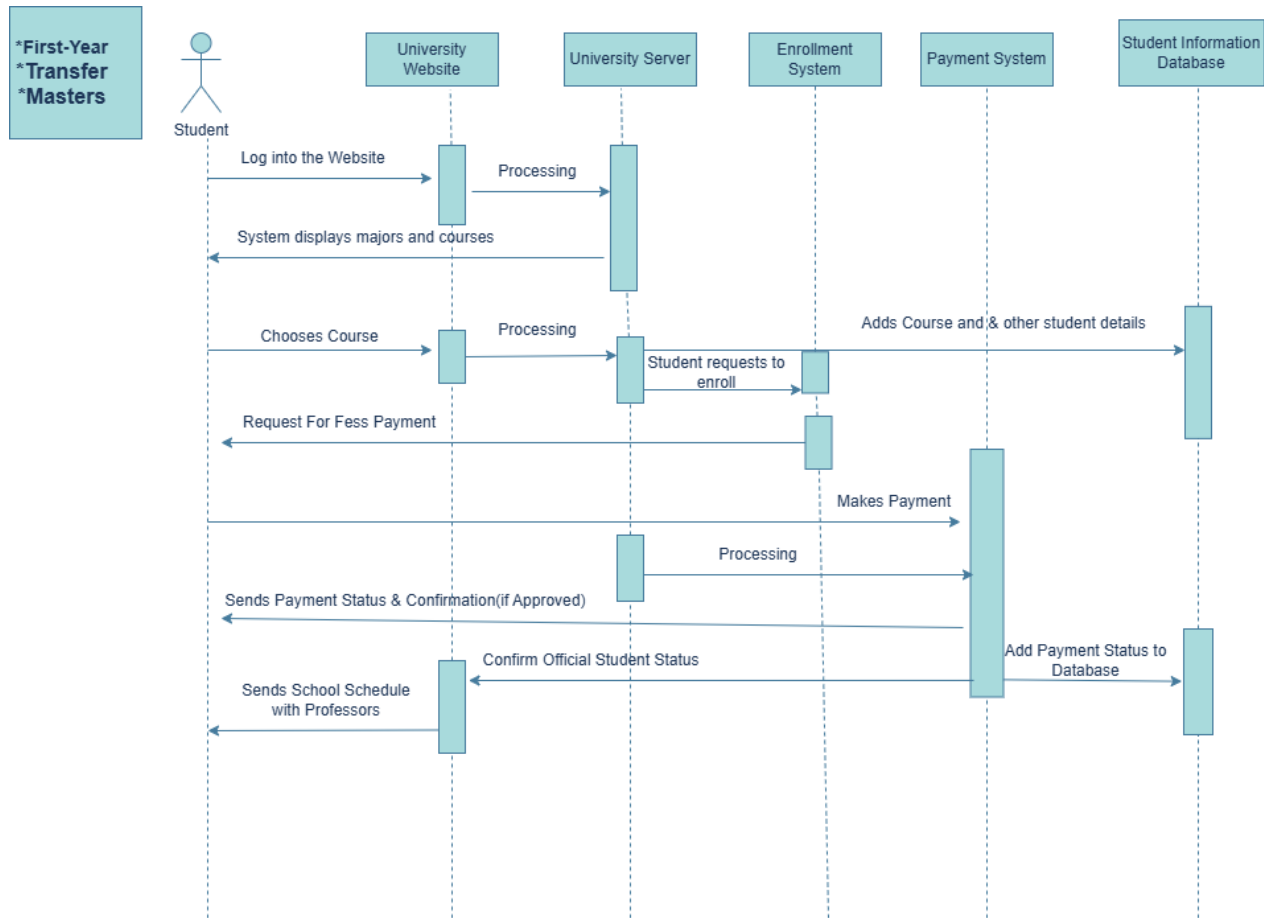# ERD DIAGRAM (PHYSICAL, CONCEPTUAL, LOGICAL MODEL)

PHYSICAL DIAGRAM

MAJOR	
PK ID_MAJOR	int
ID_MODULE	int
NAME	varchar
DESCRIPTION	varchar

MODULE	
PK ID_MODULE	int
ID_PROFESSOR	int
NAME	varchar

PROFESSOR	
PK ID_PROFESSOR	int
ID_PROFESSOR_DETAILS	int
EMAIL	varchar
DEPARTMENT	varchar

PROFESSOR_DETAILS	
PK ID_PROFESSOR_DETAILS	int
ACADEMIC_TITLE	varchar
FIRST_NAME	varchar
LAST_NAME	varchar

NAME	
PK ID_NAME	int
NAME	varchar

GENDER	
PK ID_GENDER	int
Description	varchar

STUDENT	
PK ID_STUDENT	int
ID_NAME	int
ID_GENDER	int
NATIONALITY	varchar
DATE_OF_BIRTH	int
EMAIL	varchar

ENROLLMENT	
PK ID_ENROLLMENT	int
ID_STUDENT	int
ID_MAJOR	int
ID_SCHOOL_YEAR	int
DATE	date
ID_TYPE_OF_STUDY	int
ID_FEES_PAYMENT	int
ID_TIME	int

SCHOOL_YEAR	
PK ID_SCHOOL_YEAR	int
ID_SEMESTER	int
START_DATE	date
END_DATE	date

SEMESTER	
PK ID_SEMESTER	int
SEMESTER_NUMBER	int
START_DATE	date
END_DATE	date

TYPE_OF_STUDY	
PK ID_TYPE_OF_STUDY	int
TYPE	varchar
DATE	date

PAYMENT	
PK ID_FEES_PAYMENT	int
ID_CARD_DETAILS	int
Date	date
AMOUNT_PAID	decimal
PAYMENT_STATUS	varchar

CARD_DETAILS	
PK ID_CARD_DETAILS	int
CARD_TYPE	varchar
CARD_LAST4	varchar
CARD_HOLDER_NAME	varchar
EXPIRY_MONTH	varchar
EXPIRY_YEAR	varchar

TIME	
PK ID_TIME	int
DESCRIPTION	varchar

CONCEPTUAL MODEL

LOGICAL DIAGRAM

UML DIAGRAM

APPLICATION MOCKUP

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--Somewhere, something
incredible is waiting to be
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About Denga University

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HISTORY

Denga University was established in 1977 by the visionary academic and activist **Dr. Nichole R.M. Denga (PhD, MSc)** in Harare, Zimbabwe. Founded during a pivotal time for gender equality and educational reform in Africa, the university began as a **girls-only institution**—a bold and progressive initiative aimed at advancing women's empowerment across the continent. Dr. Denga, a respected leader in education and social change, envisioned an institution that would give women access to world-class academic opportunities and leadership development.

In 2003, after decades of shaping a generation of female scholars and professionals, the university opened its doors to all students, regardless of gender, embracing inclusivity and global diversity. This shift marked the beginning of a new era for Denga University, as it began expanding its academic programs, research initiatives, and global partnerships.

Today, Denga University boasts international campuses in Europe, Asia, Oceania, South America and other regions of Africa, establishing itself as a truly global institution Over the years, it has earned a reputation for excellence in education, consistently ranked among the **Top 10 Universities in the world by Oxford and Cambridge** for five consecutive years.

Renowned for its prestigious, accredited degree programs, Denga University was also r**anked #2 worldwide** for offering the best globally recognised qualifications, making it a first choice for students who aim to make a meaningful impact in their communities and professions.

With a commitment to academic excellence, innovation, and empowerment, Denga University continues to shape the future, one student at a time.**Enrol today** and become part of a legacy that builds leaders for tomorrow.

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WHY CHOOSE DENGA UNIVERSITY?

Denga University was founded in 1977 by PhD Msc Nichole RM Denga. It is located in Harare, Zimbabwe, however it also has branches in Europe, Asia, Oceania, South America and other parts of Africa as well. It was initially established as a girls only university in connection with the woman empowerment movement Dr. Denga was revolutionising in Africa and later on accepted all students in 2003. It has been ranked as one of the top 10 Universities in the world by Oxford and Cambridge five years in a row. The University has also been ranked #2 for the best Accredited Degrees in the world, recognised everywhere and regarded as prestigious. The university has a lot to offer to make your future a bright one. Enrol now!!

Enroll Now

RESEARCH AT DENGA UNIVERSITY

--Somewhere, something incredible is waiting to be discovered- Carl Sagnan

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SUMMARY

This project was aimed at simplifying and organising the student registration process which occurs at different institutions like schools, universities etc. This was done by creating efficient table designs, the display of the use case via the UML diagrams to show the sequence of activities. As well as the Mockup which was to show how the system could potentially look like. Some problems incurred in this project include complexity of data and broadness of data especially since enrollment covers a lot of aspects however, I was able to solve this problem by putting some limitations and narrowing the range of my data to make the school enrollment process a smooth, simple and efficient system.