# SCRIPTS

## 1.1. Project Overview & UN SDG Target

So our study focuses on the implementation of transparency to our system to ensure students na makakarating sa kanila 'yung mga supplies, and we want to prevent corruption from happening aby making an organized system for procuring school supplies from private companies

## 1.2. Problem Statement

So yung problem po kasi is maraming tao yung dinadaya or dinodoktor yung mga documents, leading to corruption. Meron den tinataas yung presyo, kaya maraming nakaka kickback na mga corrupt na politiko. So again, we want to make an organized system na kayang mag monitor ng mga items and we want to implement transparency and free education for students by giving them the supplies that they need.

## 2.1Functional Requirements and Non-Functional Requirement

## 2.2Data Requirements (Description of input data structure and size)

## 3.2. ER Diagram (Logical ERD)

"Good morning/afternoon, panelists. Our project, the Procurement and Inventory Management System (PIMS), directly supports UN SDG Target 4.1 by building a database solution to combat resource corruption in schools.

We focused on a clean workflow, defined by our Functional Requirements (FRs):

Every request starts as 'Pending'.

We track every item via Procurement_Details (Detailed Tracking).

Crucially, our Automated Inventory Update triggers a database function to update the Stock Quantity immediately when a request status changes to 'Delivered'. This ensures accountability at the point of resource disbursement.

We provide transparent reporting through Views like vw_pending_requests, making resource status instantly verifiable."

II. Non-Functional Requirements (NFRs) - The Integrity Mechanism

(Estimated Time: 1 minute 15 seconds)

Slide Heading: II. Requirements & Analysis | NFRs: The Anti-Corruption Layer

"The true strength of the PIMS lies in our Non-Functional Requirements (NFRs), which define the system's integrity. We utilized the DBMS itself to enforce these rules:

Atomicity: For every procurement, we use an explicit START TRANSACTION...COMMIT block in our stored procedures. This ensures the request is either fully processed or fully rejected (ROLLBACK). This makes it impossible for incomplete or fraudulent records to exist.

Consistency & Integrity: We use Foreign Key Constraints to guarantee every transaction links to a valid department and item (Referential Integrity). We also use Check Constraints to prevent illogical values, such as negative stock, ensuring data is always valid.

Auditability (NFR4): This is the strongest anti-corruption feature. By using the ON UPDATE CURRENT_TIMESTAMP attribute on the inventory table, the system automatically and reliably records the exact time of any stock change. This provides an indisputable audit trail to pinpoint precisely when resources were moved."

III. Design Proof (Slide: ERD & Conclusion)

(Estimated Time: 1 minute)

Slide Heading: III. Design Specification | ER Diagram Proof

"Our Logical ER Diagram visually confirms our design's integrity and compliance with 3rd Normal Form (3NF).

Notice the specialized One-to-One (1:1) link between Item and Inventory. This isolates the stock data, making it the clean target for our automated update trigger.

The Procurement Details table resolves the Many-to-Many (M:N) relationship, using a composite key that is vital for accountability by ensuring every line item is uniquely tracked.

**1.3Scope and Limitations**

“Our system focuses on creating a Procurement and Inventory Management System designed for one public school in Manila, handling departments, suppliers, items, requests, and inventory through SQL tables, triggers, stored procedures, and views. It ensures transparent and accurate tracking of procurement activities. However, the system works only at the database level without a user interface, and it covers only procurement processes—not other educational factors such as teaching quality, curriculum, or school facilities.”

**2.3. Schema Normalization Analysis**

“Our database tables were normalized up to BCNF to remove unnecessary repetition, maintain data accuracy, and prevent update anomalies. Each table contains attributes that depend only on its primary key, and related details like items and suppliers were separated into their own tables to avoid duplication. This level of normalization ensures consistency across procurement records and makes it easier to track irregularities or suspicious patterns in the system.”

**3.2. ER Diagram (Physical ERD)**

“The Physical ERD shows the final database structure used in MySQL, including data types, primary keys, foreign keys, and constraints. It defines the relationships between tables such as departments to procurement requests, requests to details, and items to inventory. This model represents the exact technical design of the system, ensuring that all data is organized, connected, and ready for real implementation.”

### 3.1 Core DBMS Concepts Used

Tables organized entities like departments, suppliers, items, and requests, while primary and foreign keys ensured unique identification and relational integrity. CHECK constraints enforced valid data, and stored procedures automated multi-step operations as single transactions to maintain consistency. Triggers automatically updated inventory upon delivery, reducing errors, and views provided clear, easy-to-read summaries for reporting and analysis. Together, these features ensured reliable, accurate, and efficient database management.

### 3.3 Flow Chart

If all insert actions are successful, then the transaction is committed; otherwise, it is rolled back to maintain data consistency. On the other hand, if the transaction fails, the admin will still be informed about the request status, but instead of continuing with the usual flow, an error message will be displayed.

### Conceptual ERD

The conceptual ERD gives the simplest view of the system by showing only the main entities and how they relate to each other. It includes the Department, Procurement Request, Procurement Detail, Supplier, Item, and Inventory entities. At this stage, there are no data types or specific attributes. The goal is to show the basic structure of the system and their main relationships.

## Conclusion

The study shows that poor procurement systems and corruption lower the quality of education because students do not get their needed supplies. Our system helps by making procurement organized, transparent, and accurate. Using database tools like triggers, procedures, and views, the system supports SDG 4.1 by helping schools deliver materials on time and fairly to all students.