I. Company Background

History

Antonio Y. Fortich Academy, Incorporated in Bacolod City, has been a cornerstone of early childhood education since its establishment. Over the years, the academy has grown in reputation and size, catering to the educational needs of young children in the community. Despite its success, the academy faced challenges with its manual processes for managing kindergarten classes, such as attendance tracking, grading, and lesson planning. Recognizing the need for modernization, the academy embarked on developing a web application to streamline these processes and enhance overall efficiency.

Description of the Organization

Antonio Y. Fortich Academy is dedicated to providing quality early childhood education with a focus on holistic development. The academy employs a team of dedicated educators and administrative staff who are committed to nurturing young minds. Its mission is to create a supportive and engaging learning environment that fosters intellectual, social, and emotional growth in children. The vision of the academy is to be a leading institution in early childhood education, known for its innovative teaching methods and strong community involvement. The academy's goals include improving operational efficiency, enhancing communication between teachers and parents, and providing a robust educational foundation for its students.

Major Processes and Procedures in the Workplace

The major processes at Antonio Y. Fortich Academy include sales, inventory management, and report generation. The sales process involves enrolling students and managing tuition fees, while inventory management ensures that all educational materials and supplies are adequately stocked and accounted for. Report generation is crucial for tracking student progress, attendance, and academic performance. The new web application will automate these processes, allowing teachers to easily record attendance, update grades, and create lesson plans. This will reduce errors and save time, enabling staff to focus more on teaching and less on administrative tasks. The system will also facilitate better communication with parents through regular updates and notifications.

Products and Services Offered

Antonio Y. Fortich Academy offers a range of educational services designed to cater to the developmental needs of young children. The primary product is its comprehensive kindergarten program, which includes a well-rounded curriculum that covers literacy, numeracy, science, arts, and physical education. The academy also provides additional services such as after-school programs, tutoring, and enrichment activities to support student learning and development. With the implementation of the new web application, the academy will also offer digital tools for parents and teachers to monitor and support student progress, making it easier to stay informed and engaged with their child's education. These offerings aim to provide a supportive and dynamic learning environment that encourages students to achieve their full potential.

II. Entity Relationship Diagram

Entities and Attributes:

Admin

Primary Key: adminID

Attributes: FirstName, LastName, Gender, Age, Street, City, Email, ContactNumber,

Password, Image

Attendance

Primary Key: recordID

Foreign Key: studentID

Attributes: Date, AttendanceStatus, Reason

Grade

Primary Key: gradeID

Foreign Key: teacherID, studentID

Attributes: Date, Subject, Grade, Comment

LessonPlan

Primary Key: planID

Foreign Key: teacherID

Attributes: Date, Topic, Resources, Objectives

Student

Primary Key: studentID

Attributes: FirstName, LastName, Gender, Age, Street, City, Email, ContactNumber,

Password, ParentDetails, Image

Teacher

Primary Key: teacherID

Attributes: FirstName, LastName, Gender, Age, Street, City, Email, ContactNumber,

Password, Image

Relationships

Admin is independent (no foreign keys from other entities).

Attendance relates to Student with a many-to-one relationship (many attendance records

for one student).

Grade relates to both Teacher and Student with many-to-one relationships (many grades

given by one teacher to one student).

LessonPlan relates to Teacher with a many-to-one relationship (many lesson plans created

by one teacher).

Attribute Types

Multi-Valued: tbl lesson plan. Resources could be considered as a multi-valued attribute if

it's supposed to hold multiple resources.

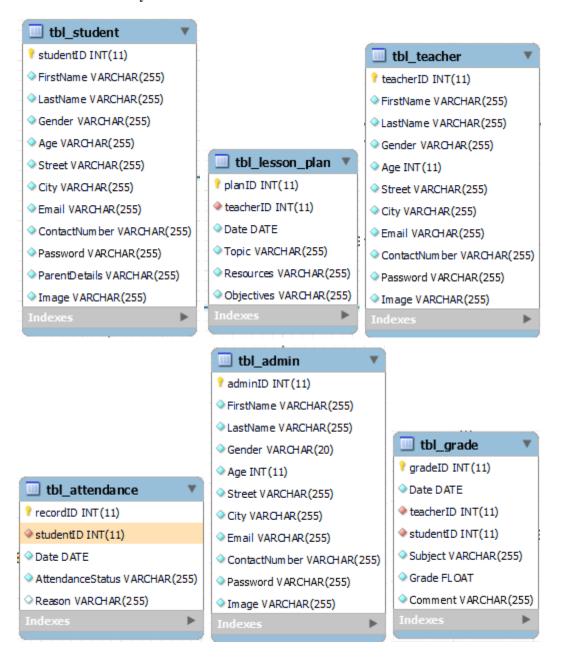
Derived: No derived attributes are directly shown in the schema.

Composite: Address can be considered as a composite attribute combining Street and City

for both tbl student and tbl teacher.

III. Normalization Process

3NF Tables already.



IV. CRUD Scenarios

Create Scenarios

Scenario 1: A teacher adds a new lesson plan to the portal.

Analysis:

Table: tbl lesson plan

Columns: teacherID, Date, Topic, Resources, Objectives

SQL Code:

INSERT INTO tbl lesson plan (teacherID, Date, Topic, Resources, Objectives)

VALUES (1, '2024-05-20', 'Introduction to Calculus', 'Textbook, Projector', 'Understand the basics of calculus; Solve simple calculus problems');

GUI:



Explanation:

This code inserts a new lesson plan created by a teacher into the tbl_lesson_plan table with the specified details.

Scenario 2: An administrator creates a new user account for a new teacher.

Analysis:

Table: tbl teacher

Columns: FirstName, LastName, Gender, Age, Street, City, Email, ContactNumber, Password, Image

SQL Code:

INSERT INTO tbl_teacher (FirstName, LastName, Gender, Age, Street, City, Email, ContactNumber, Password, Image)

VALUES ('Jane', 'Doe', 'Female', 30, '123 Maple St', 'Springfield', 'jane.doe@example.com', '+123456789', 'password123', 'jane.jpg');

GUI:

Students	Teachers									Add User
	ID Number	First Name	Last Name	Email	Gender	Age	Contact Number	Street	City	Action
₽img	1	Jane	Doe	jane.doe@example.com	female	30	+123456789	123 Maple St	Springfield	Delete Update

Explanation:

This code creates a new teacher account in the tbl teacher table with the specified details.

Read Scenarios

Scenario 1: An admin wants to view the list of students registered in the system.

Analysis:

Table: tbl student

Columns: *

SQL Code:

SELECT * FROM tbl_student;



Explanation:

This code retrieves all student records from the tbl student table for the admin to view.

Scenario 2: A teacher wants to view their lesson plans.

Analysis:

Table: tbl lesson plan

Columns: *

Condition: teacherID = ?

SQL Code:

SELECT * FROM tbl lesson plan WHERE teacherID = 1;

Lesson Plan

Add Lesson Plan



Explanation:

This code retrieves lesson plans created by a specific teacher.

Update Scenarios

Scenario 1: A teacher updates the topic of a previously created lesson plan.

Update Lesson Plan

Date 20/05/2024 Topic Advanced Calculus Resources Textbook Projector

Explanation:

This code updates the topic of a specific lesson plan in the tbl lesson plan table.

Scenario 2: An administrator updates a student's contact information.



Explanation:

This code updates the contact information of a specific student in the tbl_student table.

Delete Scenarios

Scenario 1: A teacher deletes a lesson plan that is no longer relevant.

Analysis:

Table: tbl lesson plan

Columns: planID

SQL Code:

DELETE FROM tbl lesson plan

WHERE planID = 9;

Lesson Plan





Explanation:

This code deletes a specific lesson plan from the tbl_lesson_plan table.

Scenario 2: An administrator removes a student who has graduated from the school.

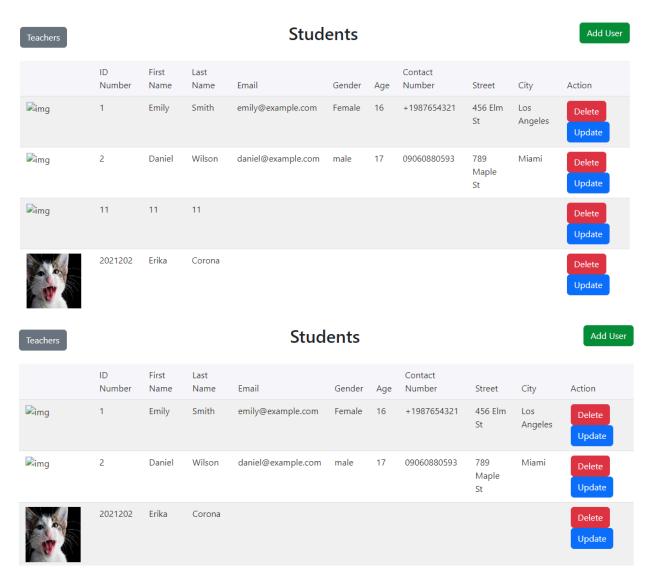
Analysis:

Table: tbl_student Columns: studentID

SQL Code:

DELETE FROM tbl_student

WHERE studentID = 2;



A list or table with student records and a delete button for each entry. Explanation:

This code deletes a specific student from the tbl student table.

Scenario 3: An admin removes a teacher who has left the school.

Analysis:

Table: tbl_teacher
Columns: teacherID

SQL Code:

DELETE FROM tbl teacher

WHERE teacherID = 3;

GUI:

Students	Teachers									Add User
	ID Number	First Name	Last Name	Email	Gender	Age	Contact Number	Street	City	Action
⊠mg	1	Jane	Doe	jane.doe@example.com	female	30	+123456789	123 Maple St	Springfield	Delete Update
⊠img	2	Emma	Clark		male	35	+123987654	567 Birch St	Houston	Delete Update
img	3	Sophia	Thomas		Female	45	+1654321890	678 Elm St	Atlanta	Delete Update
Marie Communication of the com	10	Julie	Gerogalin	lovikim1@gmail.com	female	20	0907088049	Lacson	Himamaylan	Delete Update

A list or table with teacher records and a delete button for each entry. Explanation:

This code deletes a specific teacher from the tbl_teacher table.