Wuorkiyah Jawara

CIS 344: Database Design & Programming

Project 1

Mini World Scenario: Child Care Center

Interview

Q: What key information do you need to store about each child?

Answer: We need to store the child's full name, date of birth, gender, allergies, medical conditions, emergency contacts, enrollment date, and assigned classroom.

Q: What details should be recorded about parents/guardians?

Answer: Full name, relationship to the child, phone number(s), email, home address, employer details, and authorized pick-up persons.

Q: How should staff information be structured?

Answer: Staff details should include name, role (e.g., teacher, assistant, administrator), contact information, certifications, work schedule, and background check status.

Q: Do you need to track attendance for children?

Answer: Yes, attendance should be recorded daily, including check-in and check-out times, and the staff member responsible for each child's check-in/out.

Q: What types of programs or schedules do you offer?

Answer: We have full-day and half-day programs, as well as after-school care. Some children attend on specific days, so flexible scheduling needs to be supported.

Q: Do you require a billing and payment tracking system?

Answer: Yes, we need to track tuition fees, payment methods, due dates, late fees, and financial aid or discounts applied to a family's account.

Q: Are there specific regulations or compliance requirements to consider?

Answer: Yes, we must comply with state licensing regulations, maintain immunization records, track staff certifications, and keep emergency preparedness documentation.

Q: How will meal and dietary restrictions be managed?

Answer: The database should track meal preferences, allergies, and special dietary needs, and allow for generating meal plans for children.

Analysis

Entities & Attributes

Child

- **ChildID** (Primary Key)
- FName
- LName
- DOB
- Gender
- Allergies
- MedicalCond
- EnrollmentDate
- ClassroomID

Parent/Guardian

- **PGiD** (Primary Key)
- FName
- LName
- RelationshipToChild
- PhoneNumber
- Email
- Address

Emergency Contact

- **ECiD** (Primary Key)
- Child
- FirstName
- LastName
- RelationshipToChild
- PhoneNumber
- AlternatePhoneNumber

Staff

- **StaffID** (Primary Key)
- FirstName

- LastName
- Role
- ContactNumber
- Email
- Certifications
- WorkSchedule

Classroom

- **ClassroomID** (Primary Key)
- RoomNumber
- AgeGroup
- MaxCapacity
- AssignedTeacher

Billing

- **BillingID** (Primary Key)
- ParentID (Foreign Key)
- ChildID (Foreign Key)
- AmountDue
- DueDate
- PaymentStatus (Paid, Pending, Overdue)
- PaymentMethod (Credit Card, Bank Transfer, Cash)

Immunization Record

- **ImmunizationID** (Primary Key)
- ChildID (Foreign Key)
- VaccineName (e.g., MMR, DTaP, Polio)
- DateAdministered
- Clinic/HospitalName

Relationships & Cardinality:

Parent/Guardian & Child (Many-to-Many):

A child can have one or more parents/guardians, and a parent/guardian can have one or more children.

ChildParent

- ChildID (Foreign Key)
- ParentID (Foreign Key)

Emergency Contact & Child (Many-to-Many):

A child can have one or more emergency contacts, and an emergency contact can be associated with one or more children.

ChildEmergencyContact

- ChildID (Foreign Key)
- EmergencyContactID (Foreign Key)

Classroom & Child (Many-to-Many):

A child is assigned to one classroom, and a classroom can have many children.

Staff & Classroom (One-to-One):

A staff member can be assigned to one or more classrooms, and a classroom can have multiple staff members.

StaffClassroom

- StaffID (Foreign Key)
- ClassroomID (Foreign Key)

Billing & Child (One-to-Many):

- Each billing record is tied to a specific child (since siblings may have different fees or financial aid).

Immunization & Child(One-toMany):

A child can have multiple immunization records, but each immunization record belongs to one child.