LuxeLab Client and Product Management System **(3NF)**
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LuxeLab Studio, a prominent beauty brand specializing in eyelash and hair extensions, requires a robust system to manage various aspects of its business operations. This system will track and manage client preferences, appointment history, product inventory, supplier information, and pricing. By doing so, LuxeLab aims to enhance client services, streamline operations, and ensure efficient resource management.

Business Requirements

The system should:
1. Store detailed client information, including preferences for eyelash and hair extensions.
2. Manage client appointment history and stylist assignments.
3. Maintain an up-to-date inventory of products.
4. Store supplier details and track product sourcing.
5. Provide accurate pricing information for products and services.

Entities and Their Purpose

Table: Client
Purpose: To store personal details of each client, including their name, contact information, and unique preferences for eyelash and hair extensions.
- ClientID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL
- Email VARCHAR(255)
- Phone VARCHAR(255)
- Address VARCHAR(255)
- ProvinceID INT
- FOREIGN KEY (ProvinceID) REFERENCES Province(ProvinceID)

Table: Province
Purpose: To store the provinces where clients reside.
- ProvinceID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL

Table: EyelashStyle
Purpose: To define various styles of eyelash extensions, including details like type, length, curl, and color.
- EyelashStyleID SERIAL PRIMARY KEY
- Type VARCHAR(255) NOT NULL
- Length VARCHAR(255)
- Curl VARCHAR(255)
- Color VARCHAR(255)

Table: HairStyle

Purpose: To define various styles of hair extensions, including details like color, length, style, and type.

- HairExtensionStyleID SERIAL PRIMARY KEY
- Color VARCHAR(255) NOT NULL
- Length VARCHAR(255)
- Style VARCHAR(255)
- Type VARCHAR(255)

Table: Preference

Purpose: To record each client's specific preferences, linking to both the client and style entities to detail the exact type of extensions desired.

PreferenceID SERIAL PRIMARY KEY

- ClientID INT
- EyelashStyleID INT
- HairExtensionStyleID INT
- AdditionalNotes TEXT
- FOREIGN KEY (ClientID) REFERENCES Client(ClientID)
- FOREIGN KEY (EyelashStyleID) REFERENCES EyelashStyle(EyelashStyleID)
- FOREIGN KEY (HairExtensionStyleID) REFERENCES HairExtensionStyle(HairExtensionStyleID)

Table: Appointment

Purpose: To manage appointments, including the date, time, stylist assigned, and the services to be provided during the appointment.

- AppointmentID SERIAL PRIMARY KEY
- ClientID INT
- StylistID INT
- AppointmentDate TIMESTAMP NOT NULL
- ServiceID INT
- Notes TEXT
- FOREIGN KEY (ClientID) REFERENCES Client(ClientID)
- FOREIGN KEY (StylistID) REFERENCES Stylist(StylistID)
- FOREIGN KEY (ServiceID) REFERENCES Service(ServiceID)

Table: Stylist

Purpose: To store information about stylists, including their name, contact details, and areas of expertise.

- StylistID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL
- Email VARCHAR(255)
- Phone VARCHAR(255)
- Expertise VARCHAR(255)

Table: Service

Purpose: To detail the types of services provided during appointments, such as applying specific styles of eyelash or hair extensions.

- ServiceID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL
- Description TEXT
- Duration INTERVAL
- Price DECIMAL(10, 2)

Table: ProductInventory
Purpose: To manage the current stock levels of each product, updating quantities based on incoming stock from suppliers and outgoing stock due to customer orders.
- InventoryID SERIAL PRIMARY KEY
- ProductID INT
- StockLevel INT NOT NULL
- LastUpdated TIMESTAMP NOT NULL
- FOREIGN KEY (ProductID) REFERENCES Product(ProductID)

Table: Supplier
Purpose: To maintain information about suppliers who provide the products, including supplier name, contact details, and the list of products they supply.
- SupplierID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL
- ContactInfo VARCHAR(255)
- Email VARCHAR(255)
- Phone VARCHAR(255)
- Address VARCHAR(255)

Table: Product
Purpose: To store details of each product, including type (eyelash or hair extension), name, description, price, and available quantity.
- ProductID SERIAL PRIMARY KEY
- Name VARCHAR(255) NOT NULL
- Description TEXT
- Price DECIMAL(10, 2) NOT NULL
- Quantity INT NOT NULL
- SupplierID INT
- FOREIGN KEY (SupplierID) REFERENCES Supplier(SupplierID)

Table: AppointmentProduct
Purpose: To link products used in each appointment, recording the specific products used for different services.
- AppointmentProductID SERIAL PRIMARY KEY,
- AppointmentID INT,
- ProductID INT,
- Quantity INT,
- FOREIGN KEY (AppointmentID) REFERENCES Appointment(AppointmentID),
- FOREIGN KEY (ProductID) REFERENCES Product(ProductID)

Table: ClientHistory
Purpose: To record the history of services provided to each client, including appointment details and products used.
- HistoryID SERIAL PRIMARY KEY
- ClientID INT
- AppointmentID INT
- ServiceDetails TEXT
- Date TIMESTAMP NOT NULL
- FOREIGN KEY (ClientID) REFERENCES Client(ClientID)
- FOREIGN KEY (AppointmentID) REFERENCES Appointment(AppointmentID)

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public

clienthistory
- historyid serial
- clientid integer
- appointmentid integer
- servicedetails text
- date timestamp without time zone

public

province
- provinceid serial
- name character varying(255)

public

client
- clientid serial
- name character varying(255)
- email character varying(255)
- phone character varying(255)
- address character varying(255)
- provinceid integer

public

appointment
- appointmentid serial
- clientid integer
- stylistid integer
- appointmentdate timestamp without time zone
- serviceid integer
- notes text

public

productinventory
- inventoryid
- productid
- stocklevel
- lastupdated

public

supplier
- supplierid serial
- name character varying(255)
- contactinfo character varying(255)
- email character varying(255)
- phone character varying(255)
- address character varying(255)

public

preference
- preferenceid serial
- clientid integer
- eyelashstyleid integer
- hairextensionstyleid integer
- additionalnotes text

public

hairextensionstyle
- hairextensionstyleid serial
- color character varying(255)
- length character varying(255)
- style character varying(255)
- type character varying(255)

public

eyelashstyle
- eyelashstyleid serial
- type character varying(255)
- length character varying(255)
- curl character varying(255)
- color character varying(255)

public

stylist
- stylistid serial
- name character varying(255)
- email character varying(255)
- phone character varying(255)
- expertise character varying(255)

public

service
- serviceid serial
- name character varying(255)
- description text
- duration interval
- price numeric(10,2)

public

product
- productid serial
- name character varying(255)
- description text
- price numeric(10,2)
- quantity integer
- supplierid integer

public

appointmentproduct
- appointmentproductid serial
- appointmentid integer
- productid integer
- quantity integer