

## Business Name and Type: G#Studio: Guitar Studio and Jam Sessions

Business Information: G#Studio is uniquely focused on guitar, accessories, and recording equipment and software products as well as providing jam sessions for customers of all levels for G#Studio members. Customers can find the top high-end brands of all types of guitars (acoustic, electric, and bass) and as well as other accessories (Amps, guitar tuners/strings, etc.) that the customer may want to purchase. Each of G#Studio staffs are well informed of the brand types (pros v. cons) and a superb customer service if a customer is unsure about the product(s). G#Studio offers a premium membership for customers so that the customer can attend guitar lessons, jam sessions, and even help find a band to start with. G#Studio may also aid band(s) that are seeking to find a record company or to sell music (digitally or physically). G#Studio ensures an eloquent way of finding the top products for guitar products, accessories, and as well as providing a membership for additional premium services.

## Entities and Attributes:

### Customers:

CustomerUserID:

FirstName: Customer's first name

LastName: Customer's last name

Dob: Customer's date of birth

Email: Customer's email address

Phone: Customer's phone number

Address: Customer's address (home or another)

MemberType (Premium membership or regular membership)

### Staffs:

StaffUserID: Staff's username or ID

StaffName: Staff's name or nickname

StaffType: Staff is an instructor, sales, vendor, aider, or etc (classify each staff)

StaffExperience: Staff's experiences based on years for premium services or sales/vendors

StaffRating: Staff's ratings for customer satisfaction and quality

StaffAvailability: Staff's availability for premium services

### Premium Services:

AppointmentNumber: Unique Appointment ID per each booking for security

ServiceType: Explicitly labels what type it is: Guitar Lessons, Jam Sessions, Freestyle Jam Band, Seeking Record Label/Sell Music.

CustumorUserID: Custumors section to reference the customer information

StaffUserID: Staffs section to reference the staff information

AppointmentInfo: It give the date, time, price, and status of appointment

Products:

BrandProducts: It shows the brand names that G#Studio offers; it also classify each products based on the brands

RatingUsageProducts: It shows the best rated products that G#Studio customers enjoy. It also sorts it based on ratings. It also sorts it based on usages/descriptions (ex: amps are good for higher volumes for guitars).

GuitarProducts: It offers the top 20 popular and high-end brands for guitar, acoustic, bass.

AccessoryProducts: It offers the top 20 popular and high-end brands for recording equipment, software, etc.

ProductSubLabels: It is other sub labels for the products to help customers or brands find it. Ex: guitar picks is a sub label of an accessory product. This is because “accessory product” is a vague label and it would showcase all of the accessory products. This allows the customer to

Database Processing and Application Software:

Profile Management: To manage the profiles of each person such as customers, staffs, instructors, and brands/companies

Reports and Logs/Analytical Processing: Generate reports on product transactions, appointments, lesson history, and details for jam sessions or bands. Details for jams sessions or bands are included if the band would like aid to find a record label company or to sell music (digitally or physically).

Transaction processing: Handle the transactions for booking, purchasing/sales, and customer history for data security/validation.

Data Security and Validation: Provide Security measures to secure, encrypt, and protect sensitive information such as customers, staffs, instructors, brands, and transactions. Implement validation for customer premium service and ensure trust for customers/brands when purchasing products.

Application Software:

Database Management System (DBMS): Use SQL that manages data, ensures data integrity, data security, and support queries and reports. G#Studio may utilize MySQL, Microsoft SQL Server, Booknetic, and Skedda for managing the relational database. Other possible SQL databases to use instead are Microsoft Azure SQL Database, MongoDB, IBM Db2, and PostgreSQL.

Application (Software and Web Development): Java or Python to construct the application as it is widely used for both software development and data science. Other languages such as the web development languages or Django (Python can be the back-end development for web development and server). Other supportive languages like C#, C, C++ are good for Brands that are looking to sell recording software/equipment etc.

Payment: It handles all types of payment methods and transactions: cash, credit cards, debit, Apple pay, PayPal, and G#Studio gift cards. Checks are not allowed. Banking credentials are required if the customer/brand is purchasing/selling the products in bulk or would like to sell music.

Interfaces: Helps customers book for appointments, view instructors/record studio labels, purchase products, purchase premium services, and it also helps brands sell products that G#Studio verifies. Interfaces also help G#Studio manage these features.

## **G#Studio: Guitar Studio and Jam Sessions**

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## **Entities and Attributes**

### **Customers:**

<b>CustomerUserID:</b> Customer's username or ID
<b>FirstName:</b> Customer's first name
<b>LastName:</b> Customer's last name

<b>Dob:</b> Customer's date of birth
<b>Email:</b> Customer's email address
<b>Phone:</b> Customer's phone number
<b>Address:</b> Customer's address (home or another)
<b>MemberType:</b> Customer has premium or regular membership
<b>PurchaseType:</b> Customer's choice of payment option (cash, credit card, debit card, Apple pay, PayPal, G#Studio Gift card) no checks, Banking only for bulk purchases.

#### **Staffs:**

<b>StaffUserID:</b> Staff's username or ID
<b>StaffName:</b> Staff's name or nickname
<b>StaffType:</b> Staff is an instructor, sales, vendor, aider, or etc (classify each staff)
<b>StaffExperience:</b> Staff's experiences based on years for premium services or sales/vendors
<b>StaffRating:</b> Staff's ratings for customer satisfaction and quality
<b>StaffAvailability:</b> Staff's availability for premium services or work shifts

#### **PremiumServices:**

<b>AppointmentNumber:</b> Unique Appointment ID per each booking for security
<b>ServiceType:</b> Explicitly labels what type it is: Guitar Lessons, Jam Sessions, Freestyle Jam Band, Seeking Record Label/Sell Music.
<b>CustomerUserID:</b> Customers section to reference the customer information
<b>StaffUserID:</b> Staffs section to reference the staff information
<b>AppointmentInfo:</b> It gives the date, time, price, and status of appointment

#### **WebsiteProducts:**

<b>BrandProducts:</b> It shows the brand names that G#Studio offers; it also classify each products based on the brands
<b>RatingUsageProducts:</b> It shows the best rated products that G#Studio customers enjoy. It also sorts it based on ratings. It also sorts it based on usages/descriptions (ex: amps are good for higher volumes for guitars, etc.)
<b>PricingProducts:</b> It shows the pricing for the customer. (ex: ascending v. descending or best seller v. discounted)

**GuitarProducts:** It offers the top 20 popular and high-end brands for guitar, acoustic, bass.

**AccessoryProducts:** It offers the top 20 popular and high-end brands for recording equipment, software, etc.

**ProductSubLabels:** It is other sub labels for the products to help customers or brands find it. Ex: "guitar picks" is a sub label of an accessory product. This is because "accessory product" is a vague label and it would showcase all of the accessory products, not a specific one like "guitar picks".

**GuitarType:** Splitting the products specifically. Give the label choice of is it an acoustic, electric, or bass guitar.

**AccessoryType:** Splitting the products specifically. Give the label choice of is it guitar tools, recording equipment, software, etc.

#### **CustomProducts:**

**CustomGuitar:** If the customer wants a custom guitar or not. (True = custom, False = not custom)

**GuitarShapeType:** Shape of the guitar body and neckline. Choose the type or customize it.

**ModifiersAdded:** Any additional mods added to the guitar. (ex: pickups v. heads or fretboards v. tuning pegs.)

**ColorType:** Types of color preference for the guitar product(s)

**BassGuitars:** This is for bass guitar products.

**ElectricGuitars:** Like above, this is for electric guitar products.

**AcousticGuitars:** Splitting the products specifically. This is for acoustic guitars products.

#### **LocalProducts: (In-store-studio)**

**BrandProducts:** It shows the brand names that G#Studio offers; it also classify each products based on the brand

**GuitarType:** Splitting the products specifically. Give the label choice of is it an acoustic, electric, or bass guitar.

**AccessoryType:** Splitting the products specifically. Give the label choice of is it guitar tools, recording equipment, software, etc.

**PricingRatingType:** pricing for the customer when purchasing guitars or best seller. (ex: ascending v. descending or best seller v. discounted)

### **Database Processing and Application Software**

## **Database Processing**

**Profile Management:** To manage the profiles of each person such as customers, staffs, instructors, and brands/companies

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## **Application Software**

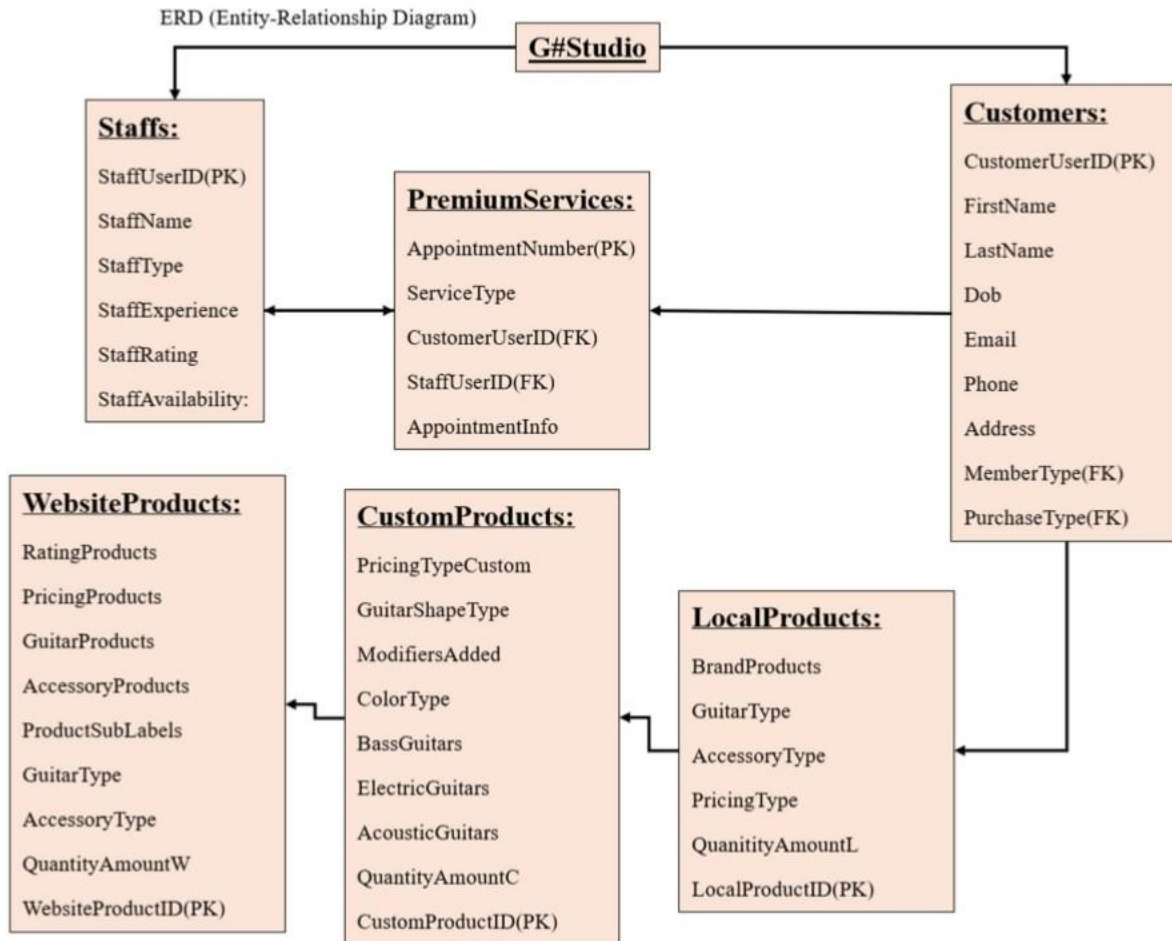
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### Relationships:

- 1) G#Studio -> Staffs; Customers (
- 2) Customers -> PremiumServices -> Staffs
- 3) Customers -> LocalProducts -> CustomProducts -> WebsiteProducts
- 4) Staffs -> PremiumServices

Staff manages PremiumServices (client book appointment). G#Studio manages Staff.

Customers manages PremiumServices(client book appointment) and only retrieves StaffUserID within Staff. G#Studio manages Customers.

Customers also manages LocalProducts, CustomProducts, and WebsiteProducts for monitoring types of products, transactions, purchasing/sales, and quantity. G#Studio manages Customers.

### All Entities and Attributes:

Customers:

CustomerUserID:

FirstName

LastName

Dob

Email

Phone

Address

MemberType

PurchaseType

Staffs:

StaffUserID

StaffName

StaffType

StaffExperience

StaffRating

StaffAvailability

Premium Services:

AppointmentNumber

ServiceType

CustomerUserID

StaffUserID

AppointmentInfo



LocalProducts:

BrandProducts

GuitarType

AccessoryType

PricingType

PricingType

QuantityAMount:

LocalProductID(PK)

CustomProducts:

PricingTypeCustom

GuitarShapeType

ModifiersAdded

ColorType

BassGuitars

ElectricGuitars

AcousticGuitars

QuantityAmountC

CustomProductID(PK)

WebsiteProducts:

PratingProducts

PricingProducts

GuitarProducts

AccessoryProducts

ProductSubLabels

GuitarType

AccessoryType

QuantityAmountW

WebsiteProductID(PK)

--Populate Customers Table

INSERT INTO Customer (CustomerUserID, FirstName, LastName, Dob, Email, Phone, Address, MemberType) VALUES

(1, Katarina, Alves, 01/01/1997, [katarinaalves@email.com](mailto:katarinaalves@email.com), 123-456-7890, 1234 Spring Street, Hills, CA 12345, PremiumMember);

INSERT INTO Customer (CustomerUserID, FirstName, LastName, Dob, Email, Phone, Address, MemberType) VALUES

(2, Linda, Sobieska, 02/02/1995, [lindasobieska@email.com](mailto:lindasobieska@email.com), 234-567-8900, 2345 Summer Street, Palms, CA 23456, StandardMember);

INSERT INTO Customer (CustomerUserID, FirstName, LastName, Dob, Email, Phone, Address, MemberType) VALUES

(3, Negan, Smith, 03/03/1980, [negansmith@email.com](mailto:negansmith@email.com), 345-678-9011, 3456 Fall Street, Pines, CA 34567, PremiumMember);

INSERT INTO Customer (CustomerUserID, FirstName, LastName, Dob, Email, Phone, Address, MemberType) VALUES

(4, Nina, Williams, 04/04/1994, [ninawilliams@email.com](mailto:ninawilliams@email.com), 456-789-0122, 4567 Winter Street, Woods, CA 45678, StandardMember);