

Joe's Electric Guitar Search



Project Overview: The Quest

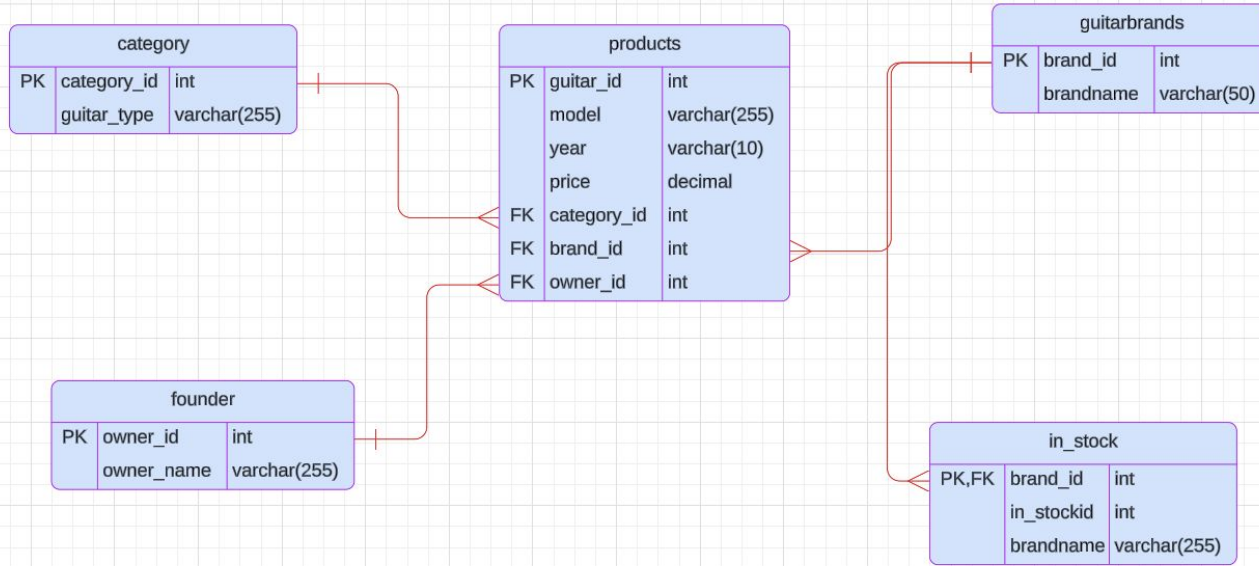
Mission Statement: At Pace Guitar's, we simplify the process of selecting an electric guitar for aspiring musicians like Joe. Our SQL-driven solution leverages a comprehensive database to provide tailored queries, ensuring affordability, quality, and availability. We empower musicians to embark on their musical journey with confidence and excitement.

Meet Joe: Joe is an aspiring musician, excited to explore the dynamic realm of electric guitars. Eager to nurture his musical talents, Joe is on the hunt for his first electric guitar. However, constrained by a tight budget of under \$400 and faced with countless options, Joe feels overwhelmed and unsure where to begin.

The Challenge: Joe, eager to buy his first electric guitar, faces a daunting market due to his limited budget of under \$400. Our SQL-driven database simplifies this search by tailoring queries to find quality electric guitars within his price range, ensuring a focused and efficient selection process.

Data Dictionary

Column Name	Data Type	Description
guitar_id	INT	A unique identifier for each guitar entry.
brand	VARCHAR(255)	The brand name of the guitar (e.g., Fender, Gibson, Yamaha).
model	VARCHAR(255)	The model name of the guitar.
year	INT	The manufacture year of the guitar.
price	DECIMAL(10,2)	The price of the guitar.
category	VARCHAR(255)	The type of guitar (e.g., Acoustic, Electric, Classical).
in_stock	INT	Whether the guitar is in stock (1 for yes, 0 for no).
founder	VARCHAR(255)	The person who found the guitar listing on (e.g., Facebook, eBay, Guitar Center).



Database Schema and ER Diagram

Finding the Right Fit

This query displays electric guitars priced under \$400 that are currently in stock. It filters the database to show only those guitars that are both affordable and readily available, ensuring that Joe can immediately find and consider viable options within his budget.

SQL Query:

```
SELECT model, price
```

```
FROM products
```

```
WHERE price < 400.00;
```

```
17 rows
```

```
SELECT COUNT(*) AS total_count
```

```
FROM products p
```

```
INNER JOIN category c ON
```

```
p.category_id = c.category_id
```

```
WHERE c.guitar_type = 'Electric'
```

```
AND p.price < 400.00;
```

```
1 row
```

	model	price	
	Telecaster	150.99	
	Washburn Pro X Series	139.95	
	AF55-TF 5B-05	329.99	
	Z40 Zenox	180.00	
	Contemporary Telecaster RH	349.95	
	Jackson Limited Edition	99.99	
	First Act 10G	170.00	
	Viper	75.00	
	Squier Strat	250.00	
	Telecaster	240.00	
	Gio	300.00	
	Les Paul	300.00	
	LP100	249.00	
	GRX70QA	199.99	
	MS470	249.99	
	Pro Series DK2M Dinky	399.99	
	AS53-TF Artcore with Wain...	349.99	

	total_count
	17

Linking Products with Brands

This query demonstrates how to associate each guitar model with its corresponding brand name by performing an inner join between the **products** table and the **guitarbrands** table. This enables clearer visibility into which brands offer which models, facilitating more informed decision-making when selecting guitars.

SQL Query:

```
SELECT gb.brandname AS guitar_brand,  
p.model
```

```
FROM products p
```

```
INNER JOIN guitarbrands gb ON
```

```
p.brand_id = gb.brand_id;
```

```
102 rows
```

	guitar_bra...	model
	Yamaha	FG800
	Yamaha	CGS
	Yamaha	Yamaha FG230 12 String
	Yamaha	Fgx720sca
	Yamaha	F325d
	Yamaha	FX335c
	Yamaha	FG830
	Yamaha	F310
	Yamaha	Pacifica 112VM
	Yamaha	FX335C
	Yamaha	F335
	Yamaha	FG800J
	Yamaha	FGX800C
	Yamaha	APX600
	Yamaha	L-5 1970s
	Yamaha	SLG200N Silent Guitar

	guitar_bra...	model
	Ibanez	AEG70
	Ibanez	RG550
	Ibanez	AF55-TF 5B-05
	Ibanez	IJVC50-NT 3U-06
	Ibanez	Gio
	Ibanez	RDG61ALA
	Ibanez	PF1512
	Ibanez	GRGA120QA
	Ibanez	GRX70QA
	Ibanez	Roadstar II Comet RS135
	Ibanez	AS53-TF Artcore with W...
	LyxPro	Telecaster
	Paracho	Classical Guitar
	Washburn	Washburn A20v
	Washburn	Washburn Pro X Series
	Washburn	WSHAGPAKQTTB
	Washburn	AD5CEPACK A H

	guitar_bra...	model
	Jackson	JS24
	Jackson	JS22
	Jackson	Pro Series DK2M Dinky
	Breedlove	Nylon CE
	Juan Salva...	Modelo 2
	Unbranded	600
	First Act	First Act 10G
	Martin	Martin D12-35 12 String
	Martin	DCPA3
	Gibson	Gibson Les Paul Special
	Gibson	Gibson SG Supreme
	Gibson	Gibson J160E John Len...
	Gibson	Studio Les Paul
	Gibson	L6-S Custom
	Fernandes	Fernandes LE1
	Taylor	Taylor 950 12 String
	Taylor	111-950

Filtering Mid-Range Priced Guitars

This SQL query efficiently identifies guitars priced below \$700 by linking guitar models from the **products** table with their respective brands using the **guitarbrands** table. With this query we are also able to find the respective founder of the guitar so people know who to get it from. It helps users like Joe explore a slightly higher yet reasonable price range, providing more options balancing quality with affordability.

SQL:

	owner_name	model_name	guitar_bra...	price
	Sahim	Telecaster	LyxPro	150.99
	Sahim	Crate Electra Les Paul	Crate	425.00
	Sahim	RG550	Ibanez	600.00
	Sahim	Washburn Pro X Series	Washburn	139.95
	Sahim	AF55-TF 5B-05	Ibanez	329.99
	Sahim	Z40 Zenox	Cort	180.00
	Sahim	Stratocaster HSS	Firefly	400.00
	Sahim	FFTL-GWT-SP-56	Firefly	400.00
	Sahim	Contemporary Telecaster RH	Squier	349.95
	Sahim	Jackson Limited Edition	Jackson	99.99

SQL QUERY

```
SELECT f.owner_name AS owner_name, p.model AS model_name, gb.brandname AS guitar_brand, p.price
FROM products p
INNER JOIN founder f ON p.owner_id = f.owner_id
INNER JOIN guitarbrands gb ON p.brand_id = gb.brand_id
INNER JOIN category c ON p.category_id = c.category_id
WHERE c.guitar_type = 'Electric'
AND p.price < 700
AND f.owner_id = (
    SELECT owner_id
    FROM (
        SELECT p.owner_id, COUNT(*) AS electric_count
        FROM products p
        INNER JOIN category c ON p.category_id = c.category_id
        WHERE c.guitar_type = 'Electric'
        AND p.price < 700
        GROUP BY p.owner_id
        ORDER BY electric_count DESC
        LIMIT 1
    ) AS subquery
);
```

10 rows

Showcasing Budget Guitars in Stock

This SQL query connects multiple tables to find guitars priced under \$600 that are currently available.

It joins the **products** table with **guitarmodels** and **in_stock** tables to provide detailed information about each model's features and availability. This ensures users can find guitars that not only fit their budget but are also ready for immediate purchase

SQL Query:

```
SELECT p.model AS guitar_model,  
p.price, i.in_stockid
```

```
FROM products p  
INNER JOIN in_stock i ON  
p.brand_id = i.brand_id
```

```
WHERE p.price < 600.00;
```

```
61 rows
```

	guitar_model	price	in_stockid
	FG800	199.99	1
	AEG70	399.99	1
	Telecaster	150.99	1
	Classical Guitar	325.00	1
	Crate Electra Les Paul	425.00	1
	Washburn Pro X Series	139.95	1
	AF55-TF 5B-05	329.99	1
	Z40 Zenox	180.00	1
	Stratocaster HSS	400.00	1
	FFTL-GWT-SP-56	400.00	1
	Contemporary Teleca...	349.95	1
	Jackson Limited Edition	99.99	1
	WSHAGPAKQTTB	115.00	1
	Nylon CE	52.00	1
	CGS	105.00	1
	Modelo 2	120.00	1

	guitar_model	price	in_stockid
	Squier Strat	250.00	1
	F325d	70.00	1
	Riviera	450.00	1
	Stratocaster	599.00	1
	FX335c	280.00	1
	33558	300.00	1
	TW4 BR	160.00	1
	Telecaster	240.00	1
	Gio	300.00	1
	AD5CEPACK-A-U	150.00	1
	Les Paul	300.00	1
	FG830	332.49	1
	F310	219.99	1
	PF1512	249.99	1
	JS24	329.99	1
	JS22	299.99	1
	GRCA120QA	299.99	1

Updating Guitar Availability:

This SQL command is essential for maintaining accurate inventory records. It updates the stock status of a specific guitar based on certain conditions, such as a sale or return. In the scenario for Joe it seems the best guitar is the telecaster lyx pro which we will update the instock id to 0 since he will be buying it.

SQL :

owner_name	model	brandname	price	in_stockid
Sahim	Telecaster	LyxPro	150.99	0

SQL QUERY

```
UPDATE in_stock AS i  
JOIN guitarbrands AS gb ON i.brand_id = gb.brand_id  
JOIN products AS p ON p.brand_id = gb.brand_id  
SET i.in_stockid = 0  
WHERE p.model = 'Telecaster' AND gb.brandname = 'LyxPro';
```

```
SELECT f.owner_name, p.model, g.brandname, p.price, i.in_stockid  
FROM products AS p  
JOIN founder AS f ON p.owner_id = f.owner_id  
JOIN guitarbrands AS g ON p.brand_id = g.brand_id  
JOIN in_stock AS i ON p.brand_id = i.brand_id  
WHERE p.model = 'Telecaster'  
AND g.brandname = 'LyxPro';
```

1 row

Conclusion and Results

Best Guitar Choice: After careful consideration and utilizing our precise SQL-driven queries, the best guitar for Joe, based on his budget, preferences, and our database analysis, is the Telecaster LyxPro. This 2023 model electric guitar, priced at \$150.99, offers an exceptional balance of quality and affordability, making it an ideal choice for a budding musician like Joe. Its near-new condition and positive features promise a great start to Joe's musical journey.

Final Thoughts: Throughout this project, we have demonstrated how a well-structured SQL database can effectively streamline the decision-making process for consumers like Joe, who are new to the electric guitar market. By applying targeted queries, we not only simplified Joe's search but also provided him with the confidence to make an informed purchase.



Telecaster, LyxPro,
Electric, 2023, \$150.99