



Project Overview



The product:

SQL Editor Pane Improve the area of SQL Query Editor, as query write and run their result. Providing users with the opportunity to give enhanced functionality like Save as and Copy Query.



Project duration:

45 Days

```
SELECT COUNT(*), "range"
FROM
(
  SELECT
  CASE
  WHEN c.rentals BETWEEN 1 AND 10 THEN '1-10'
  WHEN c.rentals BETWEEN 11 AND 20 THEN '11-20'
  WHEN c.rentals BETWEEN 21 AND 30 THEN '21-30'
  WHEN c.rentals BETWEEN 31 AND 40 THEN '31-40'
  WHEN c.rentals > 40 THEN '40+'
  END AS "range"
FROM
(
  SELECT COUNT( customer_id ) AS rentals
  FROM rental
  GROUP BY customer_id
) c
) c
GROUP BY "range"
```

Old SQL Edit

Project Overview



The problem:

- (Quantitatively describes the existing state)
- What challenges facing in existing UI
- The left side needs to improve and the SQL editor needs to improve area-wise text colour code, it should be a popup or a vertical or horizontal one.
- Missing the Copy / Paste, not selecting the options after open the tables and don't see the filters on our search results page.
- When you need multiple queries, select and run the result on some.



The goal:

- Describes what will be used to determine success of the experiment
- It's easy to write the query and run the result in the left side window or below the window
- It shows that the structure is easy to capture immediately
- SQL Editor should have different windows as well as showing their result vertical or horizontal.

Project Overview



My role:

Sr. UX Consultant



Responsibilities:

Design the SQL Editor which are user can run complex queries in that Editor.

- User research
- Personas
- Problem statements
- User journey maps

Understanding the user



- SQL Editor should have different windows as well as showing their result vertical or horizontal
- Missing the Copy/Paste, not selecting the options after selecting the tables
- Shows the tree data structure of the table, which means that a user can select the options like, e.g., insert the query, copy the table
- In the SQL Lab editor, it is easy to write the query and run the result on the left side or below the window in a horizontal way.

User research: summary

S.N.	User Name (Persona)	Designation	Software Use	Projects
1	Vinod K	Sr. Technical Leader	Postgres	Interqual Predictive
2	Sachin P	Sr. Software Developer	Postgres	Data Advocate
3	Somnath S	Sr. Technical Leader	Postgres and Druid	Superset
4	Tanmay	Sr. Software Developer	Postgres and Druid	Superset
	Postgres	PostgreSQL, also known as Postgres, is a free and open-source relational database management system emphasizing extensibility and SQL compliance. It was originally named POSTGRES, referring to its origins as a successor to the Ingres database developed at the University of California, Berkeley.		
	Druid Apache	Druid is a column-oriented, open-source, distributed data store written in Java. Druid is designed to quickly ingest massive quantities of event data and provide low-latency queries on top of the data. Druid is commonly used in business intelligence/OLAP applications to analyse high volumes of real-time and historical data		
	Chinmay - Product Manager			
	Questions	Answers		
1	How big are editor lines?	By Default 10 or 20 lines (Confirauable),		
2	Left & right is ok	This is ok as per there views		
3	Already in collapsible panels.	This will be additional feature to quickly adjusted screen		
4	Why .csv & Explore	CSV means you can export your code. Explore is like dashboard view		

User research: Pain points

1

Pain point

SQL Editor should have different windows as well as showing their result vertical or horizontal.

2

Pain point

Missing the options of Copy / Paste, not selecting the options after open the tables.

3

Pain point

To generate additional and multiple queries select from your DB.

4

Pain point

Need to improve SQL Editor Pane

Usability study: findings - 1

When reporting results from a usability test, just focused primarily on my findings and recommendations that are differentiated by levels of severity. I had prepared simple questions and make it all sections short, used tables to display the metrics, and use visual examples to demonstrate problem areas, when possible.

Persona 1		Project Name	Options of new prototypes	Persona2		Project Name	Options of new prototypes
Vinod K - Sr. TL		Superset	Like option 3	Sachin Patil - Sr. Eng		Data Advocate	Like option 1
1	Why use PostgreSQL?	It's used for a single database. It's easy to run the query. For query-related work, PostgreSQL is connected through the AWS RDS Service.	MySQL, PostgreSQL, Apache Druid, it's easy to find & easy to run the queries.	1	Why use PostgreSQL?	For Query-related work, PostgreSQL is connected through the AWS RDS Service.	PostgreSQL, easy to handle & no more complication, only on the tab command selection, tab-like running the query & showing their result.
2	What is Schema? What is Drop Table?	Definition of the Database or Table. A drop table is like deleting the table.	PostgreSQL, and yes, it's good to have. But somewhere in the drop-down menu or give some validation or alert when it's applicable.	2	What is Drop Table?	For Delete the Table	PostgreSQL, and yes, it's good to have.
3	Are there any updates on the current wireframe? Option 1 & 2	After Query History you can add Preview for Superset name (Table names) or Dashboard also add on.	In MySQL & other SQL tools there are some tabs like Query History & Preview on Dashboard – selected table or query.	3	Why do they need plus after Select Query? Option 1 & 2	When you need multiple queries, select & run the result on some.	It's helpful to generate additional & multiple queries select from your DB.

Usability study: findings - 2

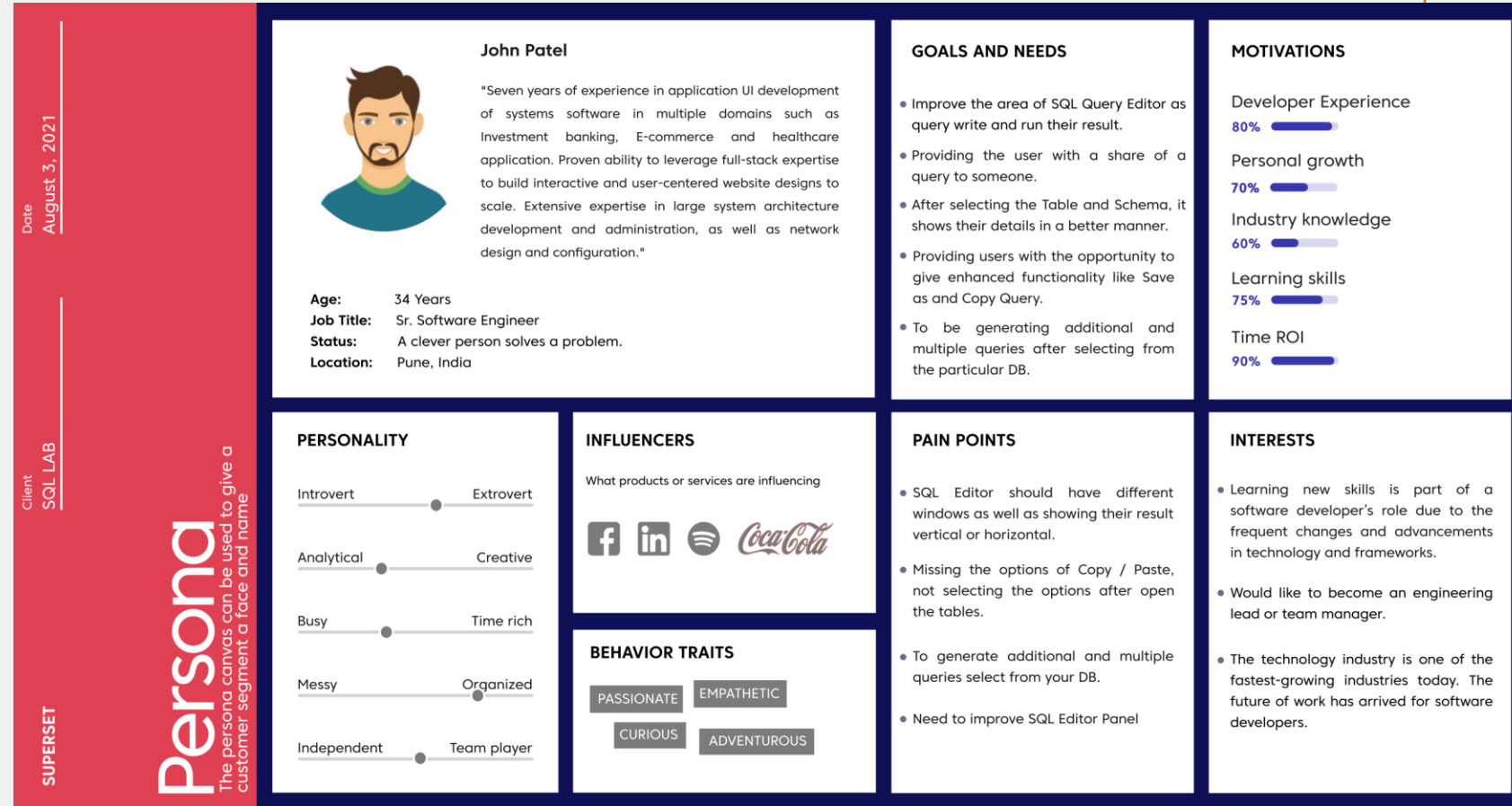
At the end of usability testing I had collected several types of data depending on the metrics which is I identified in my test plan. When analysing the data had collected, read through the notes carefully looking for patterns and be sure to add a description of each of the problems.

Persona 3			Persona 4				
Project Name			Project Name				
Options of new prototypes			Options of new prototypes				
Tanmay K - TL			Somnath S - Sr. TL				
Superset			Superset				
Like option 1							
1	Why use PostgreSQL Admin?	For Query-related work, PostgreSQL is connected through the AWS RDS Service.	MySQL, PostgreSQL, Apache Druid, it's easy to find & easy to run the queries. Their SQL Editor is so clear & big with colour text which is easy to understand the query.	1	Why use PostgreSQL?	It's used for a single database and is easy to run the query. For Query-related work, PostgreSQL is connected through the AWS RDS Service.	MySQL, PostgreSQL, Apache Druid, it's easy to find & easy to run the queries.
2	What are challenges facing in existing UI	The left side needs to improve as well as SQL Editor needs to improve area-wise text color code, it should be popup or a vertical or horizontal one.	Like PostgreSQL Admin UI but not the same. SQL Editor should have different windows as well as showing their result vertical or horizontal.	2	What are challenges facing in existing UI	Missing the Copy/Paste, not selecting the options after selecting the tables.	In PostgreSQL Admin, it's showing a very good UI as well as showing the tree data structure of the table, which means that a user can select the options like, e.g., insert the query, copy the table.
3	Is any updates on current wireframe? Option 3	Remove Preview Dashboard & Preview the Table. After setting the table, it should run the result as well.	PostgreSQL Admin and SQL online editor, easy to write the query and run the result in the left side window or below the window.	3	Is any updates on current wireframe? Option 1 & 2	Remove top tabs. No need as we can implement the table selection, then no need to show again.	PostgreSQL Admin, if you check this, it shows that the structure is easy to capture immediately.

Persona: John Patel

Problem statement:

John Patel is a Software Engineer who needs The left side needs to improve and the SQL editor needs to improve area-wise text colour code, it should be a popup or a vertical or horizontal one, because Quantitatively describes the existing state



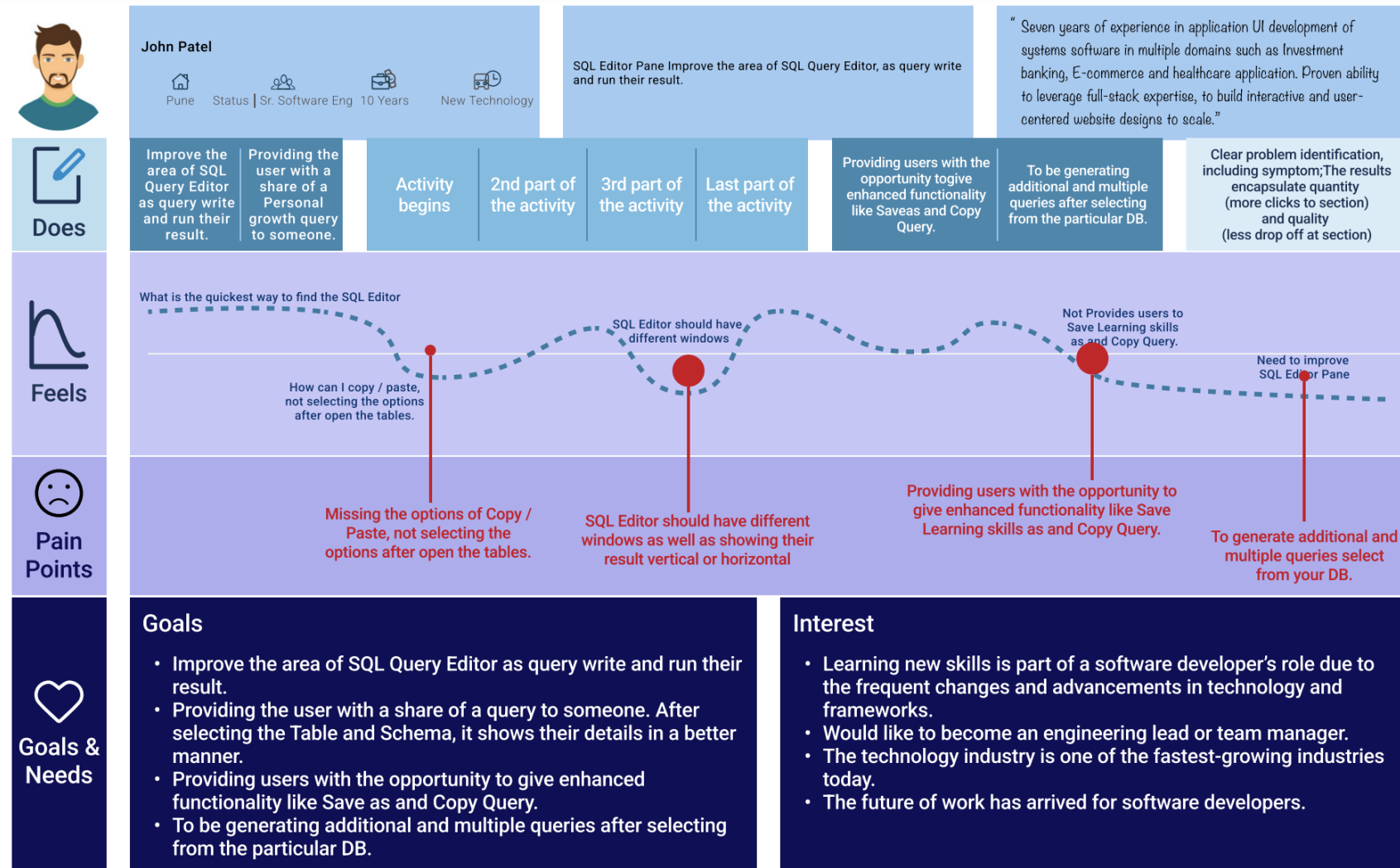
User journey map

Goals:-

- Improve the area of SQL Query Editor as query write and run their result.
- Providing the user with a share of a query to someone.
- After selecting the Table and Schema, it shows their details in a better manner.

Pain Points:-

- SQL Editor should have different windows as well as showing their result vertical or horizontal.
- Missing the options of Copy / Paste, not selecting the options after open the tables.
- To generate additional and multiple queries select from your DB.
- Need to improve SQL Editor Panel



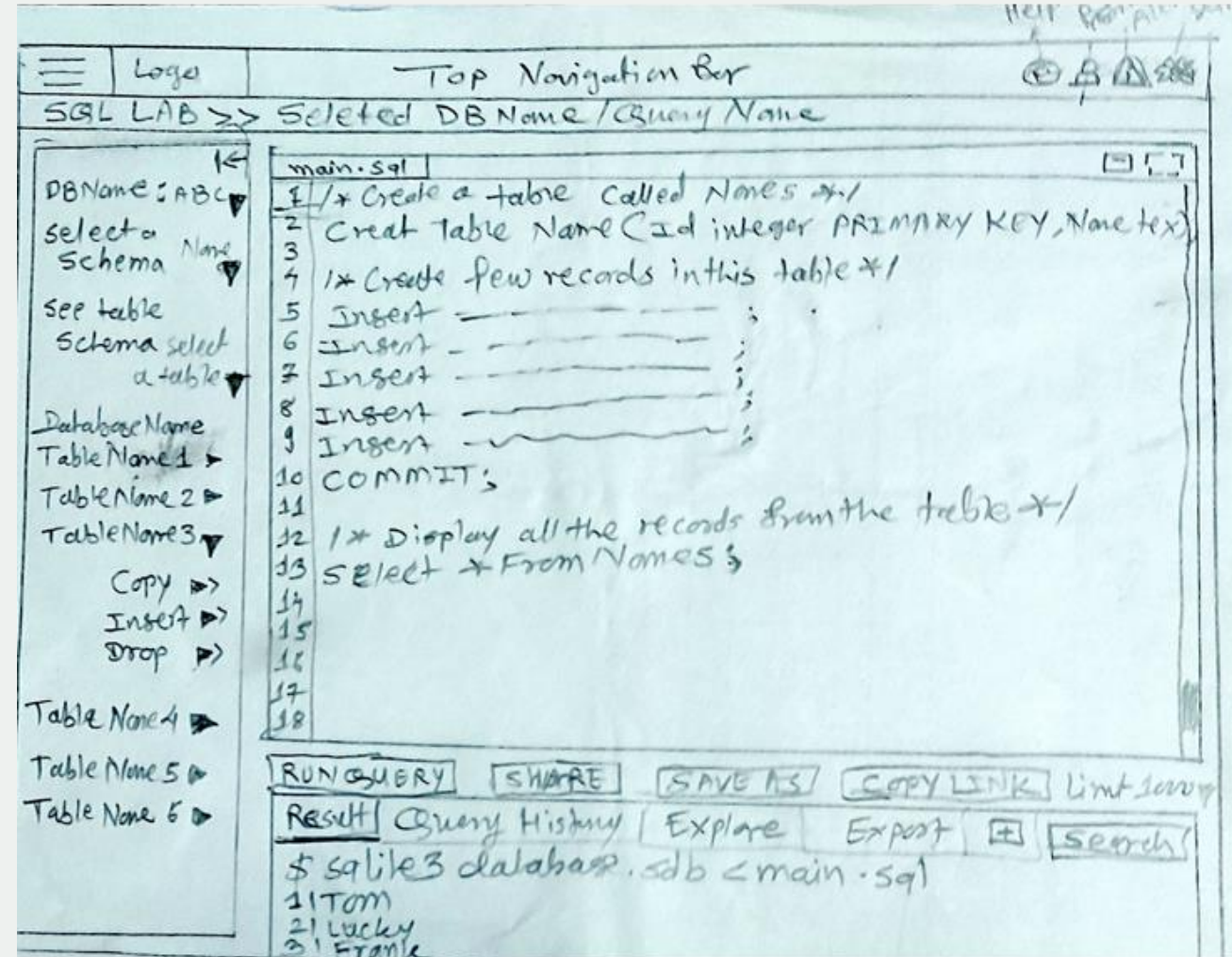
- Paper Wireframes
- Low-fidelity prototype
- Digital wireframes
- Usability studies

Starting the design

Paper wireframes

As per the requirement from end user:

- Providing the user with a share of a query to someone.
- After selecting the Table and Schema, it shows their details in a better manner.
- Providing users with the opportunity to give enhanced functionality like Save as and Copy Query.



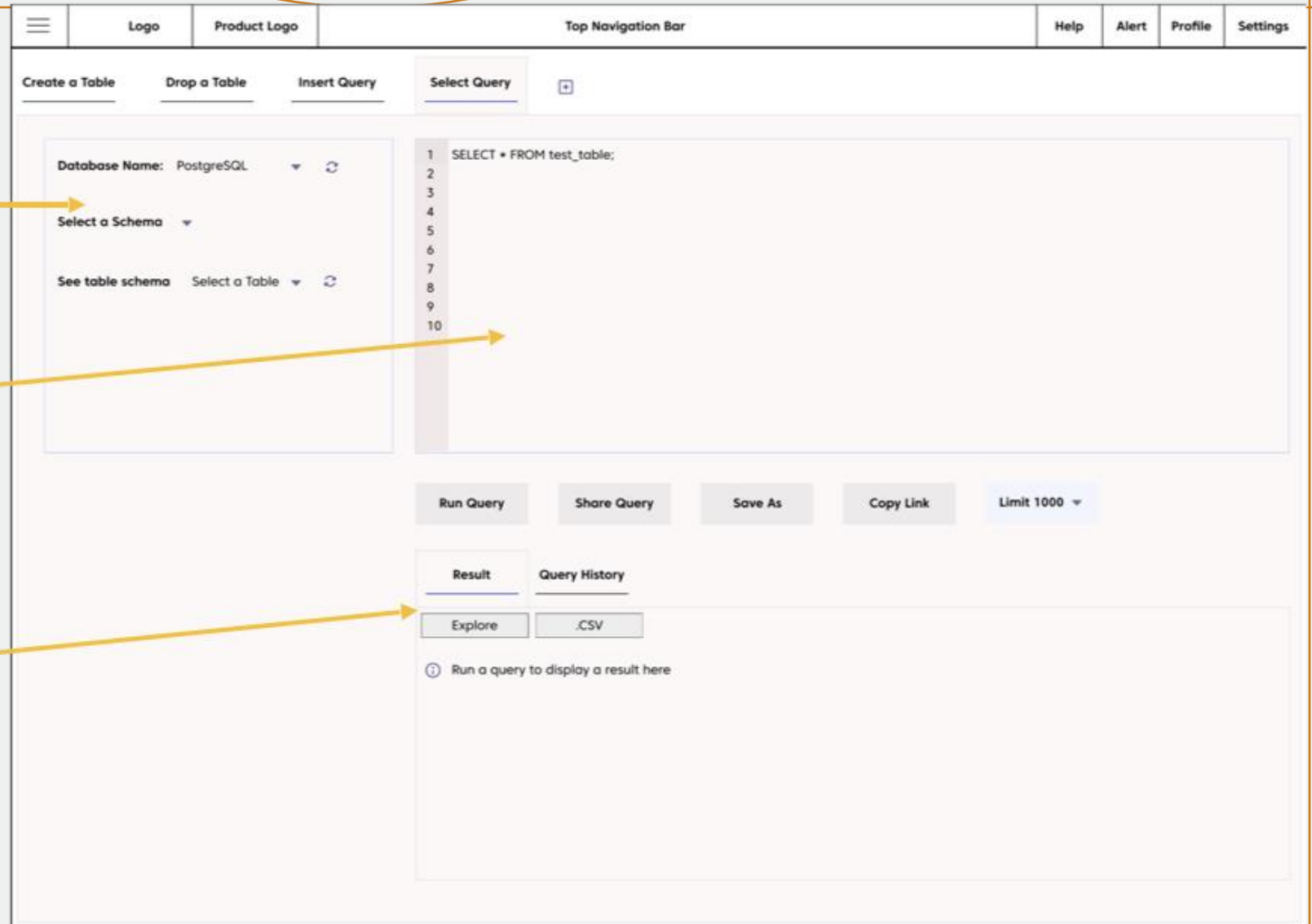
Paper wireframes - SQL Lab

Low Fidelity

Need to improve on left side navigation

Coding canvas area we need to bigger as per end user

We need to work more user experience like end user want more functionality adding on this area like Save As, Share and Copy button should be there.



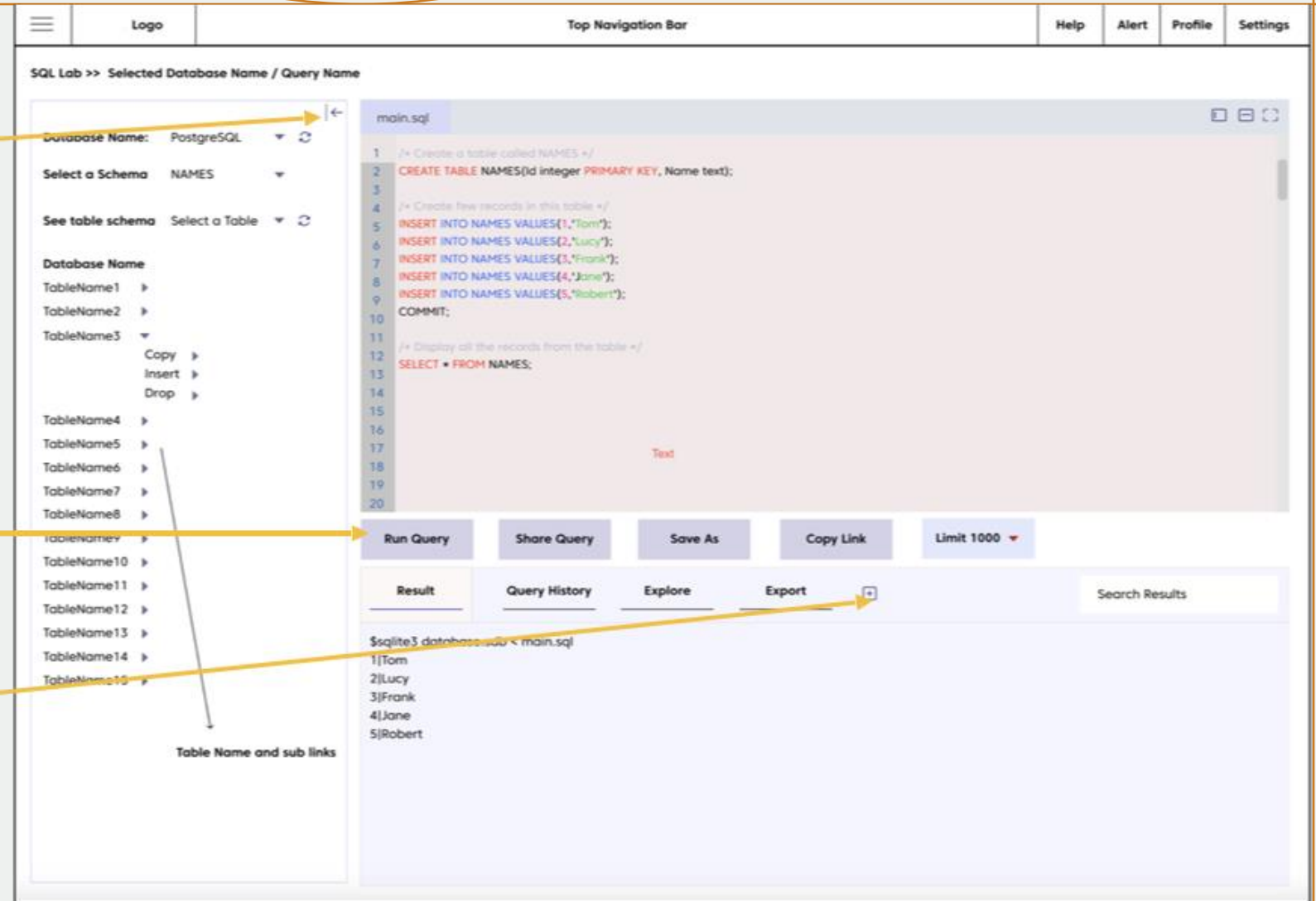
Low Fidelity

Digital wireframes

We can minimise or drag the left side navigation

As per end user needs give the all buttons like Save As, Share and Copy the Query directly from here

We can add more tabs as per the users requirements.

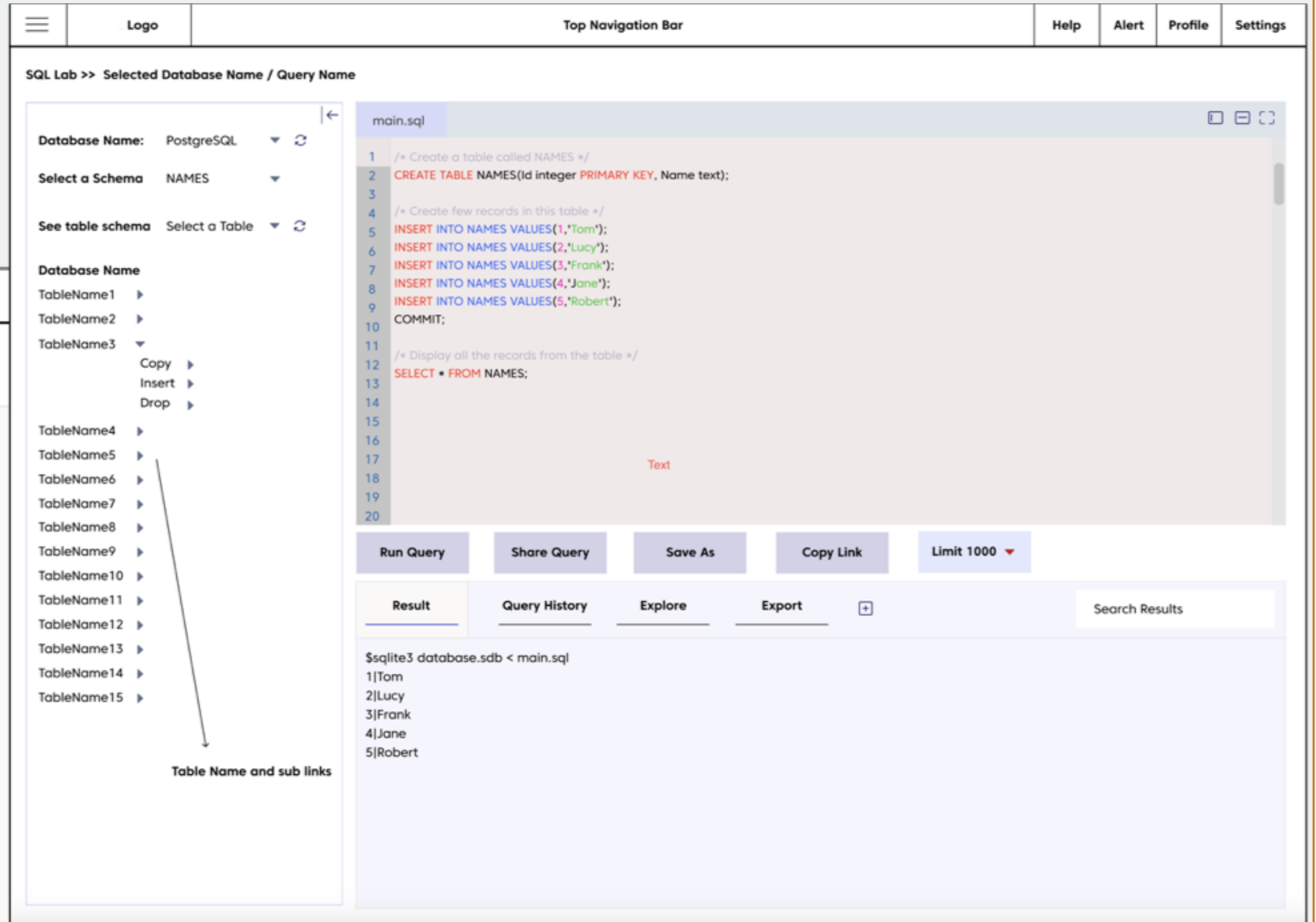
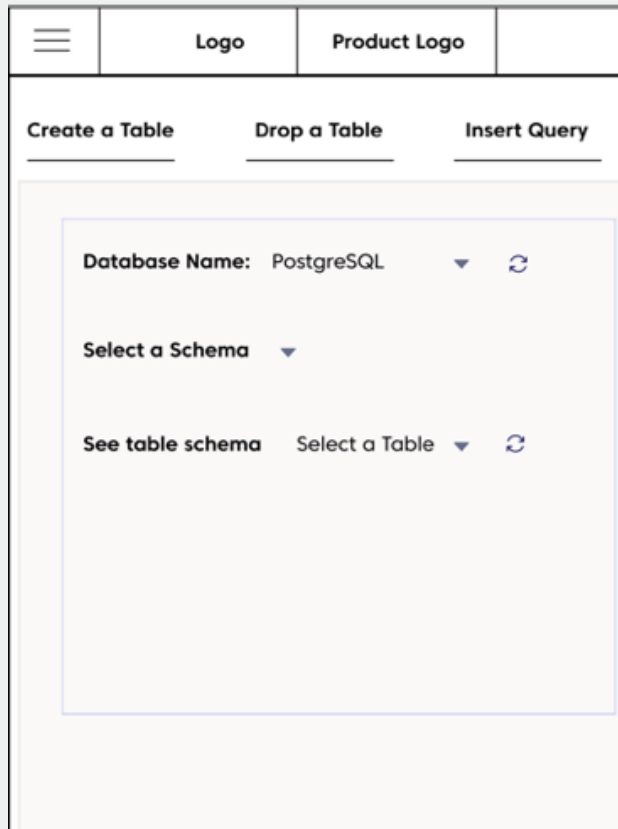


Digital wireframes

- Mockups
- High-fidelity prototype
- Accessibility

Refining the design

Mock-up's



Before Usability Study

After Usability Study

Mock-up's

Logo Product Logo

Create a Table Drop a Table

Database Name: PostgreSQL

Select a Schema

See table schema Select a Table

SQL Lab >> Selected Database Name / Query Name

Database Name: PostgreSQL

Select a Schema: NAMES

See table schema: Select a Table

Database Name

- TableName1
- TableName2
- TableName3
 - Copy
 - Insert
 - Drop
- TableName4
- TableName5
- TableName6
- TableName7
- TableName8
- TableName9
- TableName10
- TableName11
- TableName12
- TableName13
- TableName14
- TableName15

Logo Top Navigation Bar Help Alert Profile Settings

SQL Lab >> Selected Database Name / Query Name

Database Name: PostgreSQL

Select a Schema: NAMES

See table schema: Select a Table

Database Name

- TableName1
- TableName2
- TableName3
 - Copy
 - Insert
 - Drop
- TableName4
- TableName5
- TableName6
- TableName7
- TableName8
- TableName9
- TableName10
- TableName11
- TableName12
- TableName13
- TableName14
- TableName15

```
main.sql
1 /* Create a table called NAMES */
2 CREATE TABLE NAMES(id integer PRIMARY KEY, Name text);
3
4 /* Create few records in this table */
5 INSERT INTO NAMES VALUES(1,'Tom');
6 INSERT INTO NAMES VALUES(2,'Lucy');
7 INSERT INTO NAMES VALUES(3,'Frank');
8 INSERT INTO NAMES VALUES(4,'Jane');
9 INSERT INTO NAMES VALUES(5,'Robert');
10 COMMIT;
11
12 /* Display all the records from the table */
13 SELECT * FROM NAMES;
```

Run Query Share Query Save As Copy Link Limit 1000

Result Query History Explore Export Search Results

```
$sqlite3 database.sdb < main.sql
1|Tom
2|Lucy
3|Frank
4|Jane
5|Robert
```

Table Name and sub links

Table Name and sub links

High-fidelity prototype

SQL Lab | PostgreSQL | Names

main.sql

```
1 /* Create a table called NAMES */
2 CREATE TABLE NAMES(id integer PRIMARY KEY, Name text);
3
4 /* Create few records in this table */
5 INSERT INTO NAMES VALUES(1,'Tom');
6 INSERT INTO NAMES VALUES(2,'Lucy');
7 INSERT INTO NAMES VALUES(3,'Frank');
8 INSERT INTO NAMES VALUES(4,'Jane');
9 INSERT INTO NAMES VALUES(5,'Robert');
10 COMMIT;
11
12 /* Display all the records from the table */
13 SELECT * FROM NAMES;
14
15
16
17
18
19
20
```

Run Query Share Query Save As Copy Link Limit 1000

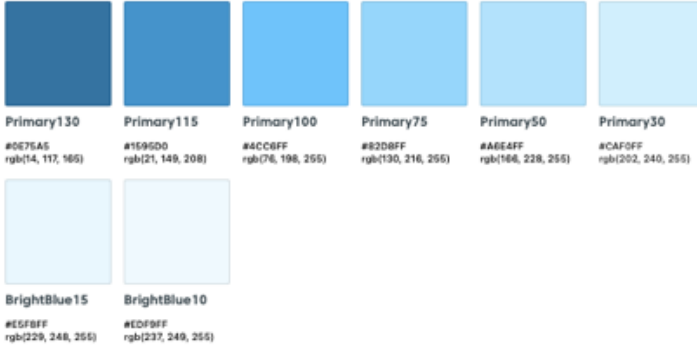
Result Query History Explore Export

```
$sqlite3 database.sdb < main.sql
1|Tom
2|Lucy
3|Frank
4|Jane
5|Robert
```

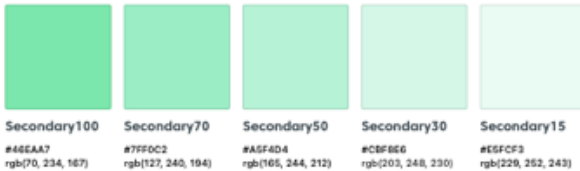
Accessibility considerations

Primary - Bright Blue

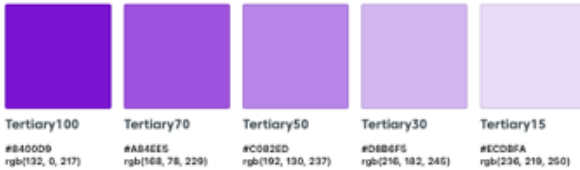
Bright Blue is used to draw attention to specific elements in an interface. To handle different interactive states, there are a variety of Bright Blue shades to utilize.



Secondary - Mint



Tertiary - Purple



Quaternary - Magenta



Text

Text styles for all text elements in EDL applications

Text Styles Storybook

XXXLarge
Family: Core Sans C (400)
Size: 62px
Line height: 3.875rem
Line height: 120%

Fix problem quickly with galvanized jets

XXLarge
Family: Core Sans C (400)
Size: 52px
Line height: 3.25rem
Line height: 120%

Grumpy wizards make a toxic brew for the jovial queen

XLarge
Family: Core Sans C (600)
Size: 24px
Line height: 1.5rem
Line height: 140%

The wizard quickly jinxed the gnomes before they vaporized

Large Bold
Family: Core Sans C (600)
Size: 20px
Line height: 1.4rem
Line height: 140%

The quick brown fox jumps over the lazy dog

Panes

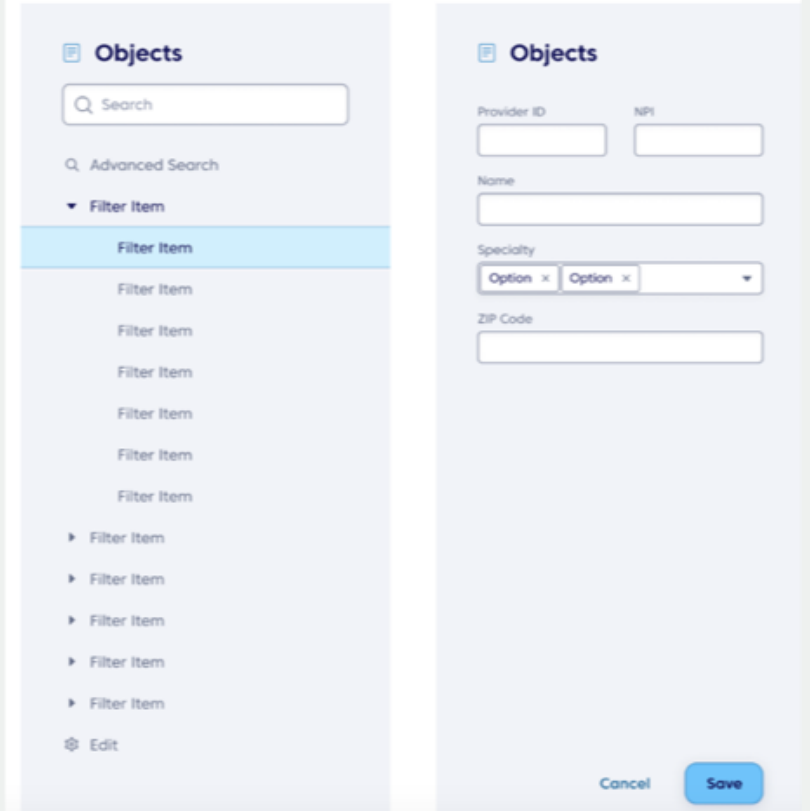
Navigation Pane

For setting page context and displaying filters

Overview Variants Examples Storybook

Many Possibilities

There are many possibilities for configuring the content within the Navigation Pane, as shown on the Examples tab. You can also find more options in the [Filter documentation](#).



Takeaways



Impact:

This design is very helpful to all developers to solve the multiple queries and right-click & give the options to imbedded the column name into the query and it should be comma-separated. Exporting query history in the file.



What I learned:

I had learned a lot about new stuff like Postgres, the Apache database, how it works in each database. Lastly, the end user is important who use this product, and they have met their goals.

Values on scales

When we are done with behavioral attributes, define all possible values for each of them and put these values on scales. Just like this:

What kind of Database format or software tools do you process with SQL LAB?

	1	2	3	4	5
	Start from current UI of SQL Lab, SuperSet Old UI	It's time consuming	Not find the better SQL Editor	Lack of functions like Copy, e.g.	It's waste of time to showing the run result
Tanmay K	1	2	3		5
Somnath S	1	2	3	4	5
Chinmay K	1	2	3	4	5
Vinod K		2	3	4	5
Sachin P		2	3		5



Thank You