

Intel® Unnati Industrial Training 2024

# SCANALYST

## DATABASE ANALYZER

### Problem Statement:

Intel Unnati PS-13

Knowledge Representation and Insight  
Generation Using Structured Datasets

Team:  
**ChainCoders**

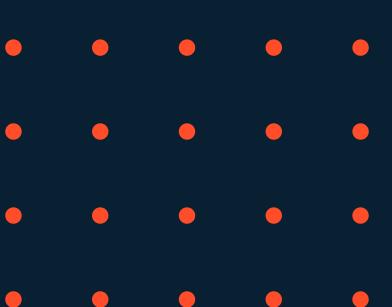
Members:  
**> 1 (Team Lead)**

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# UNIQUE IDEA BRIEF(SOLUTION)

The problem we face is the inefficiency and manual effort required to organize, search, and analyze datasets effectively. Also, sometimes logically reasoning the data set becomes challenging. Thus, we provide the following solutions:

## Solution 01

SCANALYST organizes your dataset into a structured format, reducing manual effort and enhancing efficiency.

## Solution 02

Easily search for specific entries using simple, natural language queries, saving time and effort. Get logical reasoning to your doubts and questions.

## Solution 03

Get detailed insights from your data through processed queries, helping you understand and make informed decisions.

## Solution 04

Create customized plots and visualizations from your CSV data for easier interpretation and presentation.



# FEATURES OFFERED

Some of the major features are listed below:



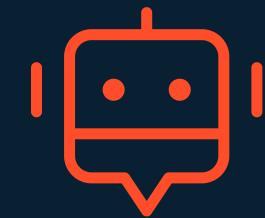
## Database Preview

User friendly UI which accepts the dataset and displays it in a multi-page clean and understandable format



## Insight Generation

Generate required graphs, plots using Scanalyst. Plots can be made based on the csv data that has been provided by the user.



## Query Bot

In-built chatbot which perceives your question in English language and gives required response to the query.

# Process Flow:

## 01 | Data Upload

- Users upload their CSV database to the SCANALYST server.
- The system validates and organizes the data into a structured table format.

## 02 | Query Submission

- Users submit queries using natural language.
- The system interprets and processes the queries.

## 03 | Data Retrieval and Organization

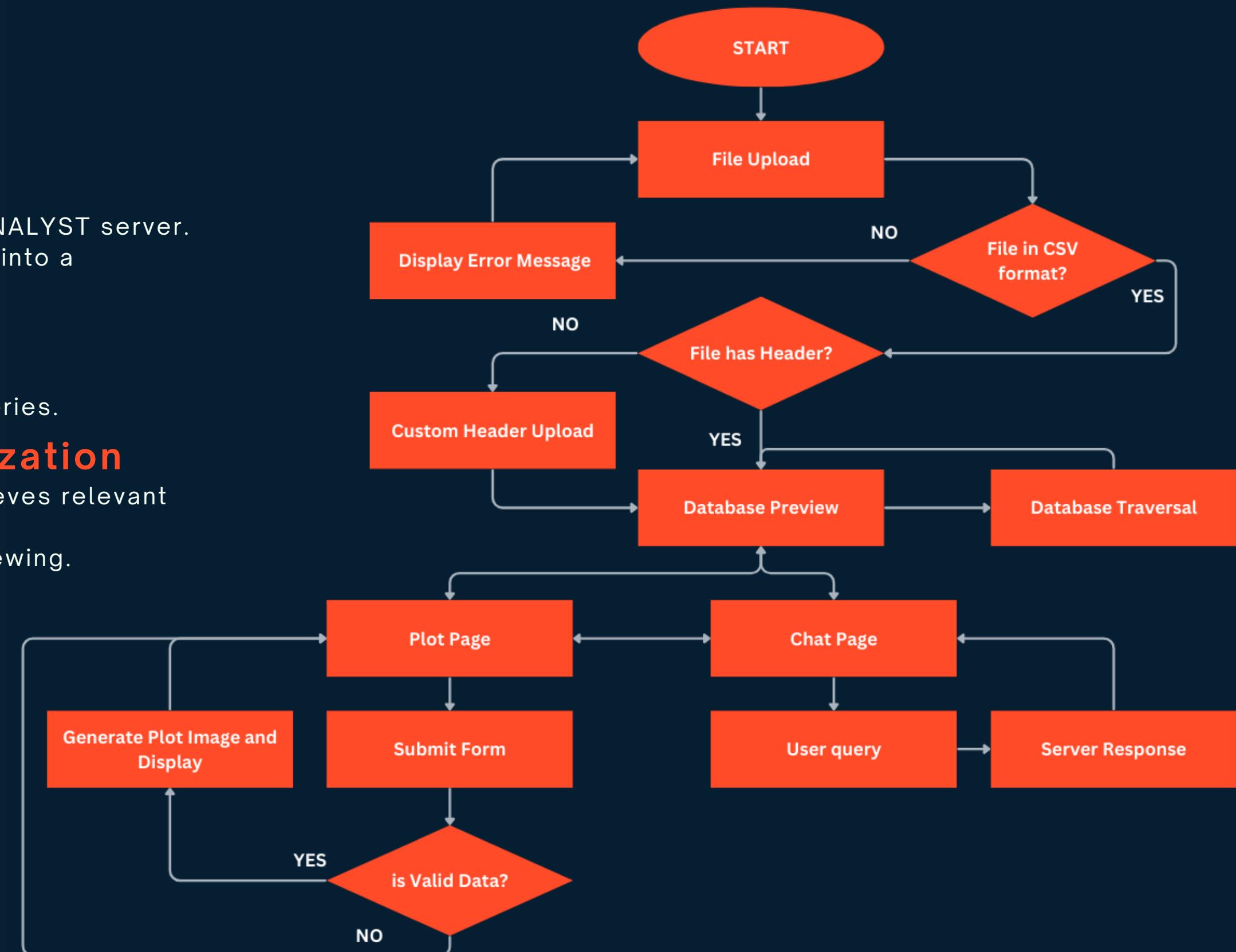
- SCANALYST searches the database and retrieves relevant data.
- The system organizes the results for easy viewing.

## 04 | Insight Generation

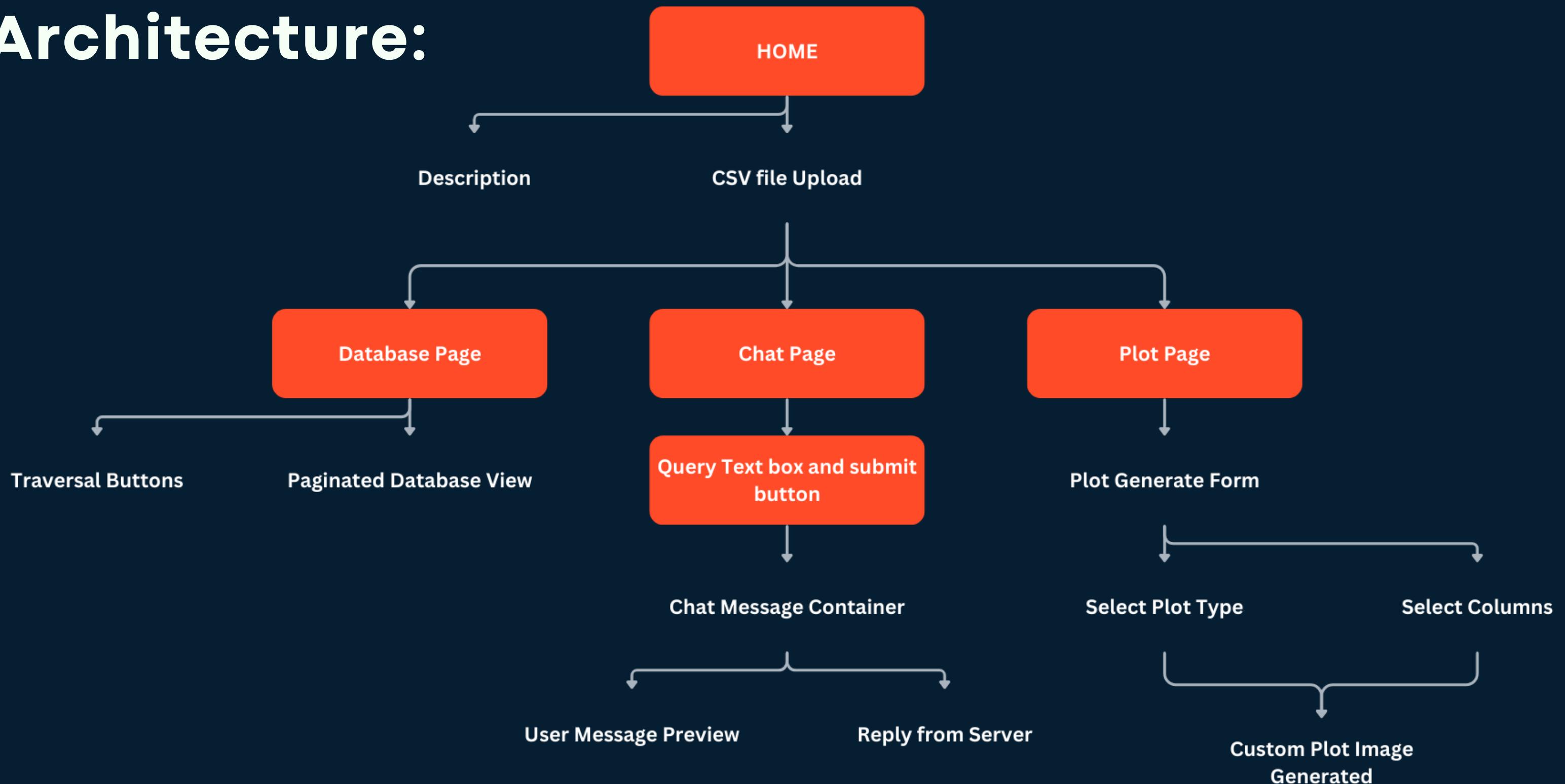
- SCANALYST analyzes the data to provide detailed insights.
- Users receive meaningful information based on their queries.

## 05 | Visualization

- Users request customized plots and visualizations.
- The system generates and displays charts and graphs tailored to user needs.



# Architecture:



# Technologies Used

01

HTML5

02

EJS

03

CSS

04

JavaScript

05

Express

06

Node

07

Python

08

Flask

09

Pandas

10

Seaborn

11

Numpy

12

Matplotlib

13

Spicy

14

Git, Github & Bash

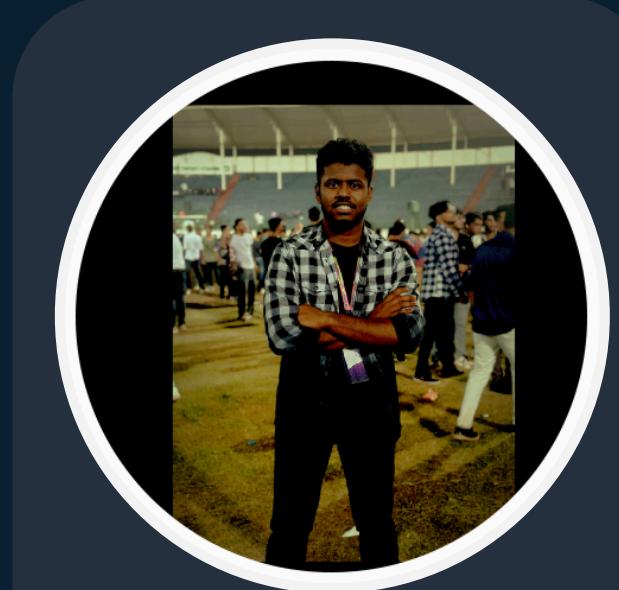


# Our Team & Contributions



**Rishi Banerjee**  
Team Lead

UI/UX & Logo  
Front End  
JS Server  
PPT



**Kaustabh Shit**

Front End  
Python Server  
Chat Research



**Aditya Mohanty**

Front End  
PPT  
Jupyter Notebook



**Apratim Dutta**

JS Server  
Logo  
Chat Research



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# CONCLUSION

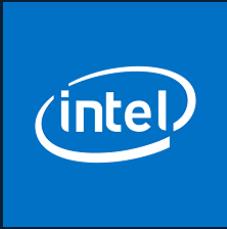
The platform that we have created helps a user to analyze their data and ask questions on them. Even though there are a lot more features to be implemented, we have added the basic functionality.

## We have added:

- File Checker - To check if a valid CSV file has been uploaded.
- Simple chat section - Specific commands/ english words can be recognized.
- Plot Section - Any type of plot can be generated based on the database.
- Database Preview - Shows the database in an organized way for efficient traversal.

## Future Upgrades:

- NLP Implementation - Implementing NLP will enable the chat bot to take any query and execute it.
- Logic Analysis - Logical Reasoning of why the datasets are the way they are. This upgrade will make the server a personal detective for the user.



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# THANK YOU

**Team:** ChainCoder

Rishi Banerjee (Lead)

Kaustabh Shit

Aditya Mohanty

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