



PROPOSAL IDEA



TEAM 56



ONLINE ROUND

DATASET 2



SALES AND INVENTORY DATA OF VIETNAM RETAILERS



TEAM 56



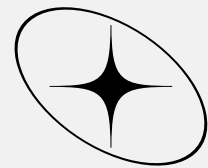
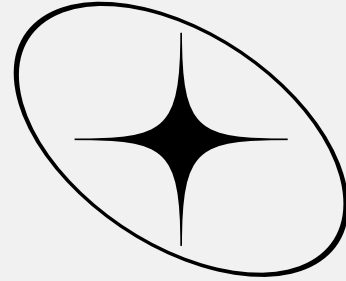
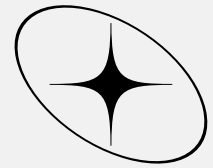


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INTRODUCTION



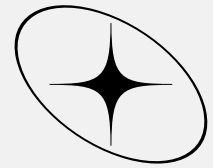
PROBLEM



Currently, risks in sales and inventory management are a big challenge for retail ers.

INTRODUCTION

How can the retailers **interact with the data**
to manage their stores and increase revenues
more quickly and **effectively**?



MINIMUM VIABLE PRODUCT

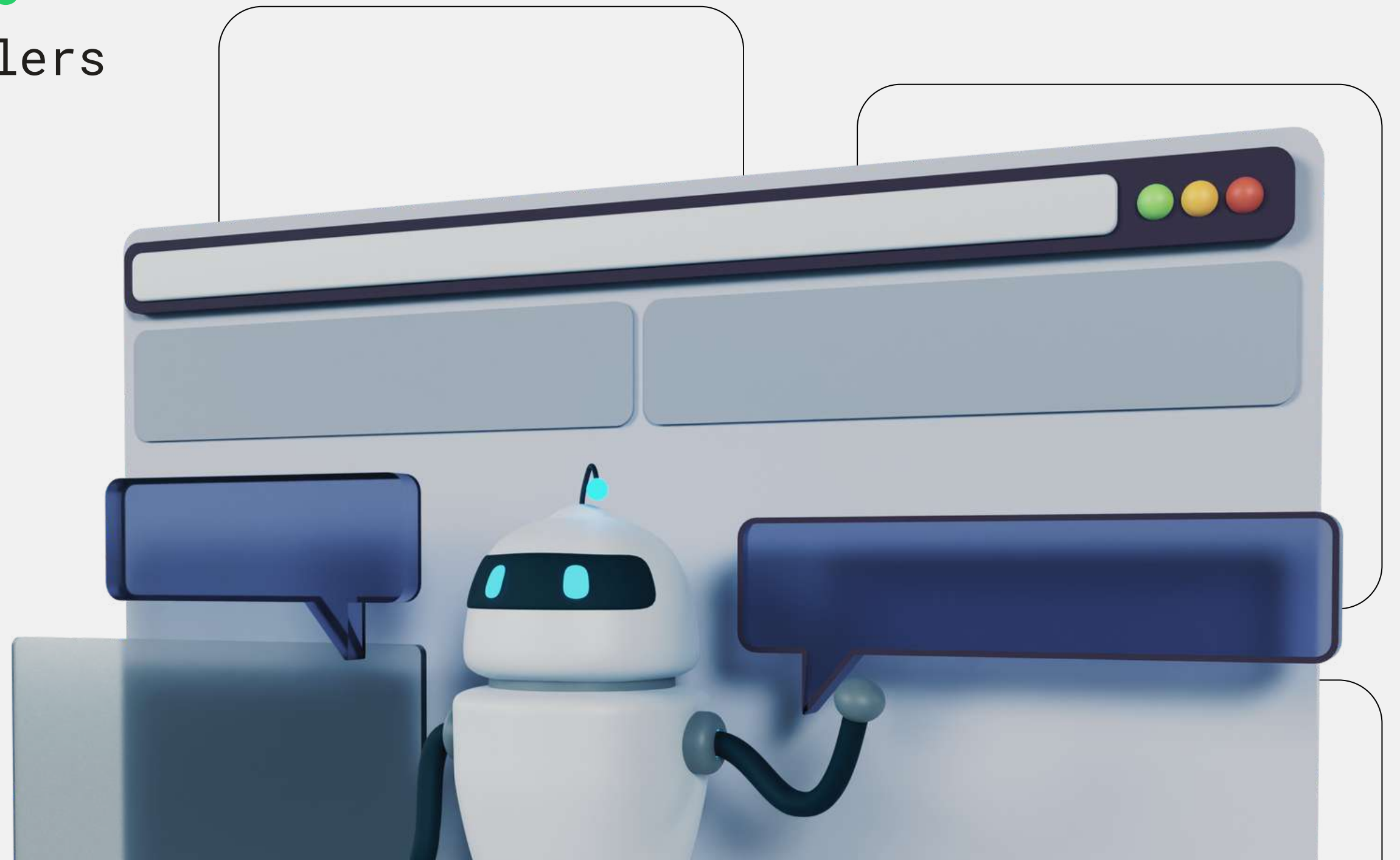
We set out to build **MUTINYDATA** - A **CHATBOT INTERGRATION PLATFORM** that **uses artificial intelligence** to **automate inventory and revenue management** for retailers.

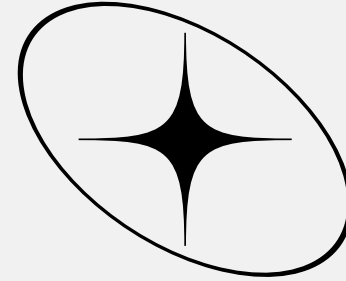
INTRODUCTION

MVP PURPOSE

This platform will help **automate simple tasks** and **optimize workflows**, helping retailers increase performance and reduce risks.

INTRODUCTION





PROBLEM STATEMENT

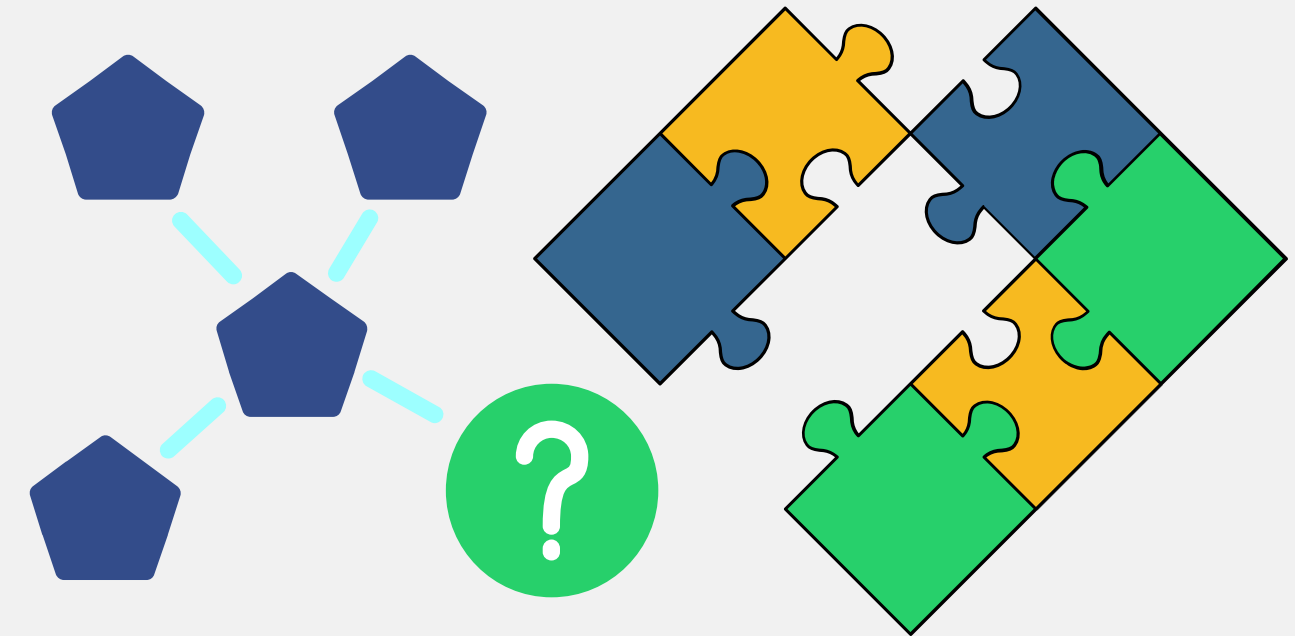
Currently, retailers, **especially small and medium-sized enterprises (SMEs)**, are facing a series of major challenges in managing inventory and monitoring sales trends.



PROBLEM STATEMENT

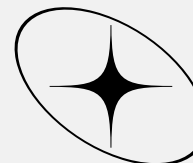
ASPECTS OF THE PROBLEM INCLUDE

A lack of accurate and detailed information about how goods are sold.

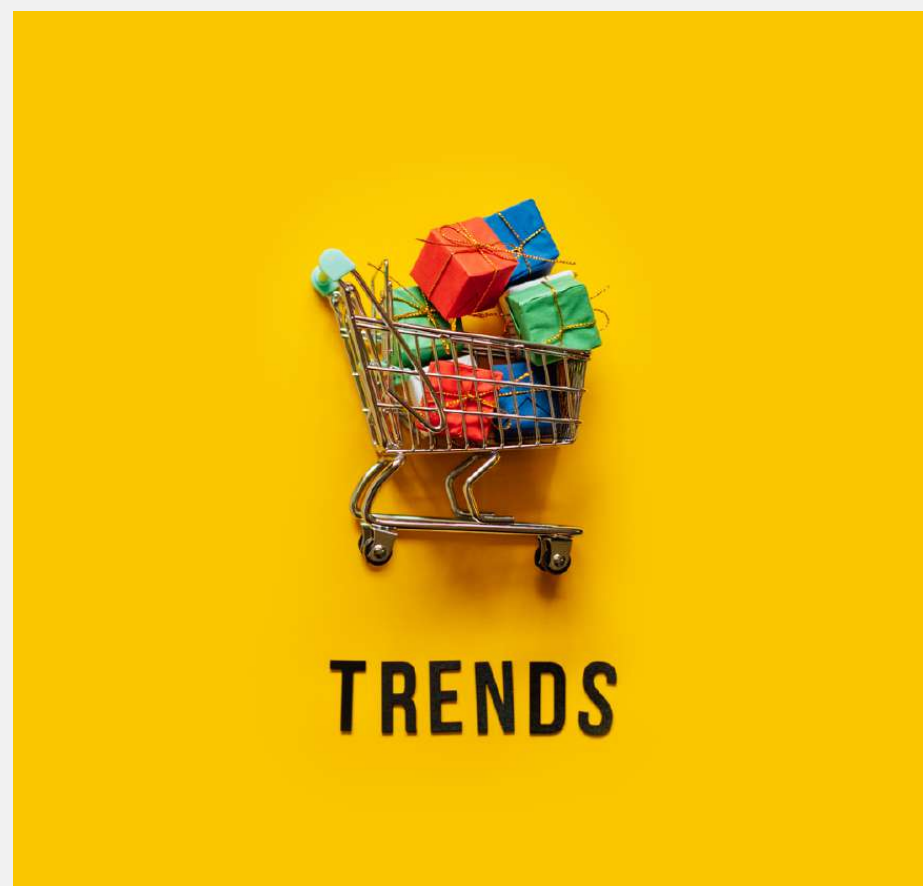
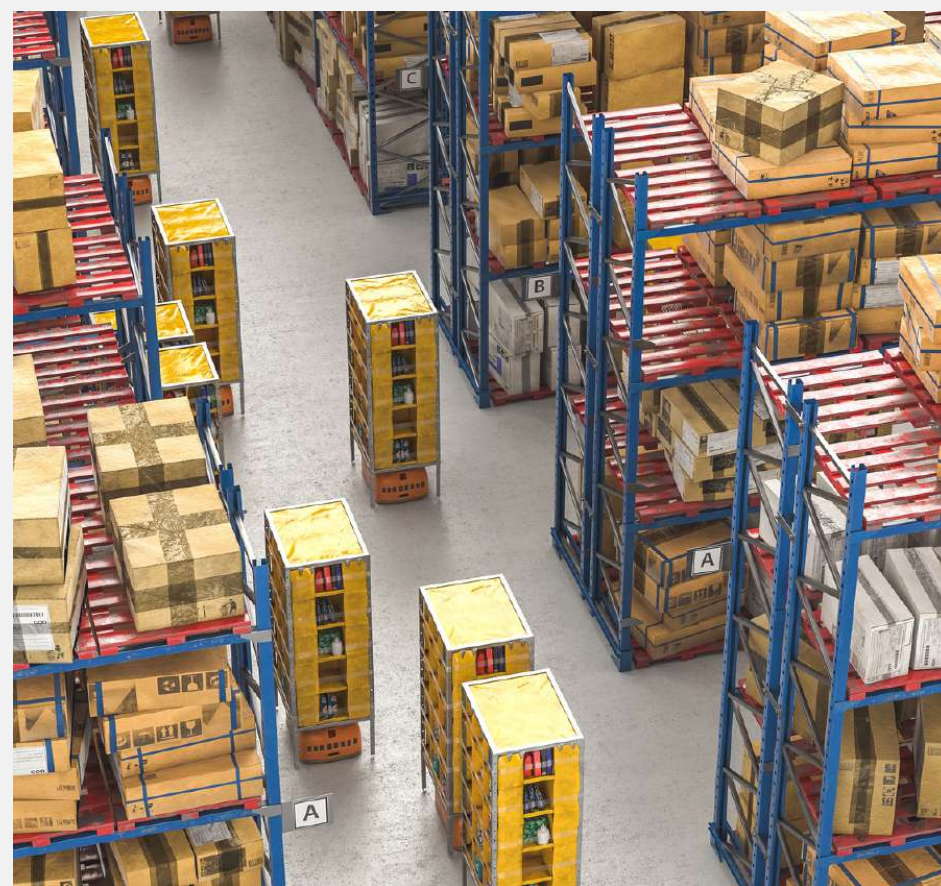


In addition, time and resource constraints can lead to missing information or insynchronization between important data.

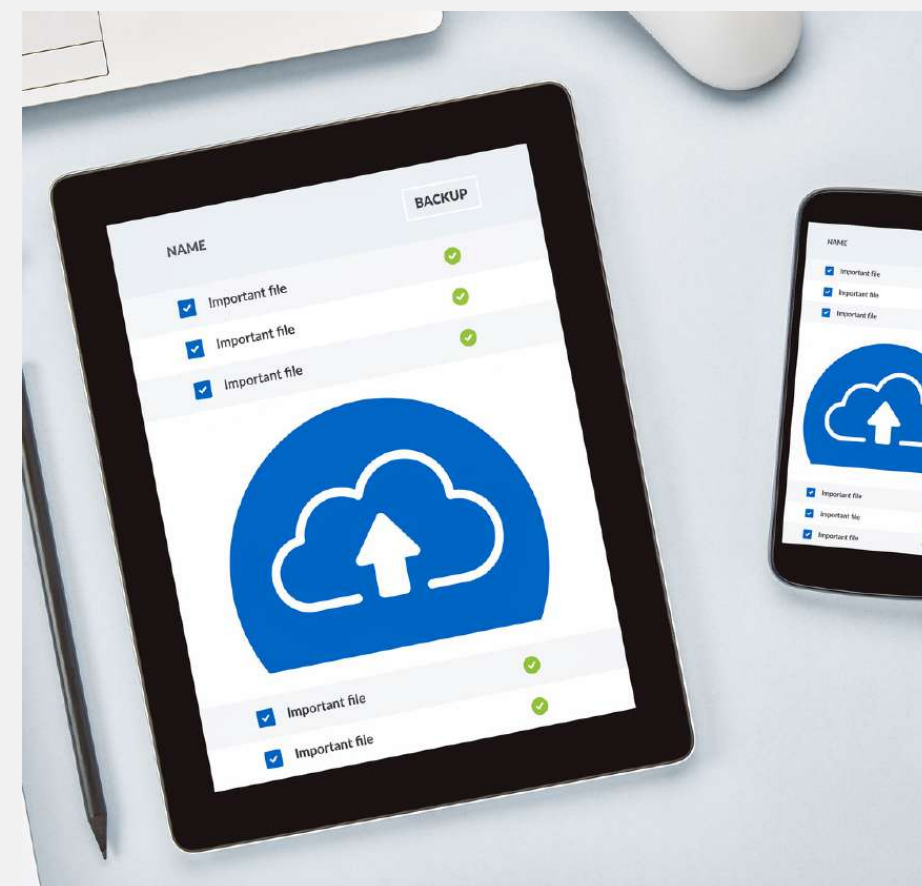
PROBLEM STATEMENT



PAIN POINTS



TRENDS



PROBLEM STATEMENT

INVENTORY STATUS

Excess inventory or shortages can lead to unexpected costs and pose a risk of loss for retailers.

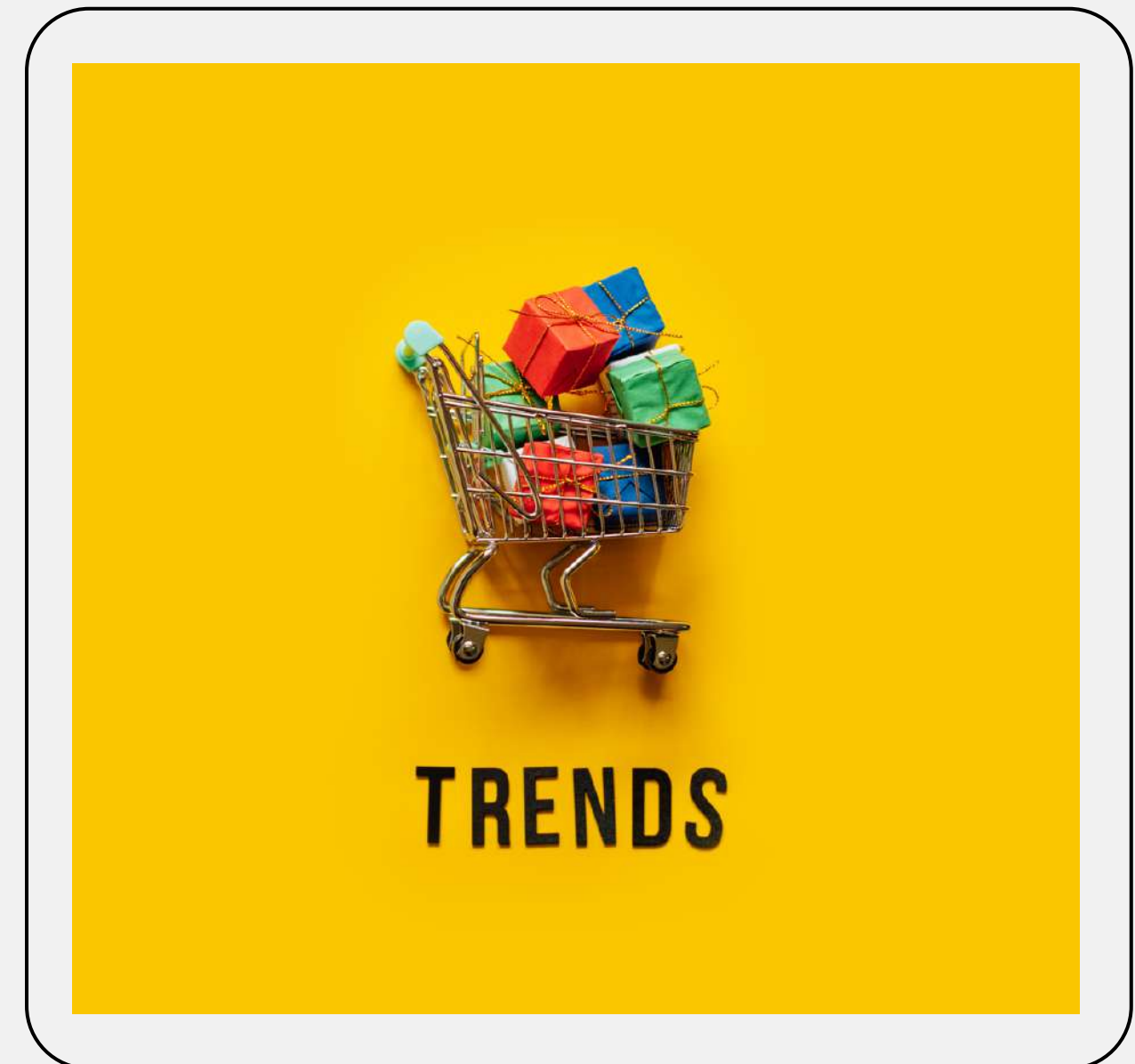


PROBLEM STATEMENT

NOT IN-DEPTH ANALYSIS

Lack of accurate information
and detailed in-depth analysis
of sales trends reduces
predictability, leading to
ineffective business strategies

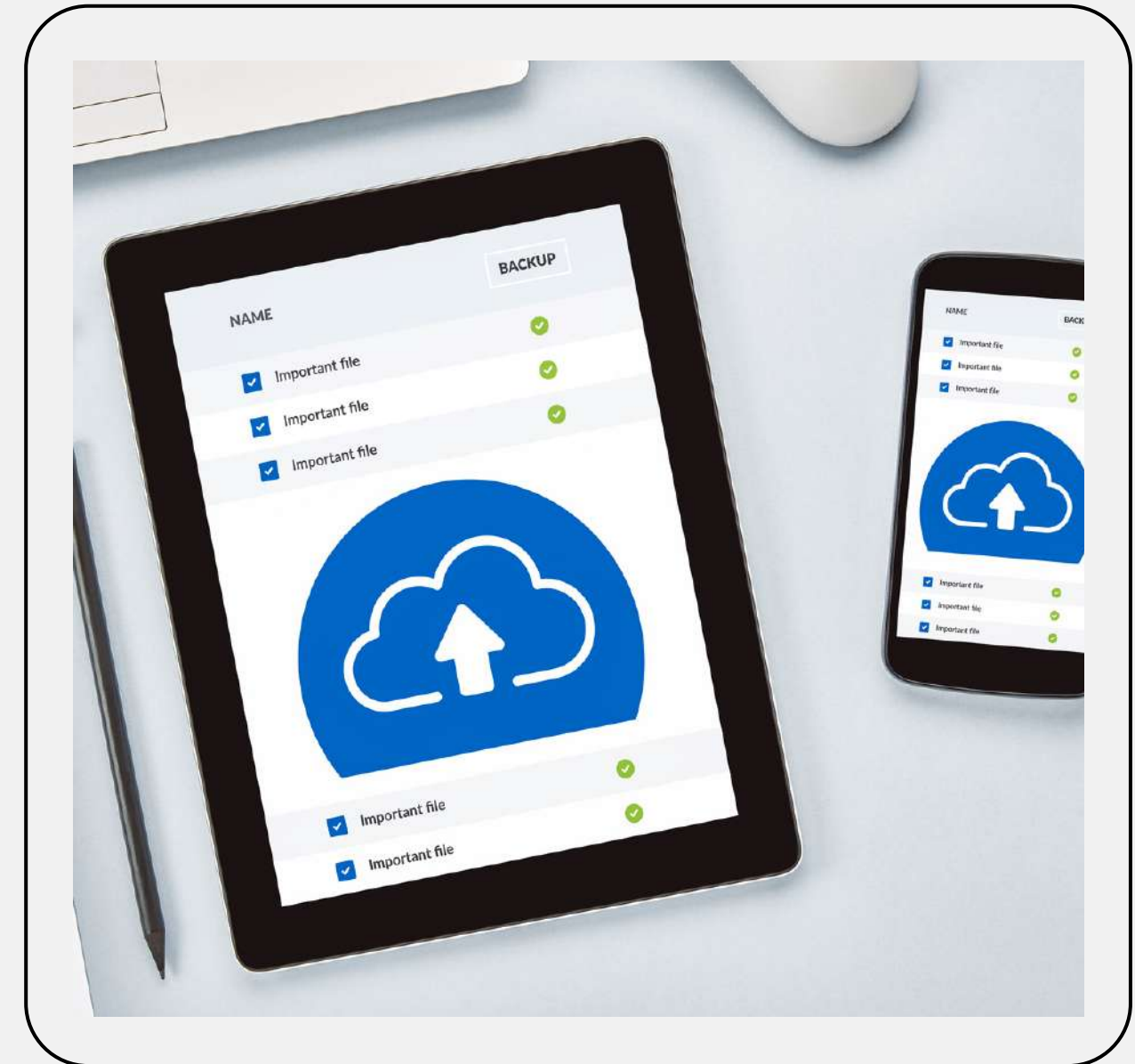
PROBLEM STATEMENT



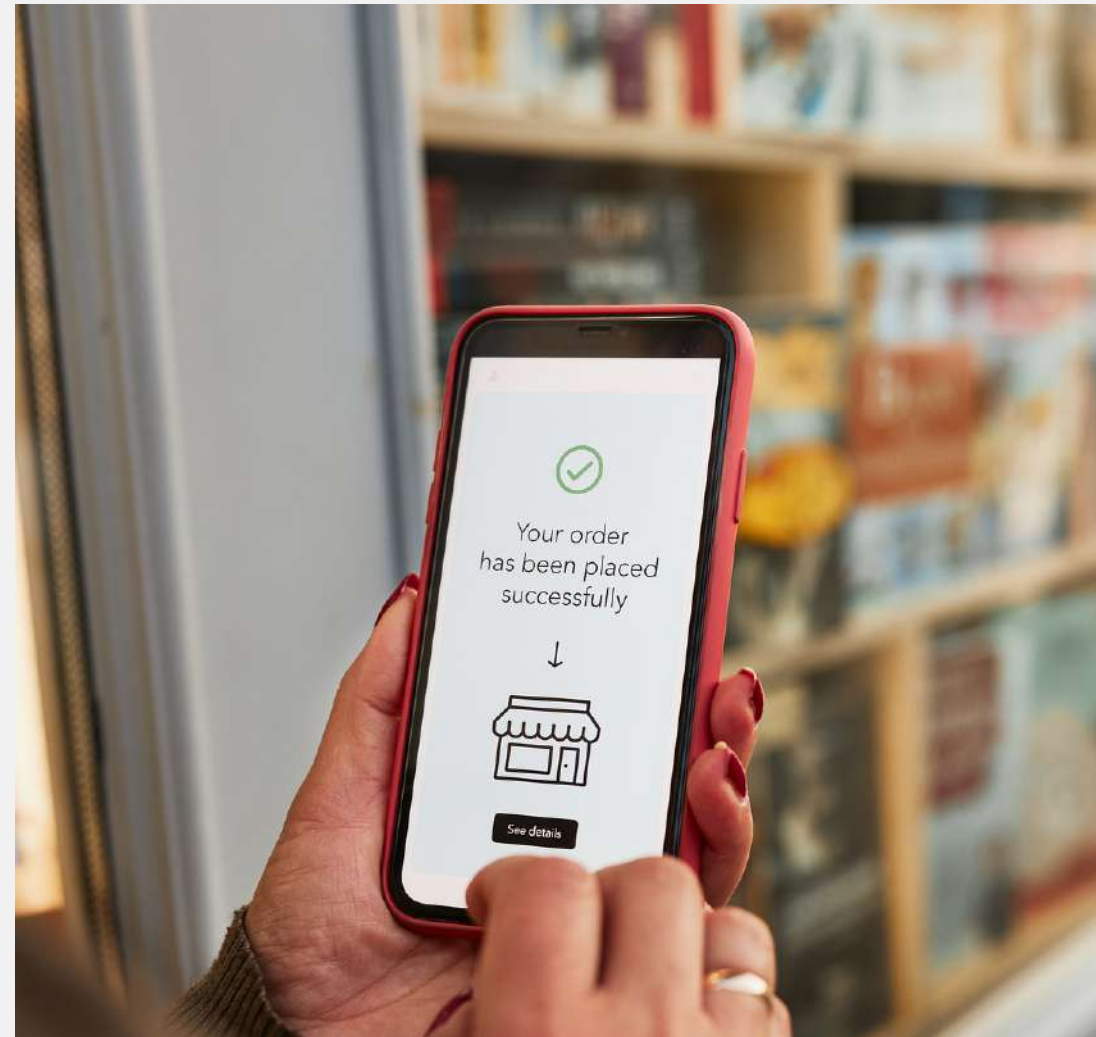
OUT OF SYNC

Many human resources cause the analysis to be out of sync, leading to inaccuracies in data analysis, prediction and risk prevention, leading to unwanted expenses and increased risk of loss.

PROBLEM STATEMENT

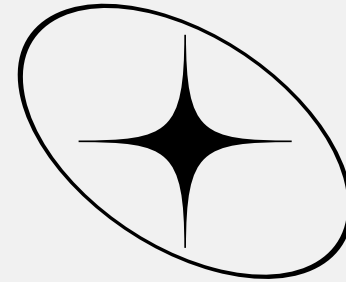


OUR USER OBJECT

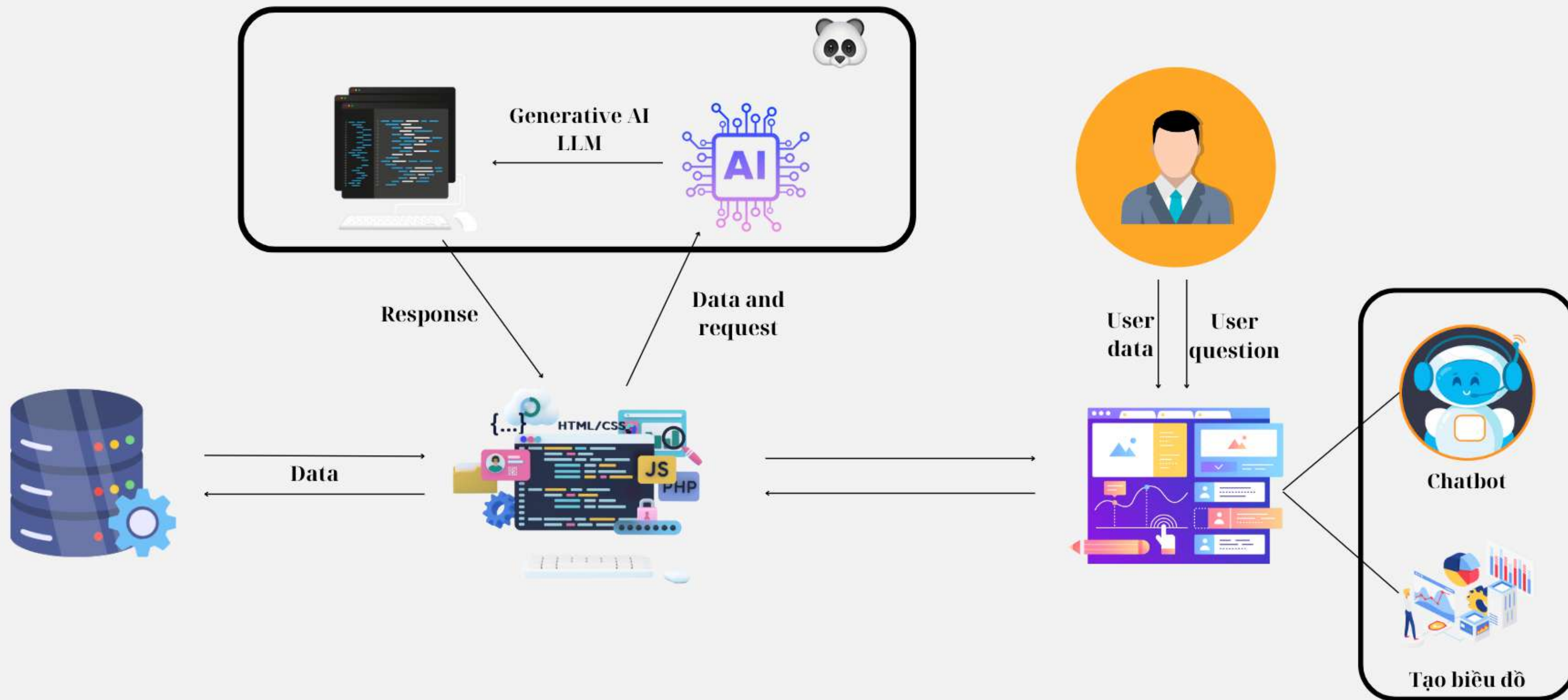


In today's context, where online selling has become as popular as TikTok and Shopee, not everyone has in-depth knowledge of inventory management and business skills. **This is especially true for SMEs**, which we want to focus on to solve this problem.

PROBLEM STATEMENT



SOLUTION OVERVIEW



SOLUTION OVERVIEW

FRONT-END

Function: This is the interface through which users interact with the system.

Specific:

Home page: introduce website

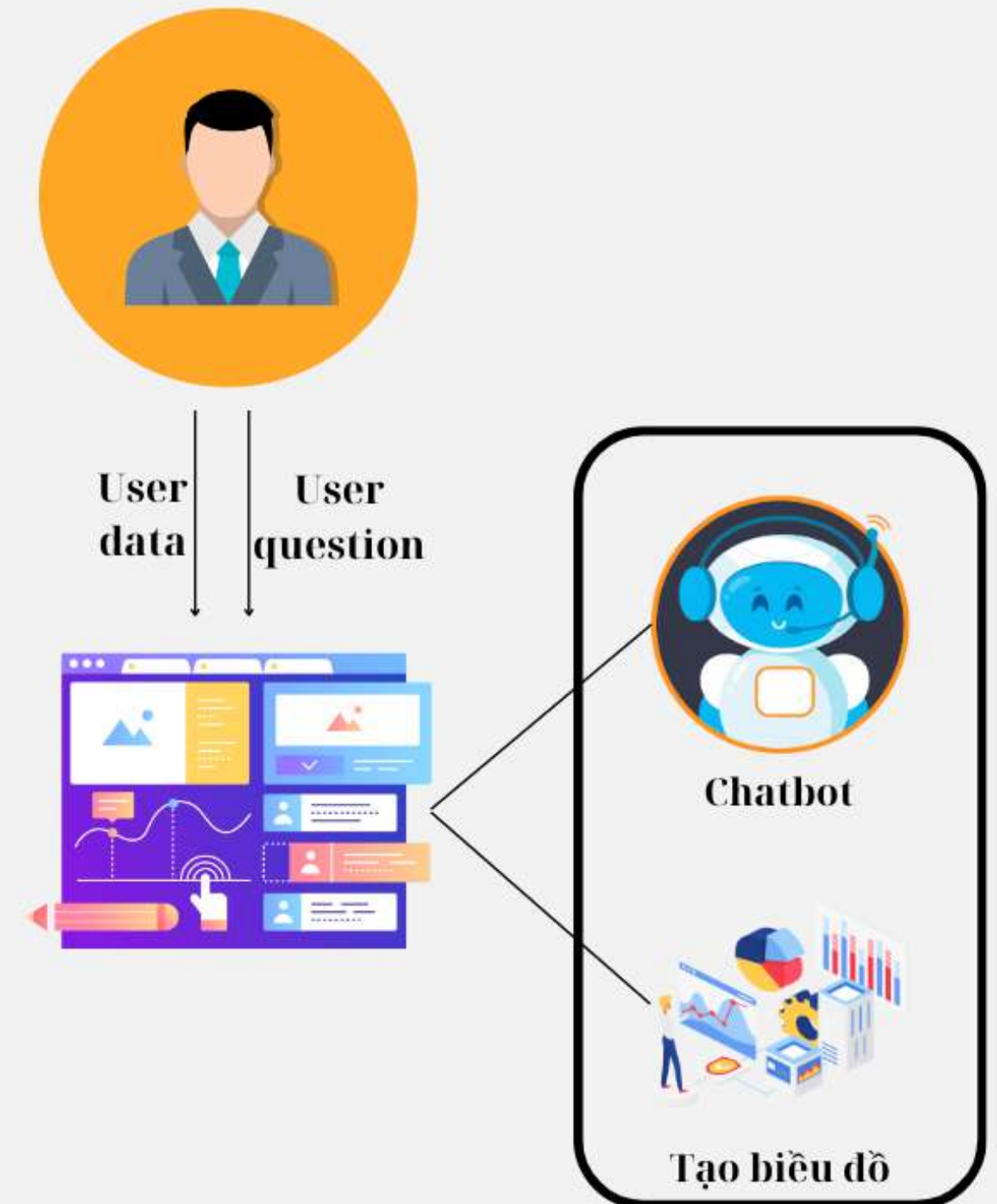
HRegister and log in: users can create a new account or log in to the system.

Upload file: allows users to upload data files.

Chatbot: users can interact with the Chatbot to ask questions or request information.

Create report: allows users to view reports related to processed data.

SOLUTION OVERVIEW





DATATHON
VIETNAM

[HOME](#)

[ABOUT](#)

[NEWS](#)

[CONTACT](#)

[SIGN IN / SIGN UP](#)

WELCOME TO MUTINYDATA

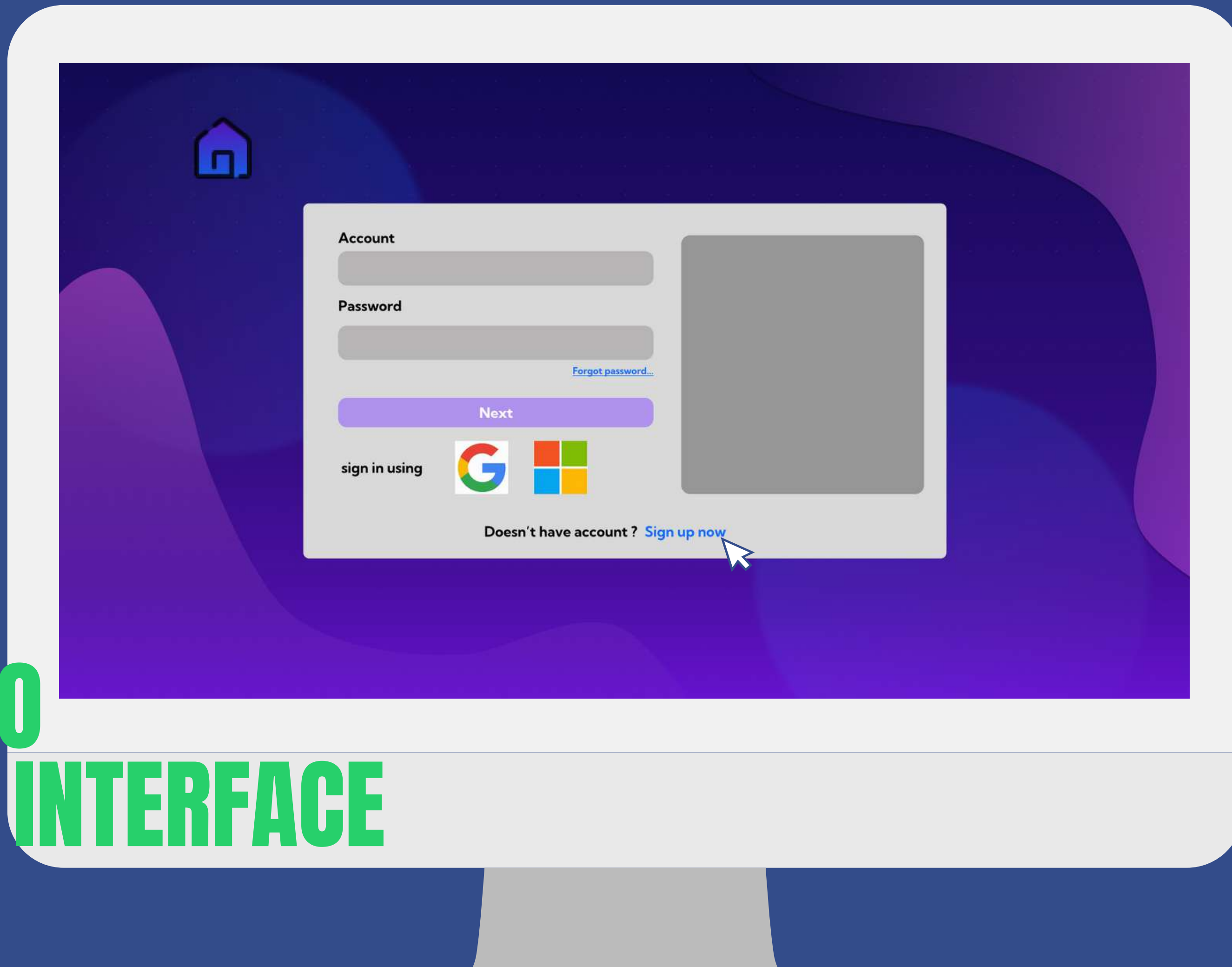
GET STARTED



DEMO
WEB INTERFACE
HOME PAGE

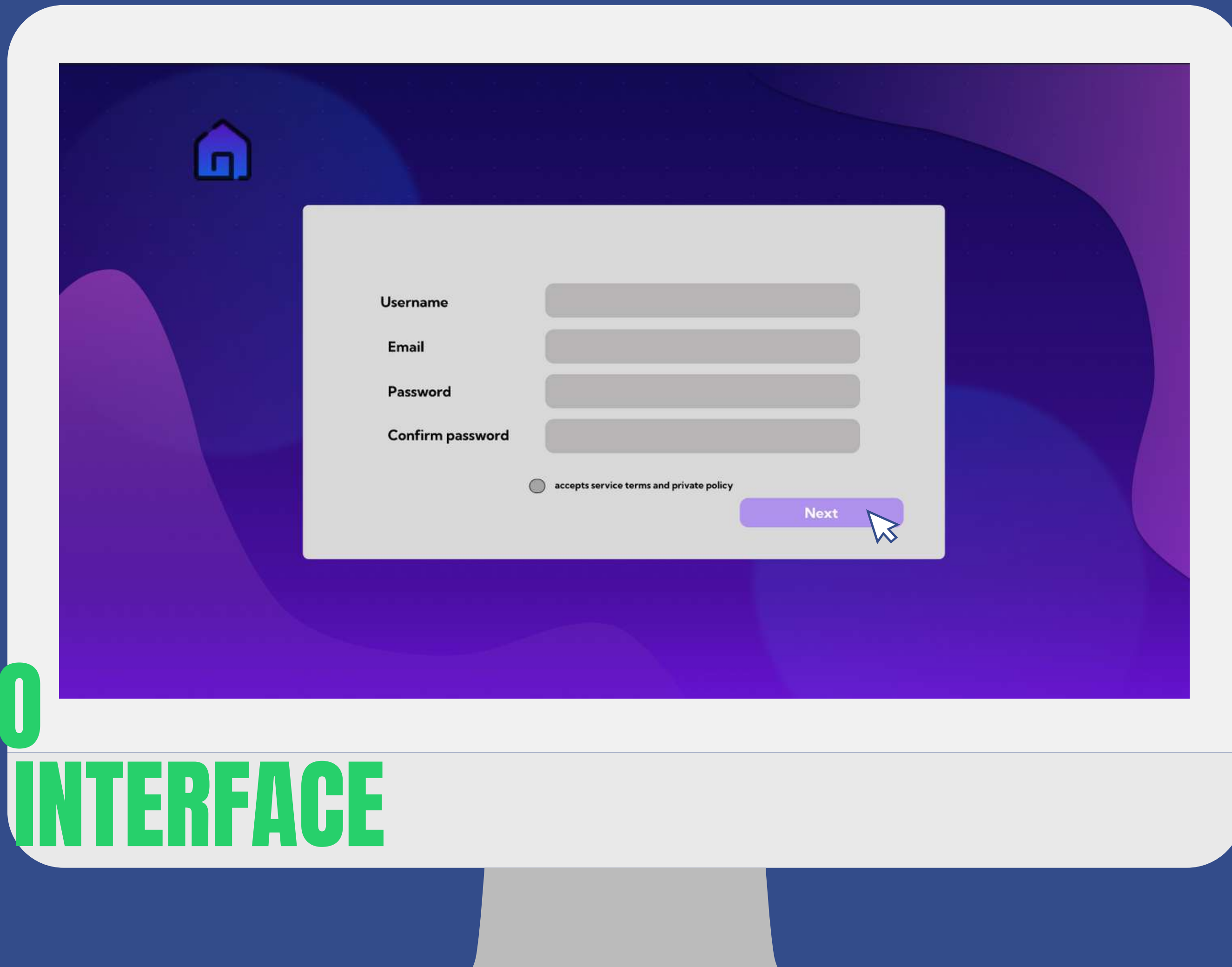
DEMO WEB INTERFACE

LOG IN



DEMO WEB INTERFACE

SIGN UP





HOME

ABOUT

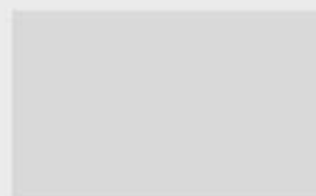
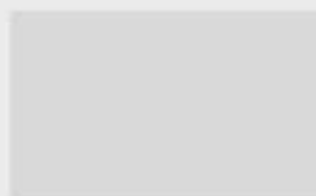
NEWS

CONTACT

USER
ACCOUNT



Created report [See more](#)



CREATE
NEW
REPORT



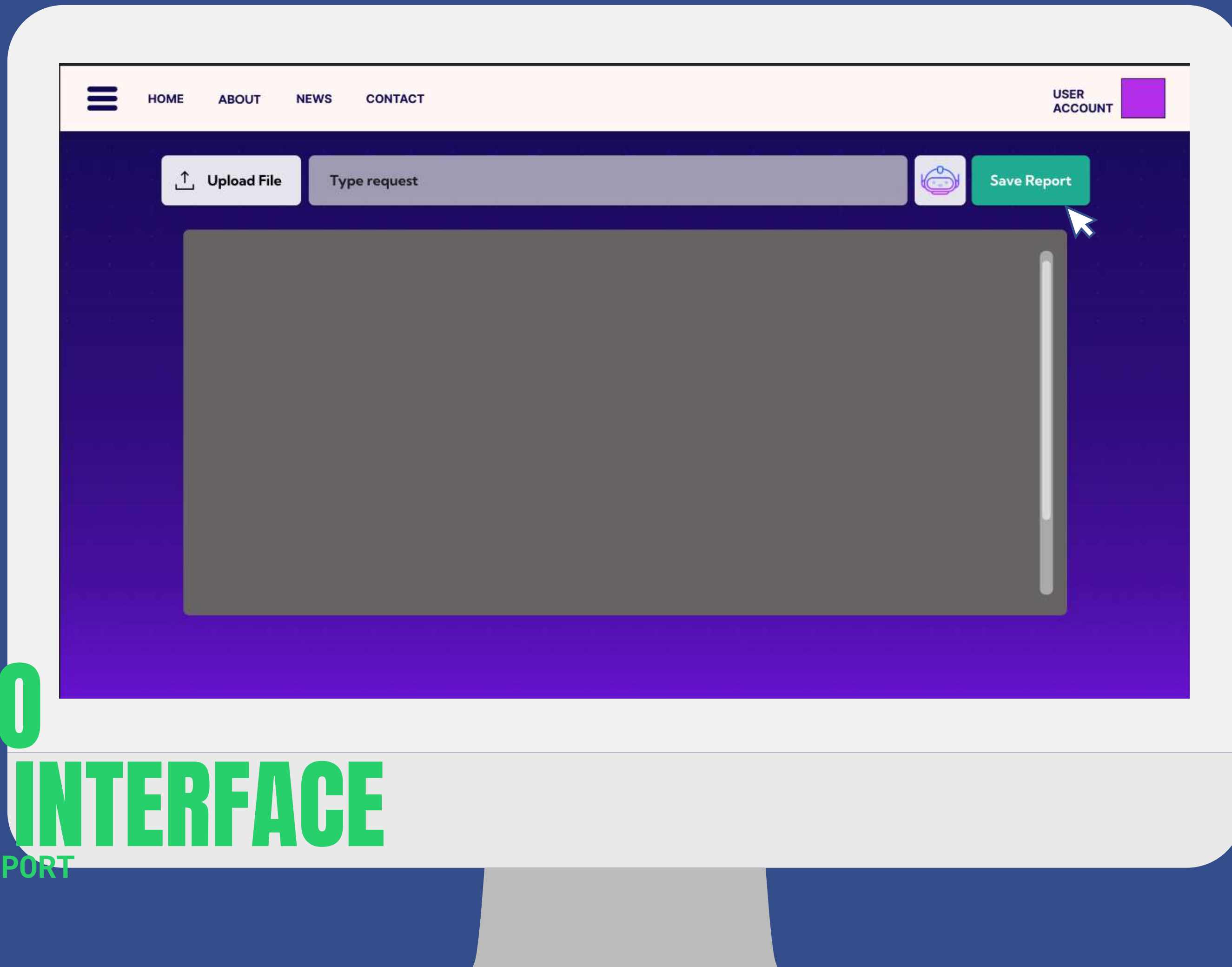
CHATBOT

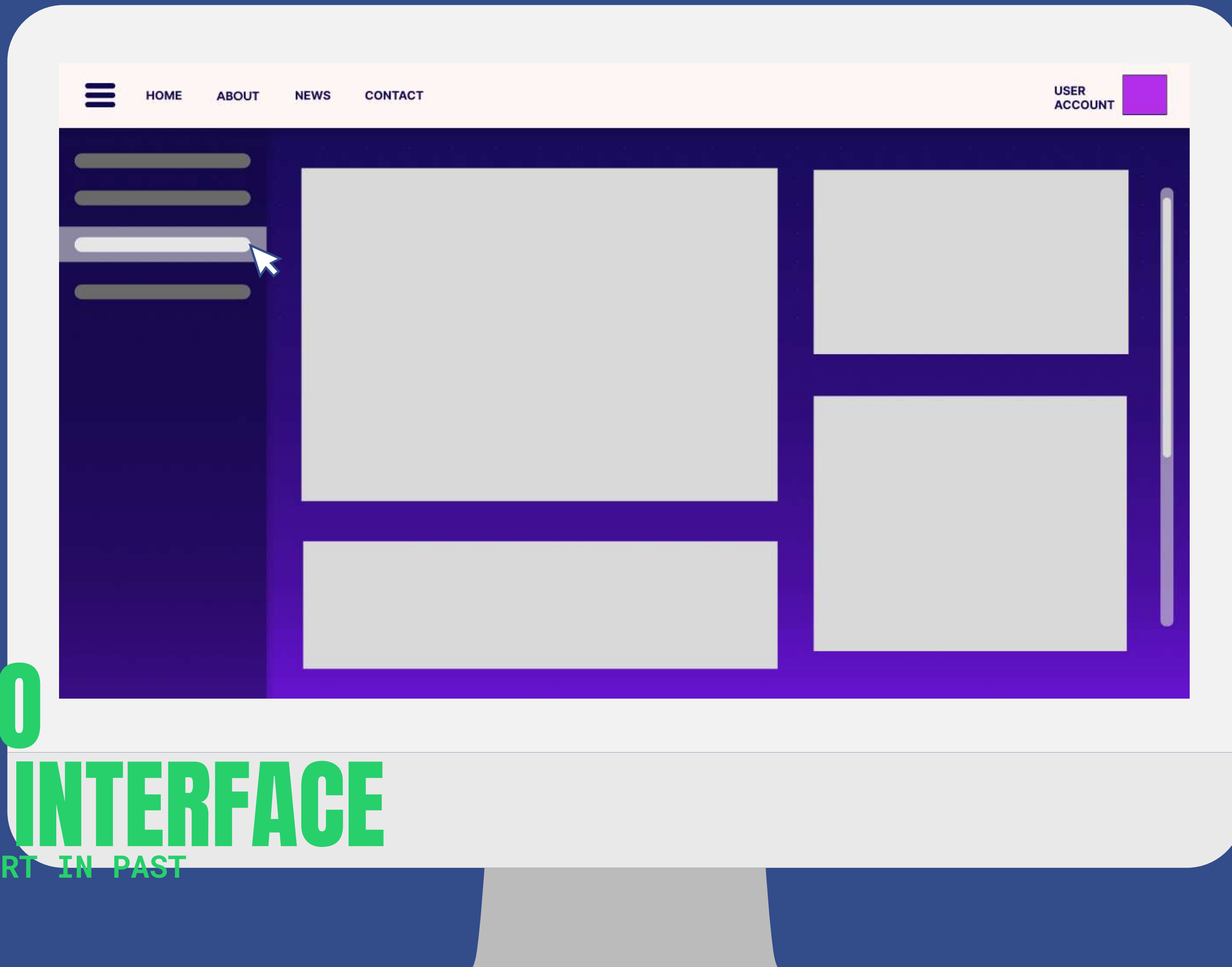


DEMO
WEB INTERFACE
DASHBOARD

DEMO WEB INTERFACE

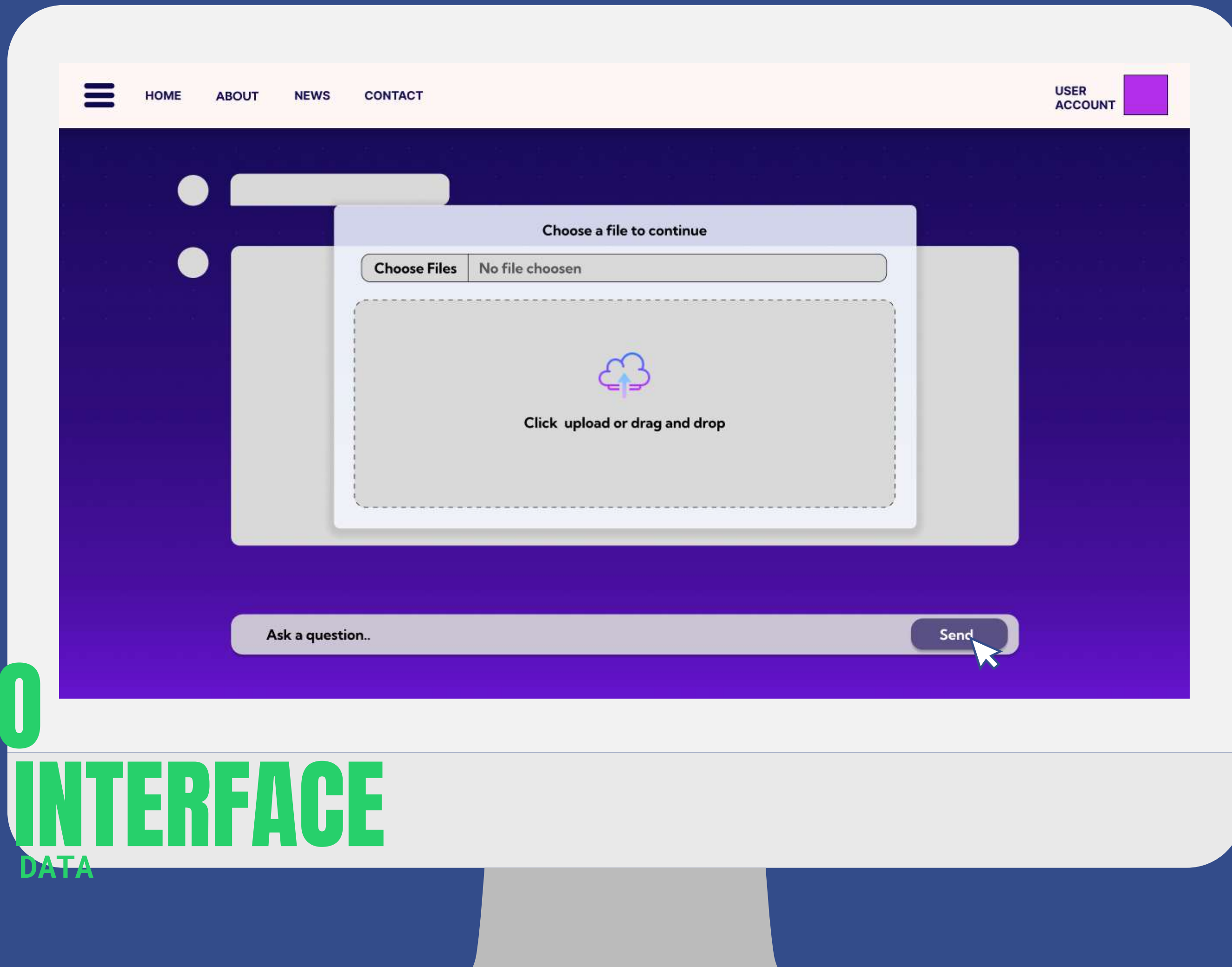
CREATE REPORT





DEMO WEB INTERFACE

VIEW REPORT IN PAST



DEMO WEB INTERFACE

CHAT WITH DATA

BACK-END

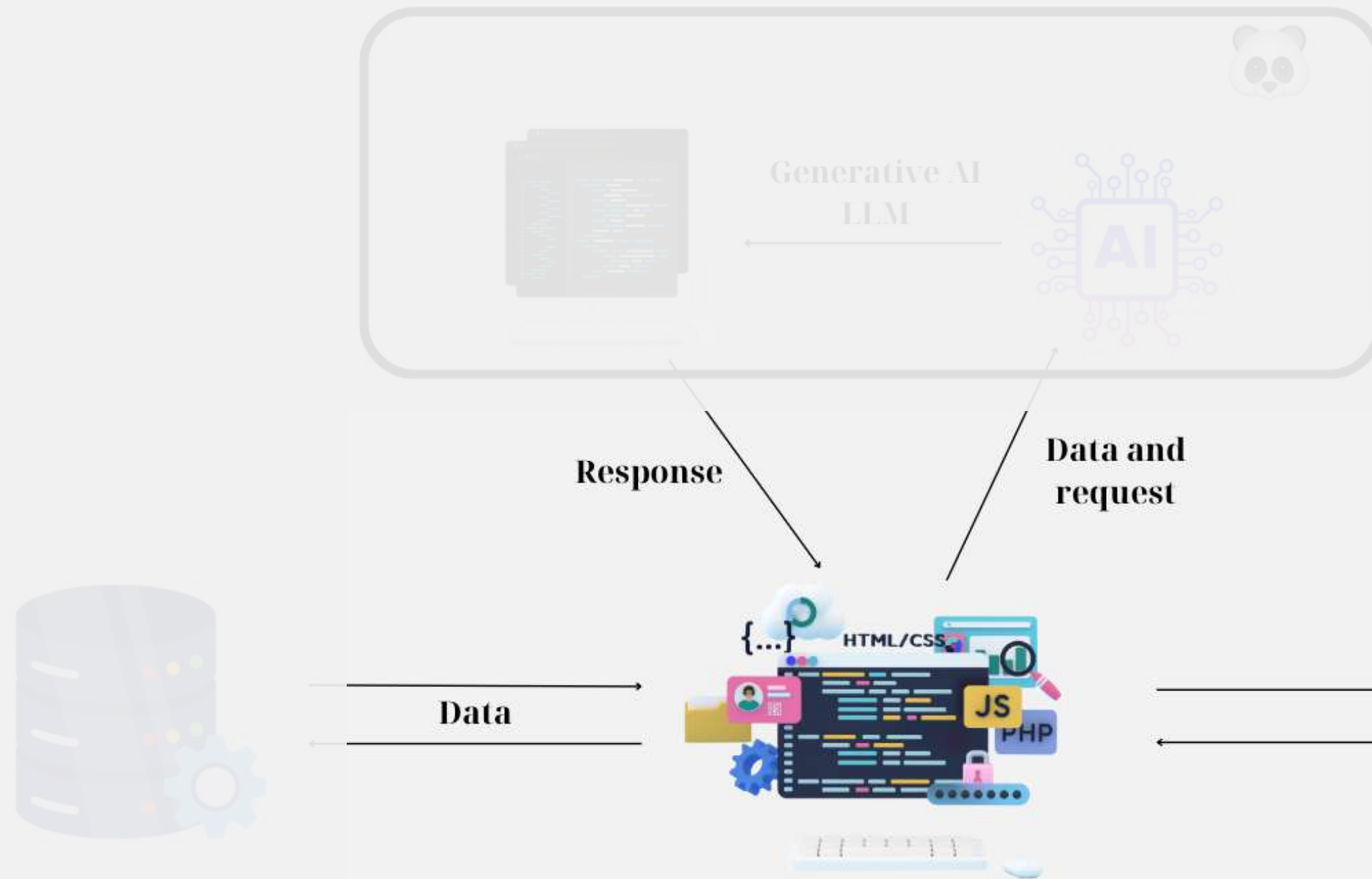
Function: Process and manage requests from FRONTEND.

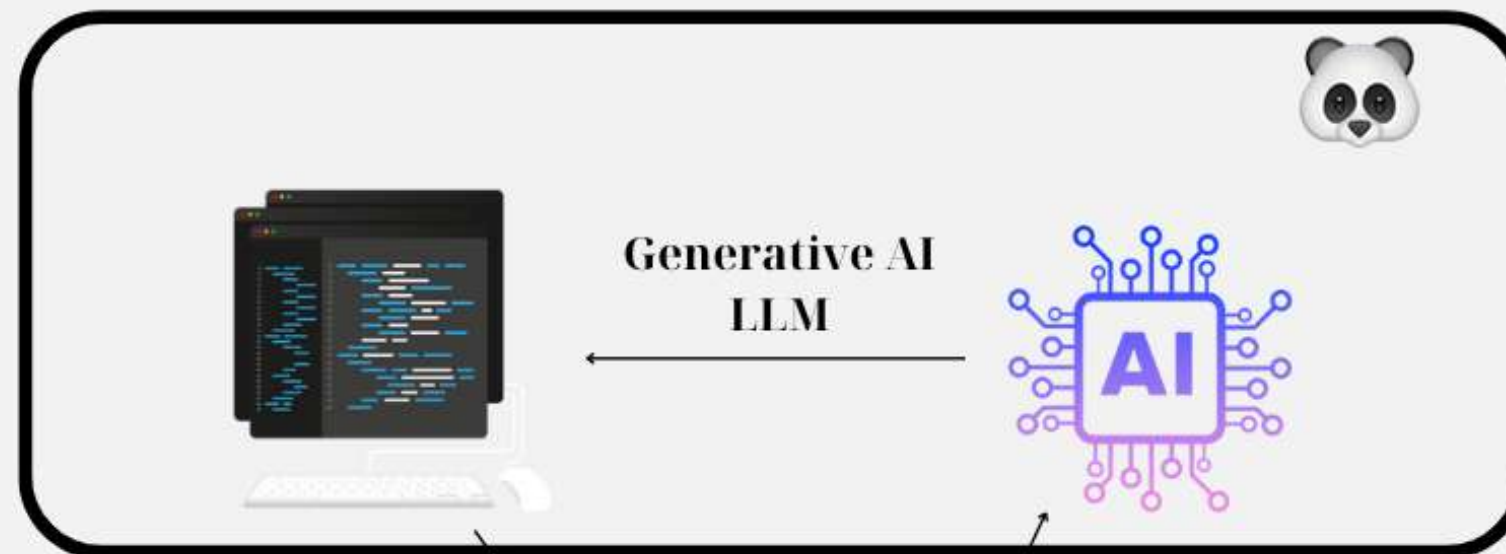
Specific:
User authentication and management: ensure system security by authenticating and managing user accounts.
Data file management: store, process and manage data uploaded from FRONTEND.

Link with OPENAI: interact with OPENAI to use AI services, especially Chatbots.

Create and provide reports: process data and create reports for users to view.

SOLUTION OVERVIEW





OPEN AI

Function: As an AI agent outside the system, mainly for Chatbots.

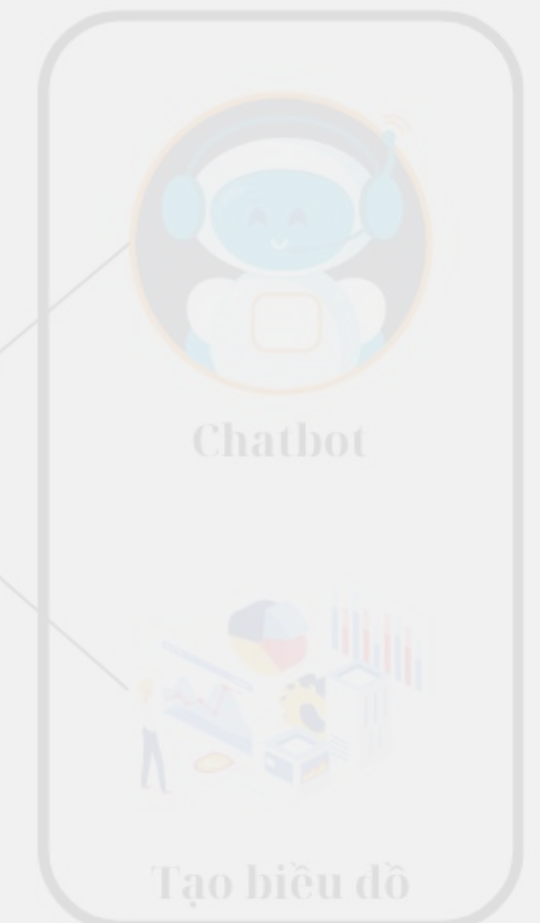
Specific:

Interact with BACKEND: Receive requests from BACKEND and respond using AI models to provide information or resolve questions from users.



User data

User question





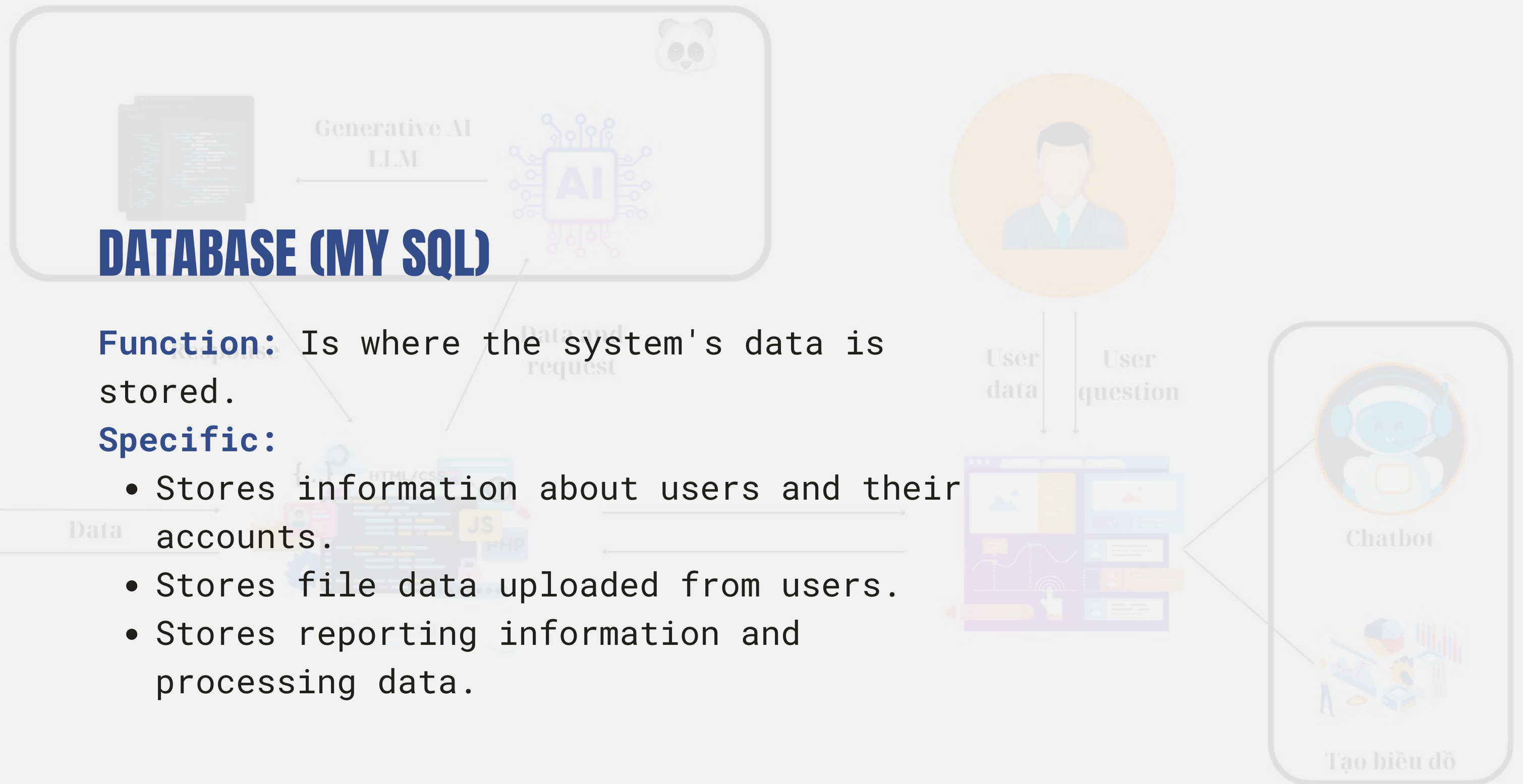
DATABASE (MY SQL)

Function: Is where the system's data is stored.

Specific:

- Stores information about users and their accounts.
- Stores file data uploaded from users.
- Stores reporting information and processing data.

SOLUTION OVERVIEW

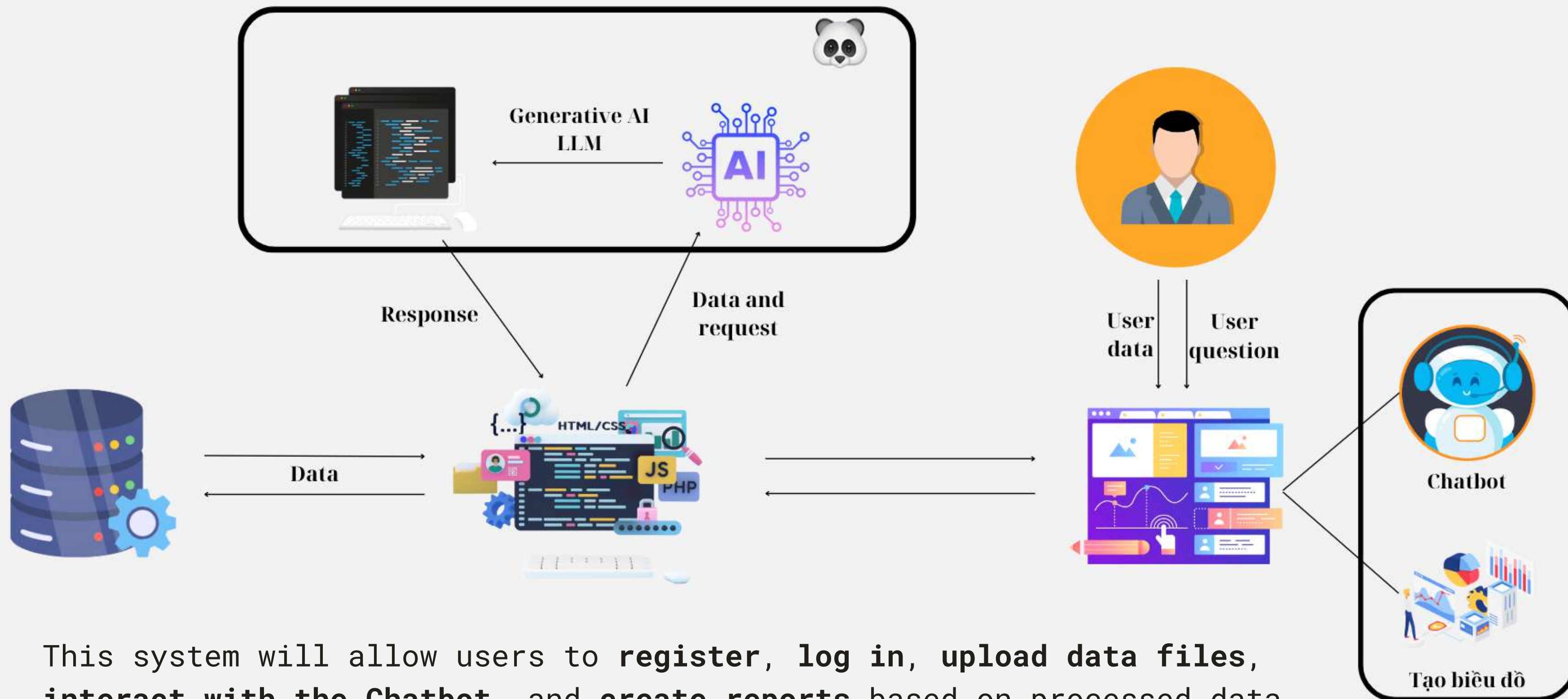




The way these components interact with each other can be described as follows:

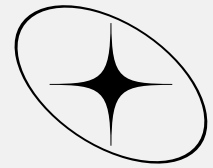
- FRONTEND sends requests (registration, login, file upload, chatbot, report creation) to BACKEND via HTTP/HTTPS protocol.
- BACKEND processes requests from FRONTEND, can link with OPENAI to process Chatbot requests, and retrieve or update data in DATABASE.
- OPENAI interacts with BACKEND to provide Chatbot services.
- DATABASE stores user information, data files, and process data.

SOLUTION OVERVIEW



This system will allow users to **register**, **log in**, **upload data files**, **interact with the Chatbot**, and **create reports** based on processed data.

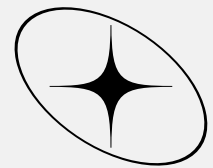
SOLUTION OVERVIEW



SOLUTION OVERVIEW

HOW THE SOLUTION LEVERAGES AI TECH:

Automatic Generation of Visualizations
and Infographics using **Large Language
Models (LLM)** through **Pandas AI**



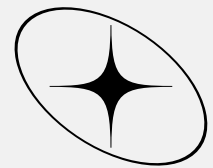
HOW THE SOLUTION LEVERAGES AI TECH:

PandasAI is a Python library that adds Generative AI capabilities to pandas, allowing you to ask questions to your data in natural language.



SOLUTION OVERVIEW





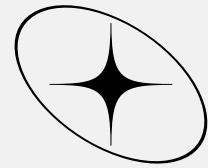
HOW THE SOLUTION LEVERAGES AI TECH:

Supports many data **file formats** such as CSV, Excel, SQL, and many others, making it easy to read and write data from businesses.



SOLUTION OVERVIEW





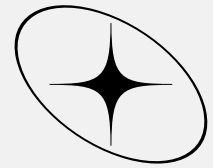
HOW THE SOLUTION LEVERAGES AI TECH:

Pandas is often used in conjunction with other libraries such as NumPy, Matplotlib, and SciPy to perform numerical analysis, data visualization, and statistics.



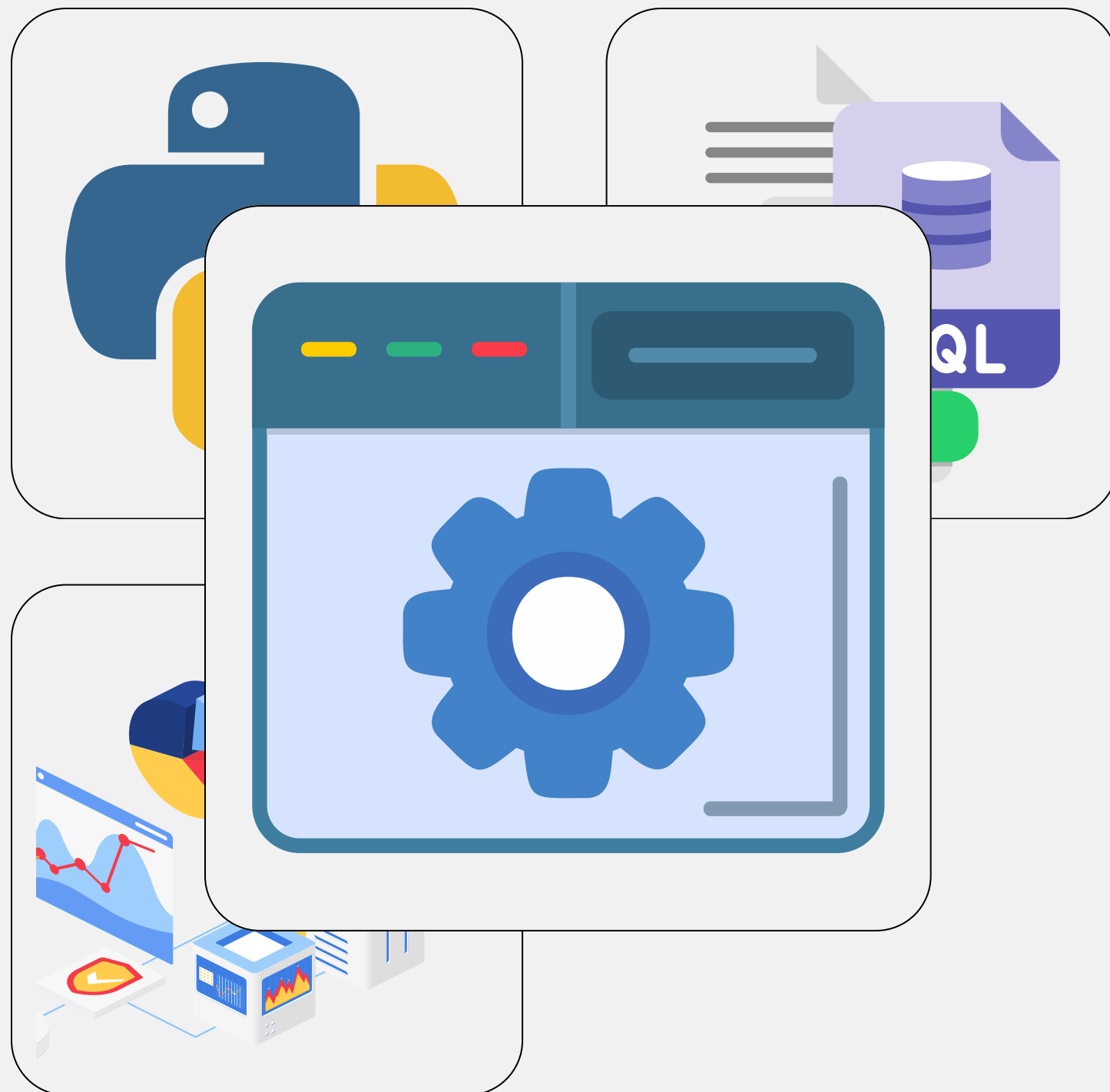
SOLUTION OVERVIEW





HOW THE SOLUTION LEVERAGES AI TECH:

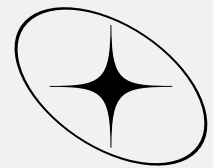
Provides many built-in functions to perform basic statistical analyzes such as mean, median, mode, standard deviation, ...



SOLUTION OVERVIEW



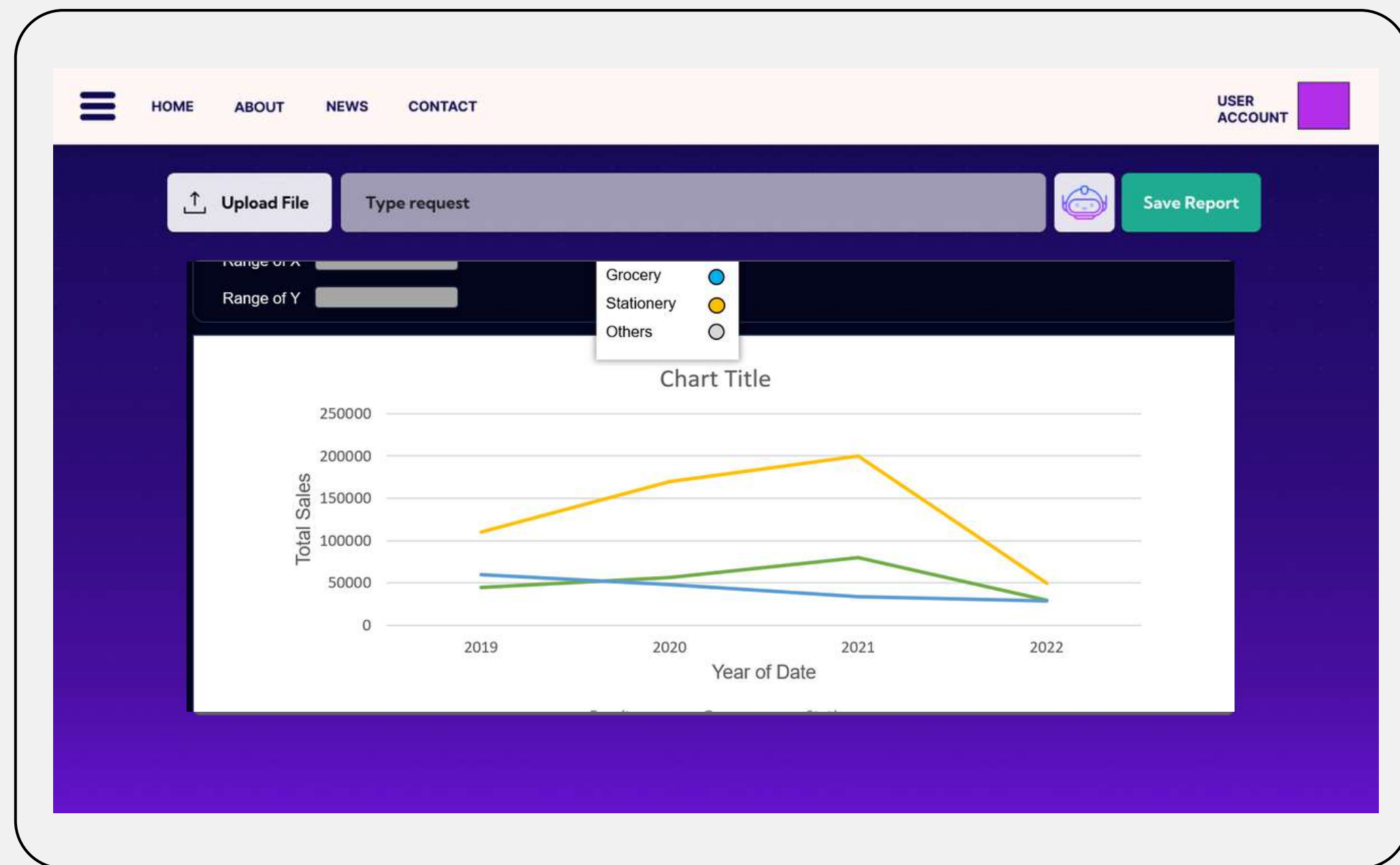
HOW THIS SOLUTION IS INNOVATIVE?

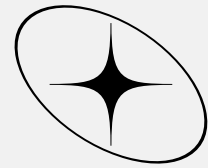


AUTOMATE DATA ANALYZING PROCESS

Retailers upload data into platform
⇒ automatically process data
⇒ create reports and set up visualizations according to user requirements (fulfillment of business needs: optimized, convenient)

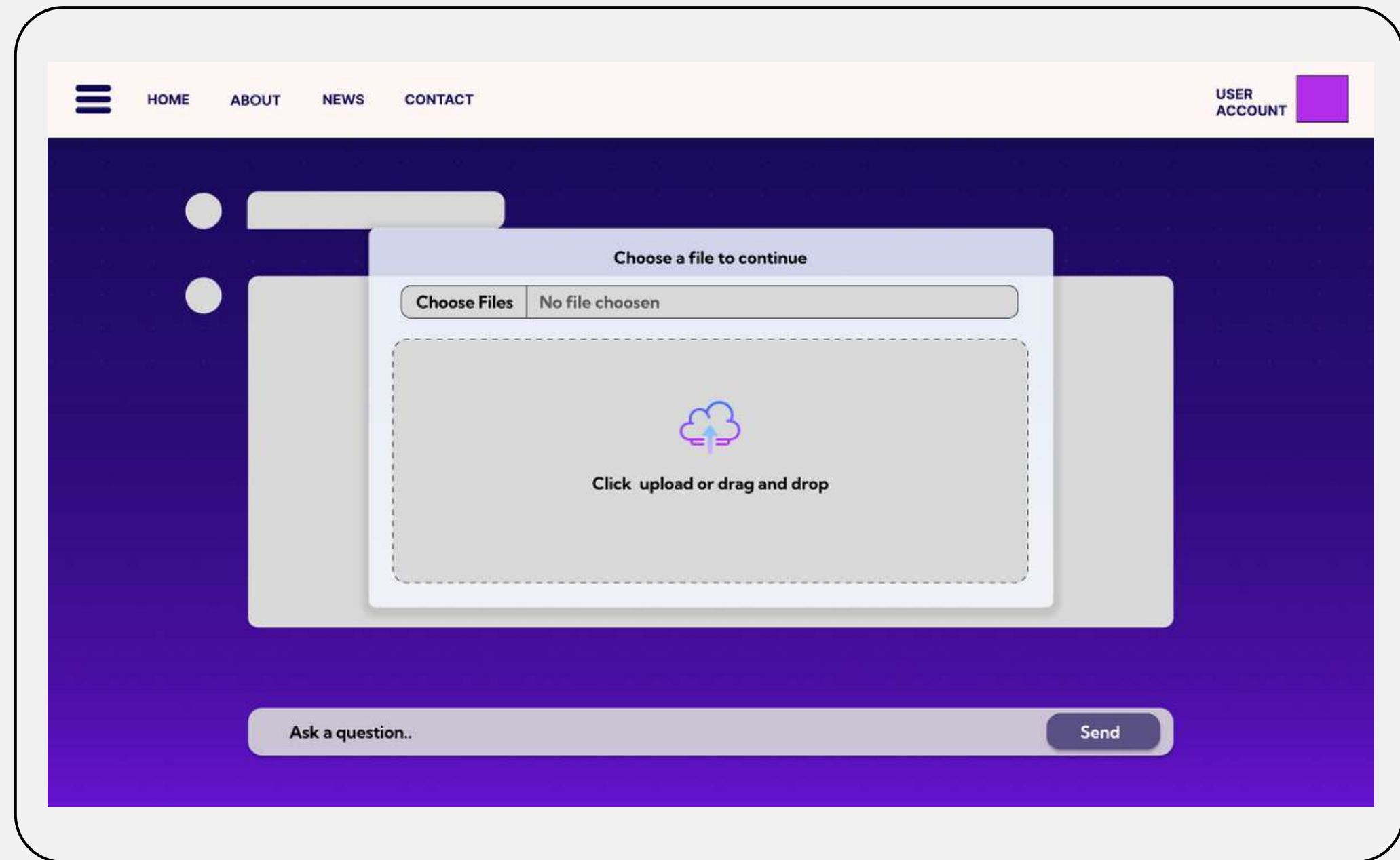
SOLUTION OVERVIEW



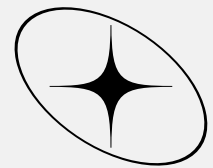


CHATBOT INTERACTS WITH DATA

Chatbot integrates with data from platform, allowing users to interact and make questions about their data (pricing strategy analysis, customer data analysis,...)



SOLUTION OVERVIEW

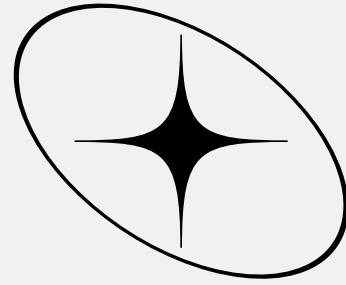


PREDICTING FUTURE FOR SALES

Use historical data (database)
and predict sales using AI

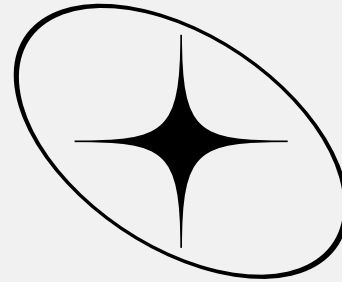


SOLUTION OVERVIEW



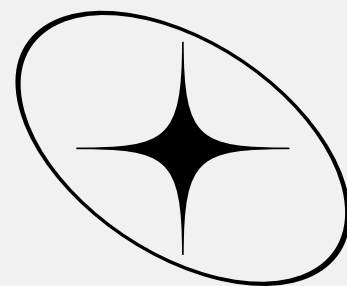
METHODOLOGIES

- Pandas AI
- My SQL (database)
- Website
- Backend
- App

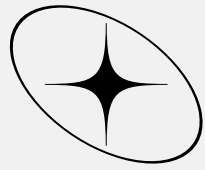


CORE FUNCTIONALITY

- Aggregate data storage
- Clean data
- Automatically create reports
- Visual analysis
- Predictive analytics
- Data warning



PERFORMANCE METRICS



PERFORMANCE METRICS

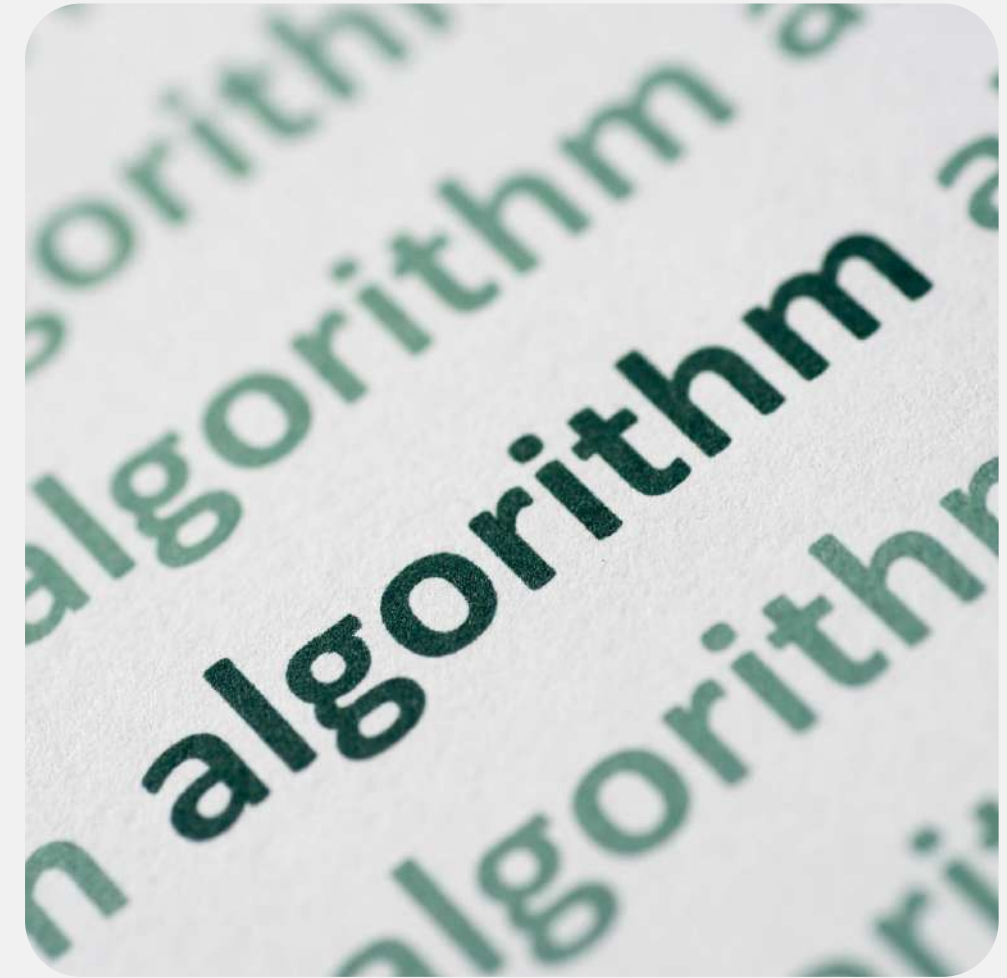


Evaluate products



- Number and growth rate of users
- Consider profits, sales, and other financial factors
- Safety and security

♡ 5K 👤 5K

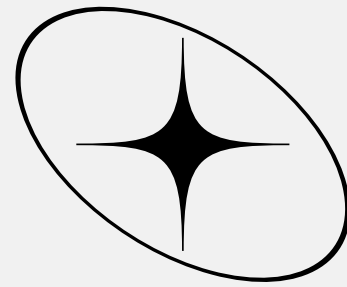


Evaluate algorithm

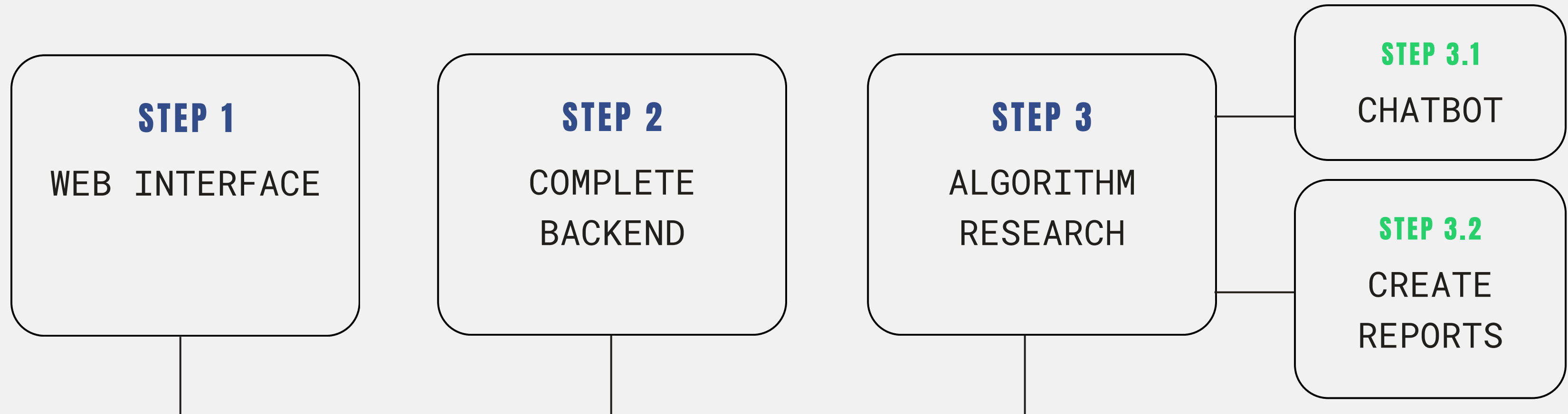


- Reviews: 3.5~4 / 5 ★
- Running time and processing speed
- About 500 businesses tried it out after launching the product

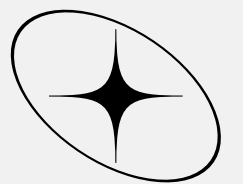
🔗 5K

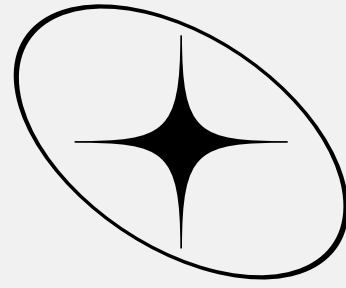


TIMELINE AND ROADMAP

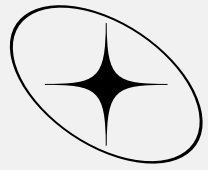


ROADMAP





LIMITATIONS AND FUTURE ENHANCEMENTS



LIMITATIONS AND FUTURE ENHANCEMENTS



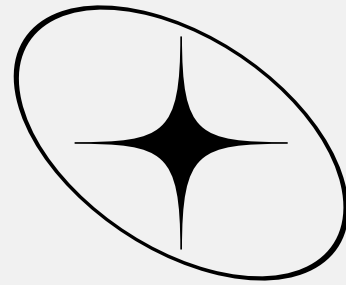
Intergrate E-commerce platforms

Tiktokshop, Shopee, ...
automatically pull data from those
platforms to create reports



Data trading

Allowing businesses to buy and
sell data on the platform
increases predictability with
market data



CONCLUSION

CONCLUSION

In the current business landscape, effective management of inventory and revenue has become increasingly critical for retail enterprises. PandasAI emerges as a unique and efficient solution in this context. By seamlessly integrating AI technology and intelligent data handling, PandasAI not only addresses key business challenges but also delivers substantial benefits. Additionally, the commitment to expanding integration with ERP systems and developing a mobile application promises a flexible and comprehensive user experience.

The automation of data entry processes, interactive capabilities through a chatbot, and the ability to predict sales trends not only save time and resources but also establish a foundation for informed decision-making based on reliable and transparent business performance insights.

CONCLUSION

Ultimately, we believe that our project is not only a solution for the present but also an important contribution to the future of the retail store industry.

We promise to continue our efforts to make our products increasingly perfect and widely applied in the business community. Thank you for this opportunity!

THANK YOU

ONLINE ROUND