

Project Title	PhonePe Transaction Insights
Skills take away From This Project	Data Extraction, SQL Proficiency, Data Visualization, Analytical Thinking, Documentation, Streamlit
Domain	Finance/Payment Systems

Problem Statement:

With the increasing reliance on digital payment systems like PhonePe, understanding the dynamics of transactions, user engagement, and insurance-related data is crucial for improving services and targeting users effectively. This project aims to analyze and visualize aggregated values of payment categories, create maps for total values at state and district levels, and identify top-performing states, districts, and pin codes.

Business Use Cases:

- **Customer Segmentation:** Identify distinct user groups based on spending habits to tailor marketing strategies.
- **Fraud Detection:** Analyze transaction patterns to spot and prevent fraudulent activities.
- **Geographical Insights:** Understand payment trends at state and district levels for targeted marketing.
- **Payment Performance:** Evaluate the popularity of different payment categories for strategic investments.
- **User Engagement:** Monitor user activity to develop strategies that enhance retention and satisfaction.
- **Product Development:** Use data insights to inform the creation of new features and services.
- **Insurance Insights:** Analyze insurance transaction data to improve product offerings and customer experience.

- **Marketing Optimization:** Tailor marketing campaigns based on user behavior and transaction patterns.
- **Trend Analysis:** Examine transaction trends over time to anticipate demand fluctuations.
- **Competitive Benchmarking:** Compare performance against competitors to identify areas for improvement.

Approach:

Data Extraction:

- Clone the GitHub repository containing PhonePe transaction data and load it into a SQL database.

SQL Database and Table Creation:

- Set up a SQL database using a relational database management system (e.g., MySQL, PostgreSQL).
- Create tables to store data from the different folders:
 - **Aggregated Tables:**
 - **Aggregated_user:** Holds aggregated user-related data.
 - **Aggregated_transaction:** Contains aggregated values for map-related data.
 - **Aggregated_insurance:** Stores aggregated insurance-related data.
 - **Map Tables:**
 - **Map_user:** Contains mapping information for users.
 - **Map_map:** Holds mapping values for total amounts at state and district levels.
 - **Map_insurance:** Includes mapping information related to insurance.
 - **Top Tables:**
 - **Top_user:** Lists totals for the top users.
 - **Top_map:** Contains totals for the top states, districts, and pin codes.
 - **Top_insurance:** Lists totals for the top insurance categories.

SQL Queries for Data Analysis:

-  **Business Case Study**

Data Analysis Using Python:

- Utilize Python libraries (e.g., Pandas, Matplotlib, Seaborn) to analyze the results from the SQL queries.
- Create visualizations (bar charts, pie charts) to display aggregated values and top performers.

Streamlit Application Development:

- Build a Streamlit application to present the analysis results interactively.
- Integrate visualizations within the Streamlit app for real-time data exploration.

Insights Generation:

- Summarize key findings from the analysis and visualizations.
- Provide actionable recommendations based on the insights gained.

Results:

- Proficiency in data extraction and integration.
- Mastery of SQL for data analysis.
- Skills in creating visualizations with Python and Streamlit.
- Enhanced analytical thinking and problem-solving abilities.
- Clear documentation and presentation of findings.
- Understanding of practical business applications of data analysis.

Project Evaluation metrics:

- **Code Quality:** Adherence to coding standards and best practices.
- **SQL Query Efficiency:** Performance of SQL queries in terms of execution time and accuracy.
- **Data Visualization:** Effectiveness and clarity of visualizations created in Streamlit.
- **Insights Validity:** Relevance and actionability of insights derived from the data analysis.
- **Documentation Quality:** Completeness and clarity of project documentation and reporting.

Technical Tags:

- Python
- SQL
- Streamlit
- Data Visualization
- Data Analysis
- ETL (Extract, Transform, Load)

Data Set:

Github Repository Link: [Data Set](#)

Project Deliverables:

- Source code for data extraction, SQL queries, and Streamlit application.
- Documentation detailing the analysis process, insights, and visualizations.
- Presentation slides summarizing findings and recommendations.







Project Guidelines:

- **Coding Standards:** Follow Python and SQL best practices for readability and maintainability.
- **Version Control:** Use Git for version control to manage code changes and collaboration.
- **Documentation:** Maintain thorough documentation of the code and analysis process.
- **Testing:** Test SQL queries for accuracy and performance.

Timeline:

The project must be completed and submitted **within 14 days from the assigned date**

Reference

Project Live Evaluation	 Project Live Evaluation
EDA Guide	 Exploratory Data Analysis (EDA) G...
Capstone Explanation Guideline	 Capstone Explanation Guideline
GitHub Reference	 How to Use GitHub.pptx
Streamlit recording (English)	 Special session for STREAMLIT(1...
Reference Colab	 How_to_create_phonepe_pulse_D...
Inspired From	<u>Phonepay Pulse</u>
Project Orientation (English)	<u>Project_Orientation</u>
Project Orientation (Tamil)	

PROJECT DOUBT CLARIFICATION SESSION (PROJECT AND CLASS DOUBTS)

About Session: The Project Doubt Clarification Session is a helpful resource for resolving questions and concerns about projects and class topics. It provides support in understanding project requirements, addressing code issues, and clarifying class concepts. The session aims to enhance comprehension and provide guidance to overcome challenges effectively.

Note: Book the slot at least before 12:00 Pm on the same day

Timing: Monday-Saturday (4:00PM to 5:00PM)

Booking link : <https://forms.gle/XC553oSbMJ2Gcfug9>

LIVE EVALUATION SESSION (CAPSTONE AND FINAL PROJECT)

About Session: The Live Evaluation Session for Capstone and Final Projects allows participants to showcase their projects and receive real-time feedback for improvement. It assesses project quality and provides an opportunity for discussion and evaluation.

Note: This form will Open only on Saturday (after 2 PM) and Sunday on Every Week

Timing: Monday-Saturday (05:30PM to 07:00PM)

Booking link : <https://forms.gle/1m2Gsro41fLtZurRA>

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