DATA SCIENCE

MINI PROJECT – 2

PHONEPE TRANSACTION INSIGHTS

PRESENTED BY,

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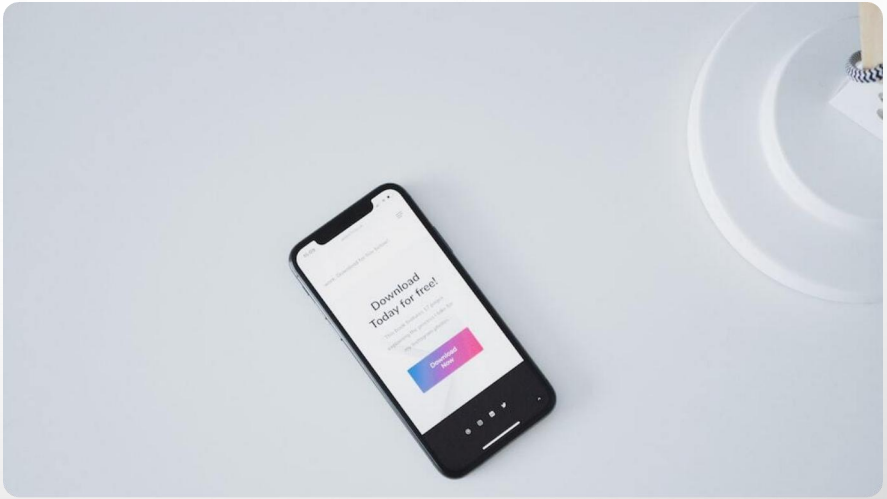
PROBLEM STATEMENT

- **UNDERSTANDING PHONEPE TRANSACTIONS:** ANALYZE TRANSACTION DATA ACROSS GEOGRAPHIES TO EXTRACT REGIONAL USAGE TRENDS.

- **UNCOVERING GROWTH PATTERNS:** HIGHLIGHT HOW TRANSACTION TYPES AND VALUES VARY WITH DEMOGRAPHICS AND TIME.



INTRODUCTION

PROJECT PURPOSE

To analyze digital transaction data from PhonePe pulse and derive key insights.

Analytical Focus

Explore trends in transaction volumes, insurance growth, and user activity.

PROJECT OBJECTIVES

State & District Transactions
Analyze transaction volume and value trends across various Indian states and districts.

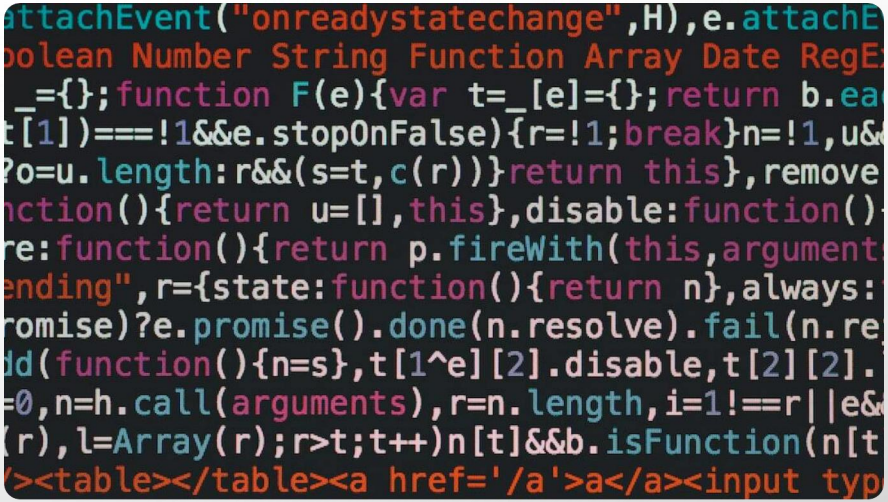
User Metrics & App Usage
Examine user registrations and app usage statistics to understand engagement patterns.

Insurance Growth Mapping
Assess the expansion of digital insurance adoption within the PhonePe ecosystem.

Regional Leaders Visualization
Visualize top-performing regions using dashboards and comparative analytics.

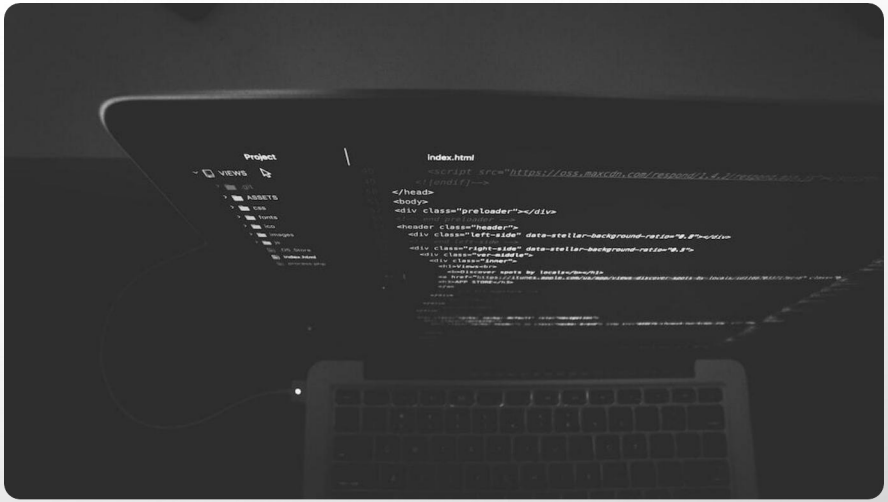
TOOLS & TECHNOLOGIES

- **Python:** Core scripting for data extraction, transformation, and analysis.
- **MySQL:** Used for storing structured transaction data and executing queries.
- **Streamlit:** Interactive web framework for building real-time dashboards.



DATA SOURCE & PREPROCESSING

- **Data Source:** PhonePe Pulse JSON files serve as the raw data source, reflecting real-time transaction activity.
- **Transformation Workflow:** Python scripts extract, clean, and reformat data for structured storage.
- **MySQL Integration:** Processed data is inserted into MySQL tables for efficient querying.
- **Dashboard Deployment:** Final dashboards are built using Streamlit for real-time visualization.



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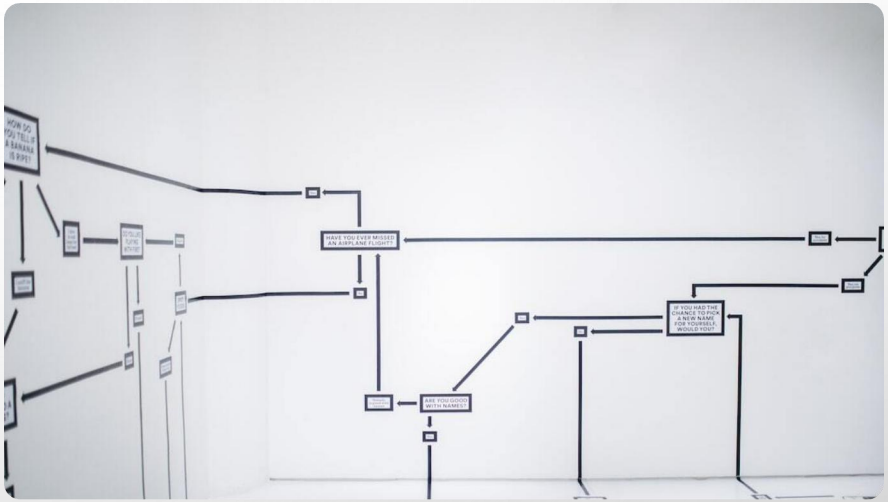
DATABASE SCHEMA

- **Aggregated Transactions:** Tables for transaction counts and values by type, year, and quarter.
- **Map-Based Data:** Tables containing state and district-level mapping data.
- **Top Listings:** Tables for top-performing districts, states, and categories by volume/value.
- **Schema Flexibility:** Designed to support efficient queries for visual dashboards.



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TRANSACTION DYNAMICS

Transaction Types Overview
Highlights merchant payments, peer transfers, and recharge patterns.

State-Wise Growth
Top 10 states ranked by total transaction value and quarterly growth.

Merchant Payments Focus
A dominant category driving transaction surge across regions.

DEVICE DOMINANCE & ENGAGEMENT

- **User Registrations by Brand:** Xiaomi, Samsung, and Vivo lead in user base size based on device data.
- **App Open Frequency:** Tracking how often users open the PhonePe app across devices.
- **Brand-Based Engagement:** Insights on brand preferences and corresponding engagement levels.

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INSURANCE GROWTH ANALYSIS

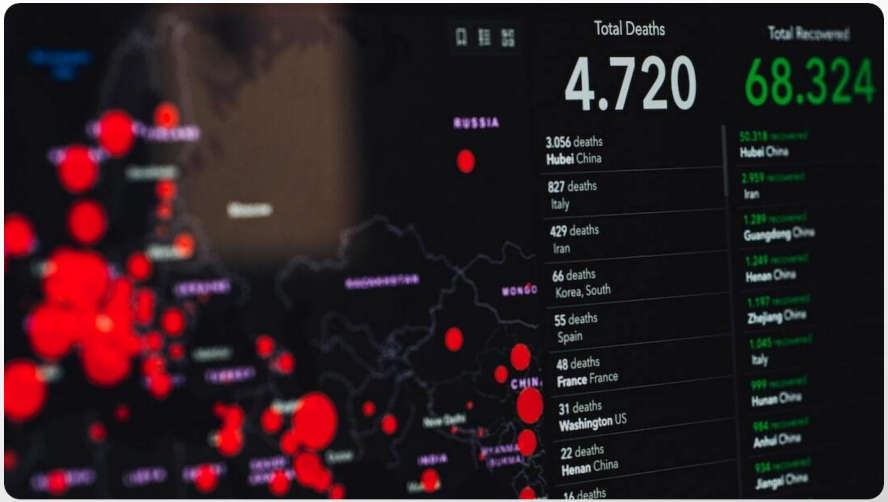
Volume Growth Over Time
Line chart shows consistent rise in insurance-related transactions via PhonePe.

Category Distribution
Bar and pie visuals represent types of insurance products and user adoption.

Adoption Drivers
Data reveals regions with high insurance uptake and correlates with digital literacy.

MARKET EXPANSION VIA TRANSACTIONS

- **India-Wide Reach:** Transaction value mapped geographically highlights wide adoption across regions.
- **Top Performing States:** Telangana and Maharashtra lead in transaction value, reflecting strong fintech integration.
- **Regional Opportunity Zones:** Underserved areas identified for future expansion based on low penetration rates.



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USER ENGAGEMENT STRATEGY

- **Registration Growth:** Line chart shows continuous increase in user registrations across India.
- **App Open Rates:** Bar graphs highlight frequent usage and brand-specific engagement.
- **District Share Analysis:** Pie chart reflects leading districts like Bengaluru Urban and Pune.

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DISTRICT-WISE INSURANCE ANALYSIS

Insurance Penetration by District
Bar graph shows volume distribution of insurance transactions across districts.

Category Share in Districts
Pie chart visualizes distribution of insurance types like health, life, and device insurance.

District Leaders
Top contributing districts in digital insurance coverage identified.

CONCLUSION

Dashboard Effectiveness
Real-time querying and visualization made possible using Streamlit and MySQL.

Insight-Driven Design
Data interpretation guided the UI and feature logic of the dashboard.

Scalability & Usability
The system is adaptable for expansion to include additional metrics or user groups.

THANK YOU ! ☺