Project Design Phase- II

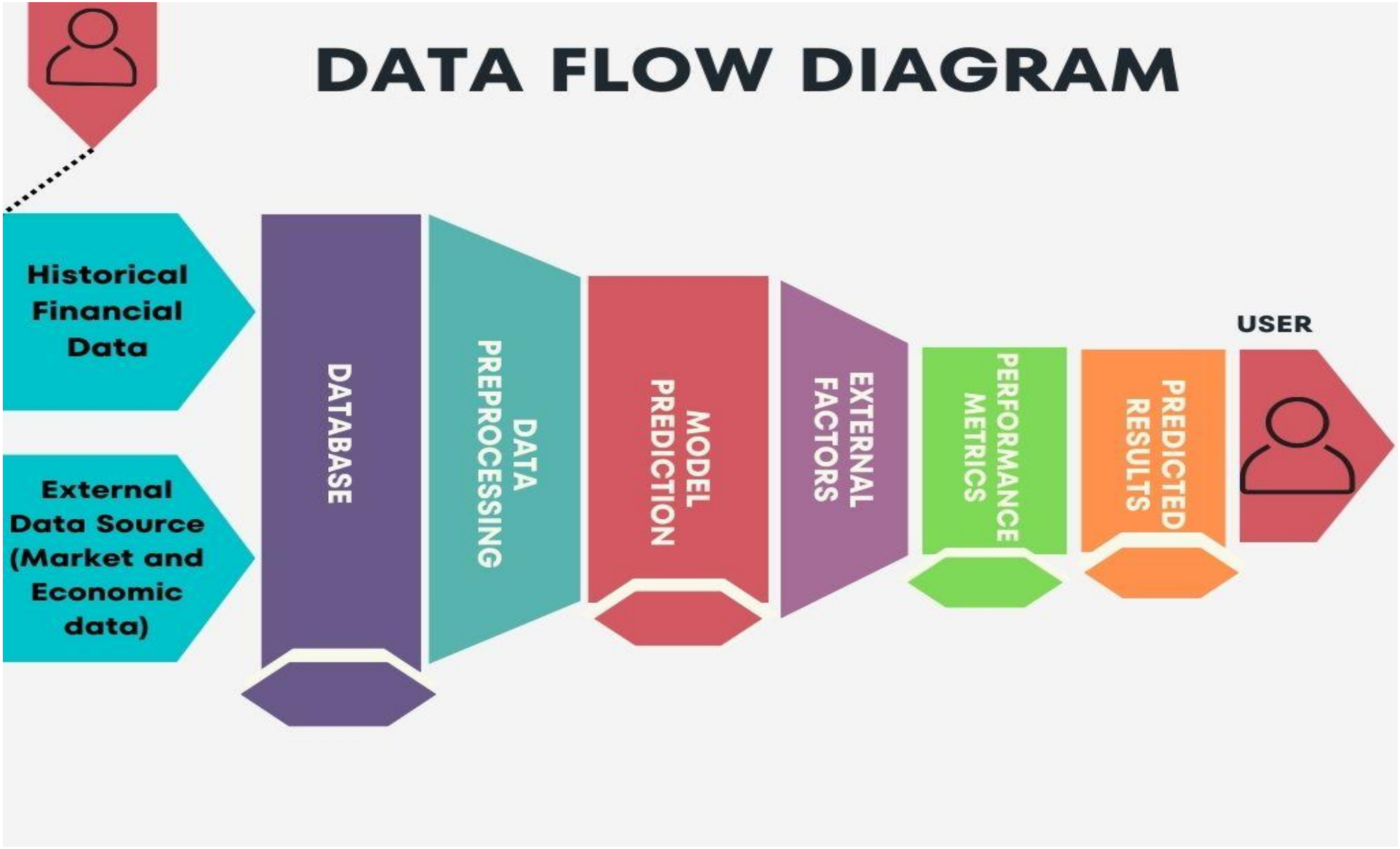
Data Flow Diagram & User Stories

Date	October 2023
Team ID	Team-592444
Project Name	Anticipating Business Bankruptcy
Maximum Marks	4 Marks

Flow:

1. **Data Collection:** The user inputs the historical financial data of the company and external data sources (market and economic data). This is the initial stage where data is gathered from different sources, including the user and external databases.
2. **Data Storage:** The data gets stored into a database.
3. **Data Preprocessing and Feature Selection:** The data in the database is then preprocessed. This includes cleaning the data, handling missing values, outliers, and transforming variables as necessary.After preprocessing, features are selected for the model. This involves identifying which variables or features from the data are most relevant to predicting bankruptcy.
4. **External Factors Assessment:** External factors are assessed to see if they impact the results of the model. These factors could include economic trends, market conditions, and other relevant external data.
5. **Model Evaluation:** The performance of the model is evaluated using appropriate metrics.
6. **Result Presentation:** The predicted results are displayed to the user.
7. **Model Monitoring and Updating:** After deployment, the model should be monitored to ensure it continues to perform as expected with new data.

Data Flow Diagram:



User Stories

User Type	Functional Requirement (Epic)	User Story Number	Task / User Story	Acceptance Criteria	Priority	Release
Stock Trader	Data Collection	USN-1	I can gather historical financial data of the companies operating in Poland from 2000 to 2012 for bankrupt firms.	System provides access to comprehensive historical data repository	High	Sprint-1
Researcher	Data Collection and Preparation	USN-2	I can collect historical financial data of companies still in operation in 2007.	System provides access to raw data	Medium	Sprint-1
Data Scientist	Feature Selection and Engineering	USN-3	I can identify and select relevant econometric indicators for bankruptcy prediction.	User can log into the system and the Dashboard will display the bankruptcy risk score	High	Sprint-2
Data Scientist	Feature Selection and Engineering	USN-4	I can engineer new features based on the selected indicators to improve predictive accuracy.	User can integrate new features into the model	Medium	Sprint-2
Data Scientist	Model Building	USN-5	I can develop predictive models using financial ratios from the initial year (2000).	User can develop predictive model with accuracy tests	High	Sprint-3
Data Scientist	Model Building	USN-6	I can create class labels indicating bankruptcy status for the dataset.	User can integrate new features into the model	Medium	Sprint-3
Data Scientist	Model Evaluation and Testing	USN-7	I can assess the performance of the predictive models and fine-tune them for better accuracy.	User's models can pass the accuracy tests	High	Sprint-4
Business Owner	Model Deployment	USN-8	I will deploy predictive models for ongoing monitoring, prediction and view my company's financial health.	User can access detailed explanations for risk factors	Medium	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	Task / User Story	Acceptance Criteria	Priority	Release
Compliance Officer	Documentation and Reporting	USN-9	I can document the methodology, findings, and model usage guidelines for transparency and knowledge sharing.	Documentation verifies compliance with legal standards	High	Sprint-5
StakeHolder	Stakeholder Engagement	USN-10	I will be informed about the project progress and receive training on how to interpret the predictions and reports.	System can monitor risk scores continuously	Medium	Sprint-5
Customer	User Feedback and Improvement	USN-11	As a user (e.g., financial analysts), I will have a feedback mechanism to provide insights and suggestions for model and system improvement.	Reports are easy to understand and visually appealing	High	Sprint-6
Data Scientist	Model Maintenance	USN-13	I can establish procedures for regular model updates, maintenance, and compliance checks.	System will send alert to the user's dashboard and system undergoes successful compliance testing	Medium	Sprint-6