Ideation Phase
Empathize & Discover

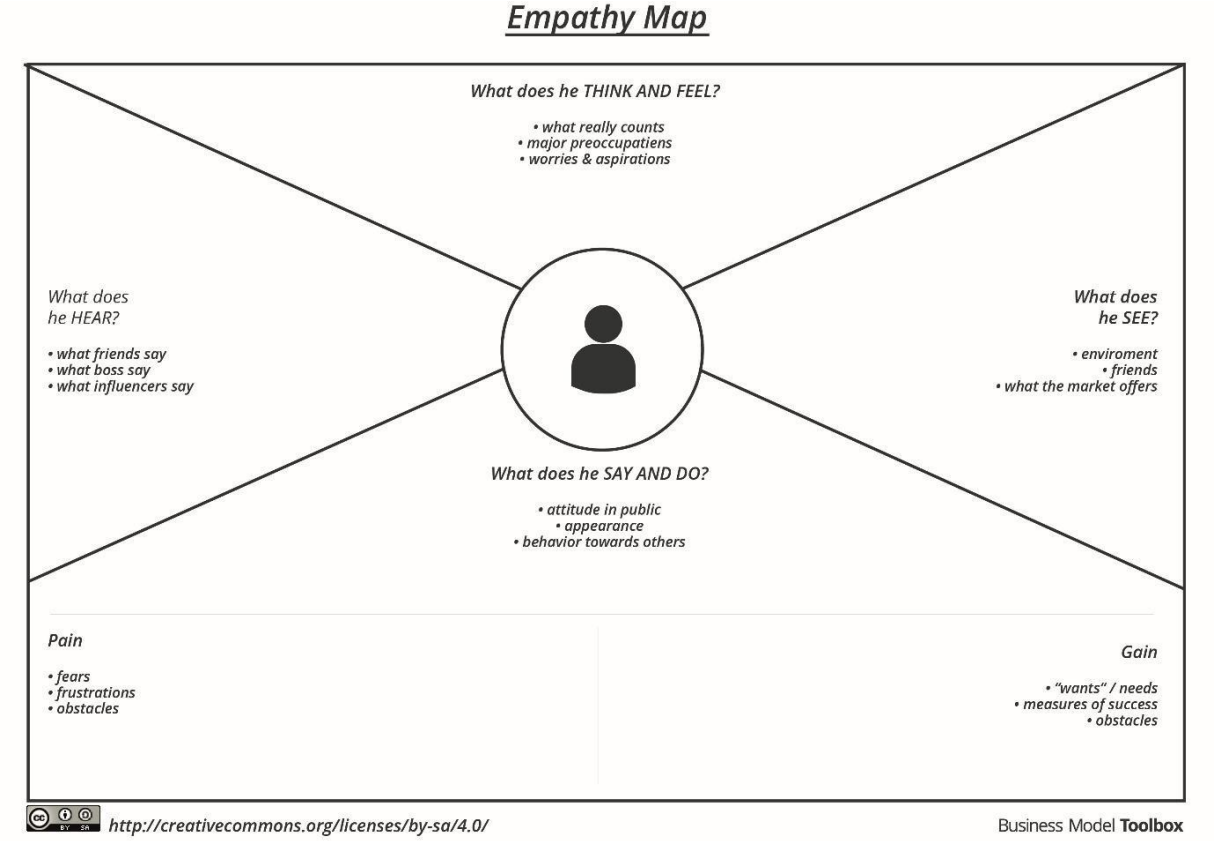
Date	10 November 2023
Team ID	Team-592889
Project Name	Time Series Analysis for Bitcoin Price Prediction Using Prophet
Maximum Marks	4 Marks

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Example:



Reference:
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Example: Time Series Analysis for Bitcoin Price Prediction Using Prophet

Template

Empathy map canvas

Use this framework to empathize with a customer, user, or any person who is affected by a team's work. Document and discuss your observations and note your assumptions to gain more empathy for the people you serve.

Originally created by Dave Gray at

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Machine Learning Approach for Predicting Time Series Analysis For Bitcoin Price

This comparative study is conducted concentrating on the following aspects: modeling inputs, Visualizing the data, modeling methods, and pre-processing techniques. The results provide a comparison of various evaluation metrics of these machine learning techniques and their reliability to predict Time Analysis for Bitcoin Price prediction by analyzing the prophet data.

WHO are we empathizing with?

Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

Investors and Traders: Professionals empathize with individual investors and traders who are looking to make informed decisions and manage their investments in the cryptocurrency market. They understand the financial stakes and emotional challenges involved in trading and investment.

The Data Scientist or Analyst: Profiling data scientists and analysts is important to appreciate their technical expertise and challenges. These professionals require resources, tools, and collaboration to conduct effective time series analysis and model development.

Market Analysts and Commentators: Market analysts and commentators analyze market trends, chart patterns, and news to provide insights and predictions. They communicate their findings to the wider community through articles, videos, and social media.

What do they HEAR?

What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second-hand?

24/7 Market Operation: Cryptocurrency markets operate around the clock, seven days a week. This continuous trading environment requires constant monitoring and adaptability.

Model Performance: Researchers and model developers often receive feedback and critiques regarding the performance of their predictive models, as the cryptocurrency community evaluates the accuracy of price predictions.

Investment Success Stories: Friends may share stories of successful Bitcoin investments, highlighting substantial gains and profitable trading experiences. These anecdotes can create enthusiasm about the potential for financial rewards in the cryptocurrency market

Model Development: Colleagues may discuss their experiences and insights into machine learning model development, sharing tips and best practices for improving model accuracy.

Conference and Event Highlights: Attendees at cryptocurrency conferences or events may share their experiences, key takeaways, and insights with colleagues, providing second-hand knowledge of industry developments.

- Analyze market trends, price charts, and technical indicators.
- Provide insights on potential price movements and trading opportunities.
- Share market analyses through articles, podcasts, videos, or social media.
- Respond to questions and engage with the community to provide clarity.

What do they DO?

What do they do today?
What behavior have we observed?
What can we imagine them doing?

The specific tasks and priorities for each role can change rapidly in response to market dynamics, technology developments, and regulatory changes. Therefore, professionals actively adapt and respond to the evolving landscape of the cryptocurrency market in their day-to-day activities.

Data-Driven Decision-Making: Many individuals base their trading and investment decisions on data analysis, historical trends, and machine learning models.

Real-Time Analysis: The adoption of real-time data analysis and predictive models can help professionals respond swiftly to market changes and capture time-sensitive opportunities.

GOAL

What do they THINK and FEEL?

PAINS

What are their fears, frustrations, and anxieties?

Data Quality: Poor quality, missing, or noisy historical data can be a major frustration. High-quality data is essential for accurate model training and evaluation.

Market Sentiment: The difficulty of incorporating market sentiment and news events into models can be a source of frustration. External factors can play a significant role in cryptocurrency price movements.

Lack of Ground Truth: There is no definitive ground truth in Bitcoin price prediction. The lack of a single, objective measure of correctness can lead to uncertainty and anxiety.

Financial Losses: The fear of incurring financial losses due to incorrect predictions can lead to stress and anxiety.

GAINS

What are their wants, needs, hopes, and dreams?

Accuracy: Data scientists want their machine learning models to make accurate predictions of Bitcoin prices. They aim to reduce prediction errors to maximize profitability.

Regular Updates: Models need to be regularly updated and retrained to adapt to changing market conditions and maintain accuracy.

Consistent Profits: The hope is that the machine learning models will consistently generate profits in Bitcoin trading or investment.

Revolutionizing Finance: Some hope to be part of a movement that transforms the way financial markets operate by leveraging the power of machine learning in cryptocurrency trading.

What other thoughts and feelings might influence their behavior?

The desire for high profits can lead to riskier behavior, such as aggressive trading strategies or over-leveraging positions, which may not be advisable.

Overconfidence in the accuracy of a model can lead to excessive risk-taking and a failure to acknowledge the inherent uncertainties in cryptocurrency markets.

Developing a strong emotional attachment to a particular model or trading strategy can hinder objectivity and adaptive decision-making.

A desire to prove one's expertise or forecasting abilities can lead to overemphasis on the success of a model and reluctance to consider alternative viewpoints.

What do they need to DO?

What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

Feature engineering plays a crucial role in time series analysis. Feature selection should be guided by an understanding of cryptocurrency markets, as well as technical and fundamental indicators specific to cryptocurrencies.

Continuous Learning and Adaptation:
- Make decisions about staying informed, learning from past decisions, and adapting strategies based on new insights and market changes.
- Integrating real-time data feeds for live trading and decision-making.
- Developing execution strategies for entering and exiting positions based on model signals.

Continuous Improvement: A successful project should also show a commitment to ongoing learning and improvement in both the model and the overall trading or investment strategy.

Market Structure: Analysts study the structure of cryptocurrency exchanges, including order matching systems and fee structures, to understand how they impact trading strategies.

News and Social Media: They keep an eye on cryptocurrency news websites, forums, and social media platforms to stay updated on the latest developments, news, and market sentiment. News can influence market behavior.

Trading Behavior: They watch for changes in trading volumes, order book data, and the behavior of other traders. Large buy or sell orders can signal potential price movements.

Financial News Outlets: They follow mainstream financial news outlets like Bloomberg, Reuters, CNBC, and The Wall Street Journal, which occasionally feature articles and segments related to cryptocurrencies.

What do they SEE?

What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

What do they SAY?

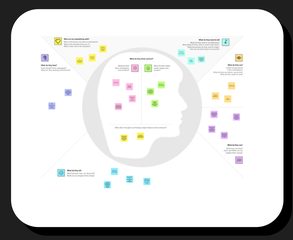
What have we heard them say?
What can we magine them saying?

"Understanding Market Psychology": They often discuss the significance of understanding market psychology, including fear, greed, and the herd mentality, which can influence trading behavior.

"Invest for the Long Term": Some professionals advocate for a long-term "HODL" strategy, suggesting that holding onto investments through market volatility can lead to better returns.

"Ethical Trading Practices": "We adhere to ethical trading principles, ensuring transparency, fairness, and responsibility in our actions."

"Value of a Trading Plan": "A well-structured trading plan with predefined entry and exit points, and risk management rules, is our compass in these volatile waters."



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