

GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY  
FACULTY OF COMPUTING

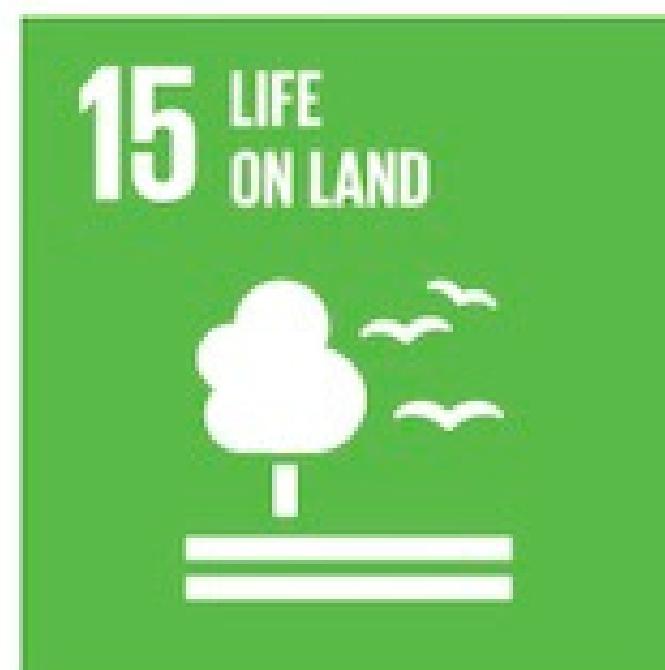
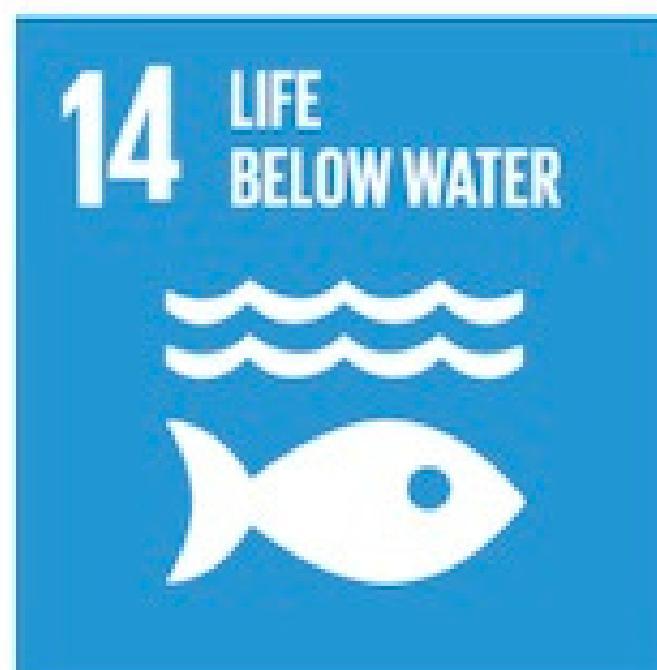
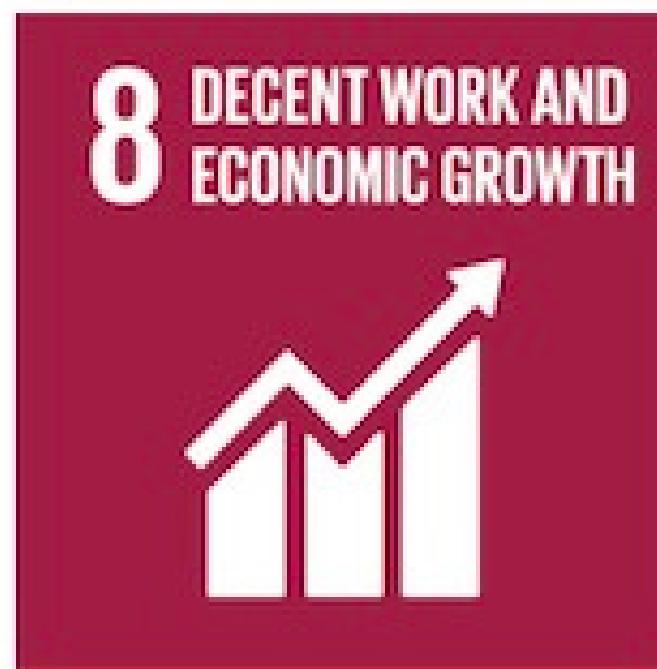
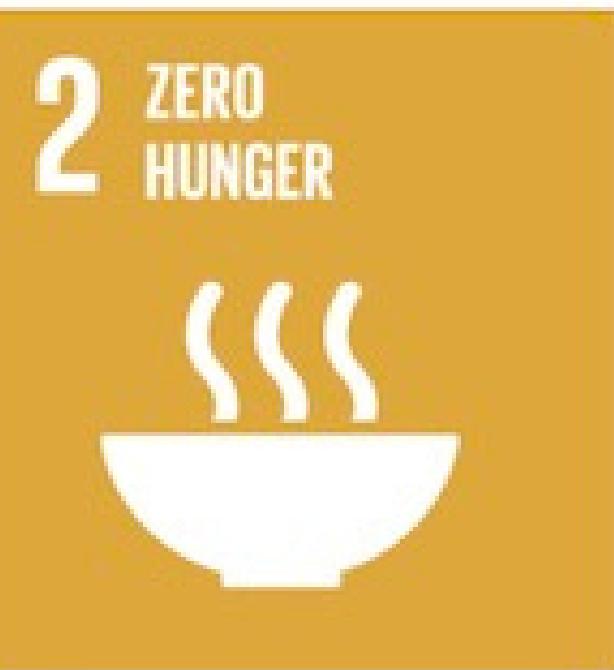
Group project in Software Development  
Group 07

# Computer Store Management System With AI Chatbot

PROPOSAL PRESENTATION

# Sustainable Development Goal (SDG) Integration

Our project is directly aligned with Sustainable Development Goals, focusing on Goal 9 (Industry, Innovation, and Infrastructure) and Goal 11 (Sustainable Cities and Communities). By implementing AI and database management, we contribute to technological innovation and efficient urban infrastructure.



# About Mentor

**Mentor: Pradeep Alahakoon**

System administrator- ERP



# About Client



**Client: WA Kasun Hasintha**  
[Owner of R&K computer and cctv operators]

# Computer Store Management System With AI Chatbot

## CONTENT OF THE PRESENTATION

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# Background & Motivation

We have received a request from RK Computers and CCTV Operators for an inventory management system. After discussing the requirements, we have planned to implement a chatbot and a database system for RK Computers.

In today's tech-driven era, computer shops face challenges in manual management. Motivation stems from the need for an integrated solution to streamline operations and enhance customer experience.





# Literature Review

# Literature Review

Source	Research Focus	Findings	Limitations	Implications	Study's Addressed Gaps
Gupta & Jain, 2017	AI and chatbots enhancing efficiency and customer experiences in retail	Highlights positive impacts in retail settings	Applicability beyond retail not discussed	Suggests improved efficiency and customer experiences in computer shops	Lack of exploration in AI and chatbot integration for computer shops
Wang & Zhang, 2016	Existing solutions in retail inventory management	Provides insights into successful implementations and challenges	Applicability to computer shops not explicitly discussed	Offers potential strategies for computer shops	Lack of specific strategies for computer shop inventory management
Kim et al., 2021	AI-driven systems in inventory optimization processes	Showcases AI-driven systems accurately forecasting demand and automating replenishment	Limited scope to computer shops in the discussed cases	Guides the project in incorporating AI for accurate demand forecasting	Lack of specific guidance for computer shop inventory optimization



# Aim & Objectives

# Aim & Objectives

The Aim is to explore the potential of AI applications in the Business environment, specifically focusing on stock management and customer interaction. The proposed system follows a layered architecture approach, akin to gates, where AI tools analyze and process various aspects of Owner's operations

**Develop an AI chatbot  
for seamless customer  
interactions.**

**Implement a robust database  
system for efficient inventory  
and sales management.**

**Integrate communication  
channels between the AI  
chatbot and the database.**



# Proposed Methodology

# Proposed Methodology

## AI Chatbot Development

Natural Language Processing (NLP): Utilizing Python with TensorFlow to implement advanced NLP algorithms for understanding and responding to user queries.

User Intent Recognition: Developing a robust algorithm to accurately identify user intent, enhancing the chatbot's responsiveness.

User Experience (UX) Design: Integrating a user-friendly interface for a seamless interaction experience.

## Database Management System Integration

Database Selection: Employing MySQL for its reliability and efficiency in handling real-time data updates.

Data Schema Design: Creating an optimized database schema to ensure effective storage and retrieval of information.

Real-time Data Sync: Implementing mechanisms for continuous synchronization between the database and the AI chatbot.

## System Testing and Optimization:

Unit Testing: Conducting thorough testing of individual components to identify and rectify any potential issues.

Integration Testing: Ensuring seamless communication between the AI chatbot and the database, addressing any compatibility issues.

Performance Optimization: Iteratively enhancing system performance based on testing feedback to achieve optimal responsiveness.

# Functional and Non-Functional Requirements

# Functional Requirement

- User authentication
- real-time inventory updates
- efficient customer query handling.
- Stock Tracking
- Sales Tracking
- AI Chatbot Integration

# Non-Functional Requirement

- robust security measures
- ensuring scalability
- maintaining system responsiveness..



# Tools and Technologies

# Tools and Technologies

## PROGRAMMING LANGUAGES

Python for the chatbot,  
SQL for database management  
Java for make application for  
database management



## FRAMEWORKS

TensorFlow for AI,  
Flask for web interactions  
RASA for AI Chatbot



## TOOLS AND IDES

MySQL for database operations.  
PyCharm for Python application  
VS code for build web interface



# Proposed Testing and Evaluation Methods

# Proposed Testing and Evaluation Methods

## Unit Testing

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Verifying individual components.

## Integration Testing

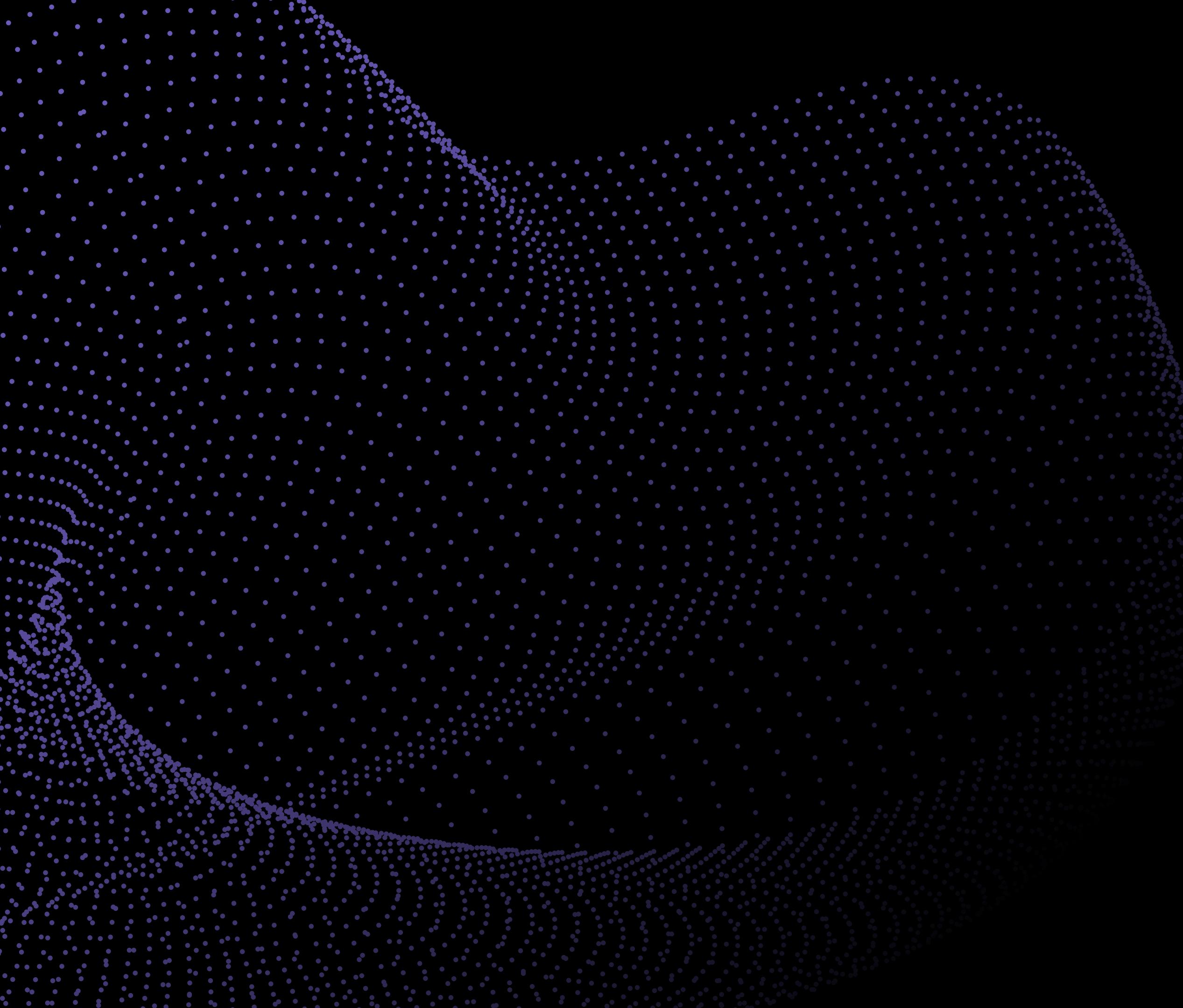
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Confirming seamless interaction.

## User Acceptance Testing

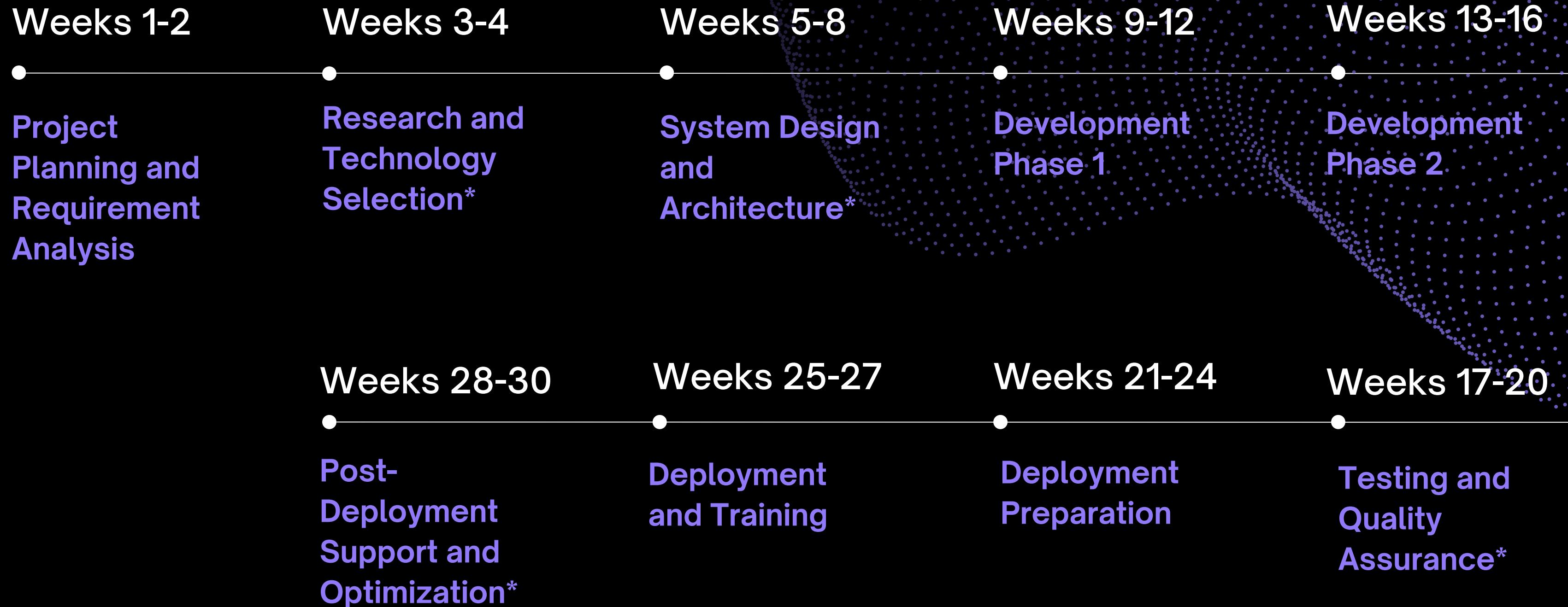
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Ensuring functionality aligns with end-users' needs.



# Time Plan

# Time Plan



# Contribution of Team Members

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**P H D B**  
**Nayanakantha**  
**D/BCE/23/0008**

Chat bot  
implemantation  
for customer  
and Design ML  
Alogorithms for  
it

**B D S D Douglas**  
**D/BCE/23/0002**

Chat bot  
implementation  
for Owner  
and Design ML  
Algorithms for  
it

**P R M K Herath**  
**D/BCS/23/0009**

Inventory  
Database  
Implementati  
and  
Management

**R B H P**  
**Rathnamalala**  
**D/BCE/23/0014**

User  
Interfaces for  
both Owner  
and  
Customers,  
Database  
Management  
System

**R M M**  
**Ranathunga**  
**D/BCE/23/0004**

Web interface  
for access  
chatbot,  
Database  
Management  
System

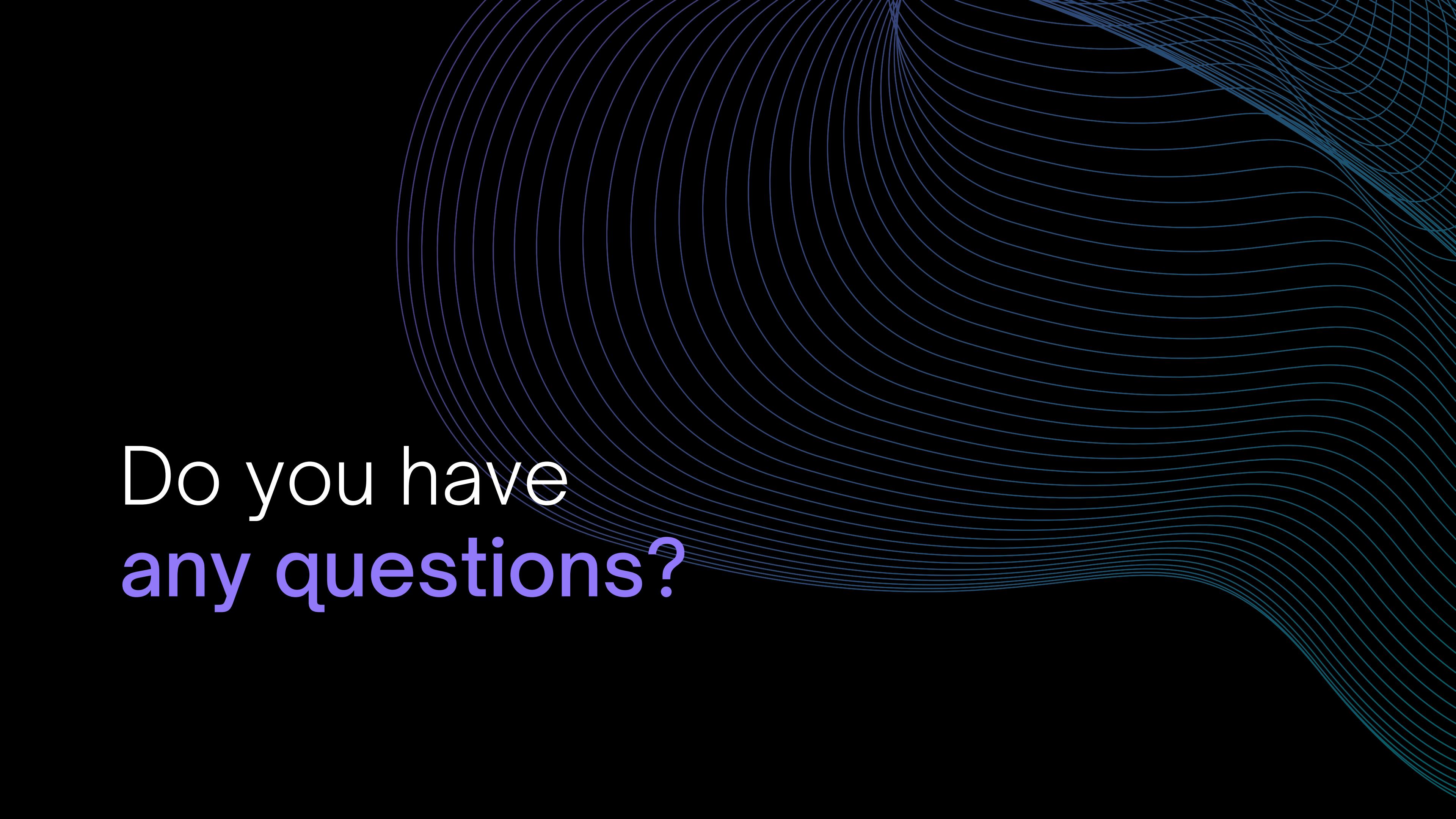
# Conclusion

## A LEAP INTO THE FUTURE

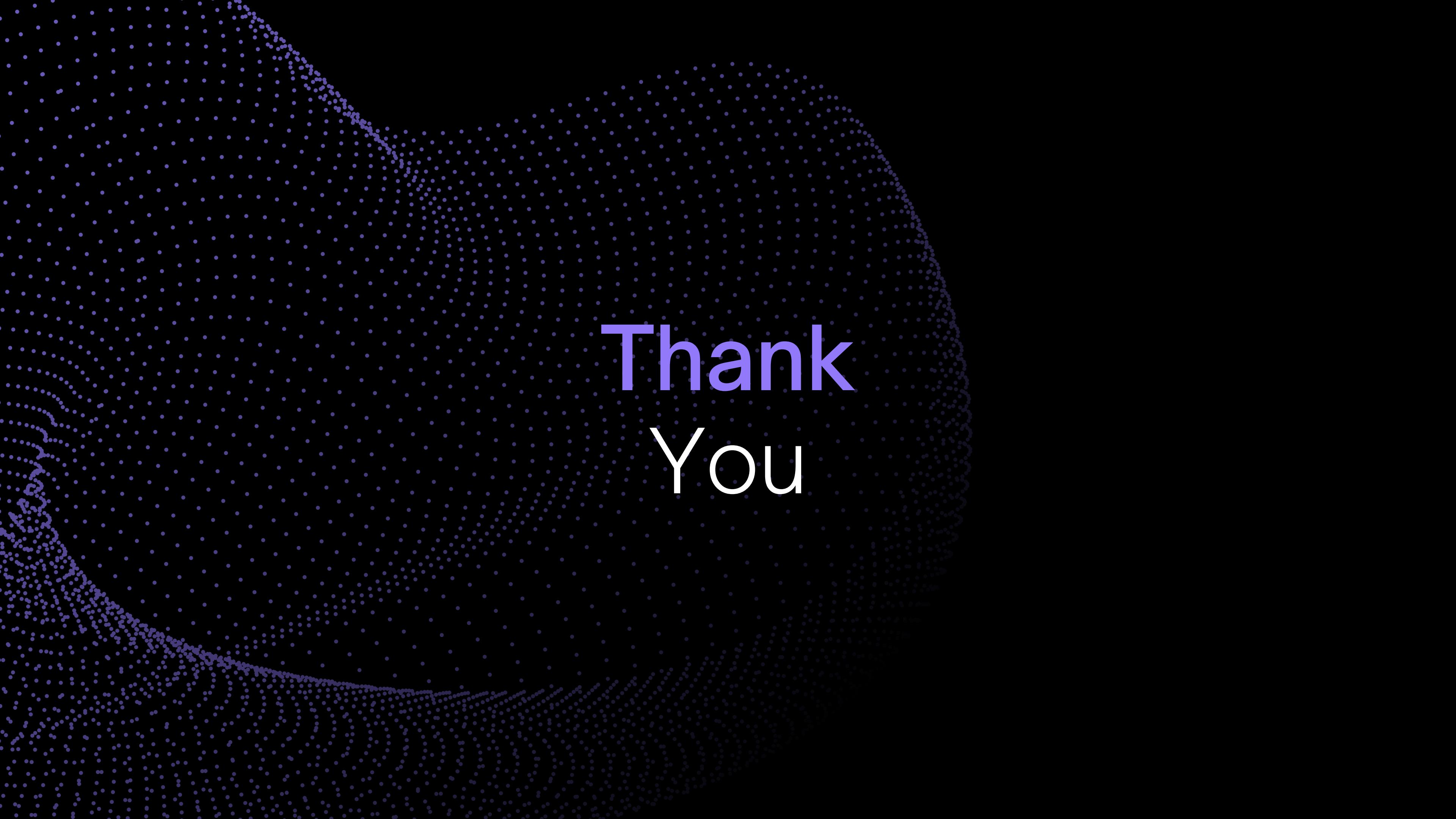
Project's potential impact on streamlining not only computer shop operations but also any Business Management, improving customer service, and contributing to the industry's technological advancement.

# References

- [1] S. Gupta Jain, S. Puri, A. Misra, S. Gulati, and K. Mani, “Effect of oral cinnamon intervention on metabolic profile and body composition of Asian Indians with metabolic syndrome: a randomized double -blind control trial,” *Lipids in Health and Disease*, vol. 16, no. 1, Jun. 2017, doi: <https://doi.org/10.1186/s12944-017-0504-8>.
- [2] “Kim, J. B., Wang, Z., & Zhang, L. (2016). CEO Overconfidence and Stock Price Crash Risk. *Contemporary Accounting Research*, 33, 1720-1749. - References - Scientific Research Publishing,” [www.scirp.org](http://www.scirp.org/reference/referencespapers?referenceid=2181579). <https://www.scirp.org/reference/referencespapers?referenceid=2181579> (accessed Feb. 04, 2024).
- [3] J. Sidlauskiene, Y. Joye, and V. Auruskeviciene, “AI-based chatbots in conversational commerce and their effects on product and price perceptions,” *Electronic Markets*, vol. 33, no. 1, May 2023, doi: <https://doi.org/10.1007/s12525-023-00633-8>.



Do you have  
any questions?



Thank  
You