

Automated Artificial Intelligent
Customer Service Assistant
(AAICS)

Github:

<https://github.com/ZaraPezi/Software-Project-Management/tree/main>

Presented by:

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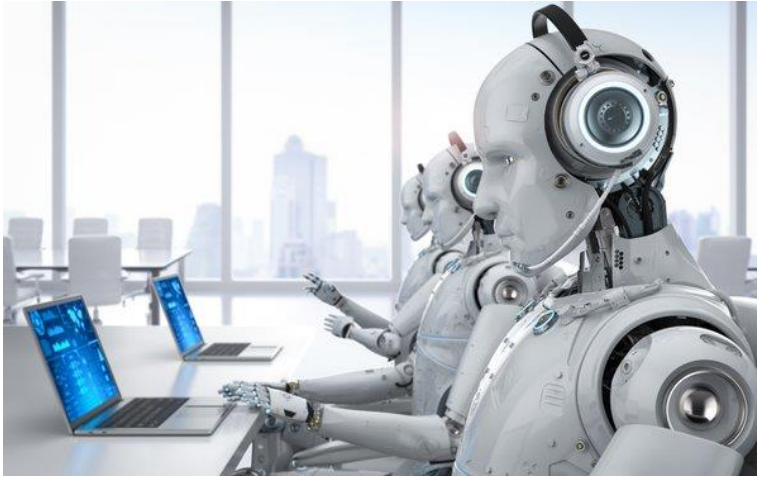
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Introduction



Traditional customer service tools struggle to:

- meet the diverse needs of modern consumers
- resulting in frustration
- Inefficiency
- missed opportunities.
- Traditional chatbots often fall short, leaving customers dissatisfied and businesses struggling to keep up with evolving demands.

- ✓ AAICS promises to revolutionize customer service operations, particularly within banking and finance, by leveraging NLP, Speech Recognition, and Machine Learning technologies.
- ✓ The challenge presents an opportunity to redefine customer service, bridge the gap between businesses and customers, and establish a new standard for excellence.



Introduction



Goal

❖ Revolutionizing Customer Service Operations



Problem

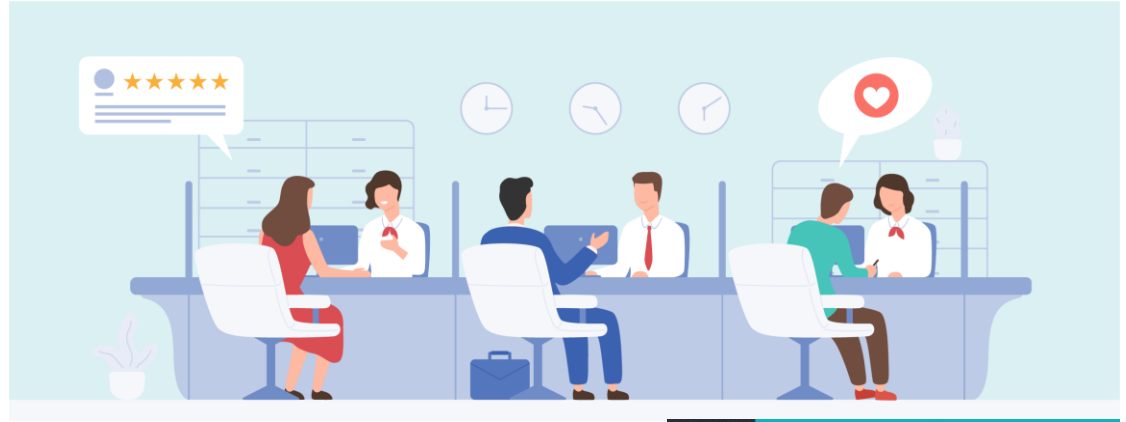
- Inefficiencies and limitations of traditional customer service approaches
- Struggles with handling complex inquiries, language barriers, and maintaining context
- Potential frustration, delays, and dissatisfaction experienced by customers
- Particularly prominent within the financial and banking sectors
- Reflects the need for a more advanced and effective solution to meet evolving customer needs



Opportunity

- Revolutionizing Customer Service
- Overcoming Limitations
- Enhancing Customer Experience
- Improving Operational Efficiency
- Expanding Across Industries

Application Areas(Current Scope)

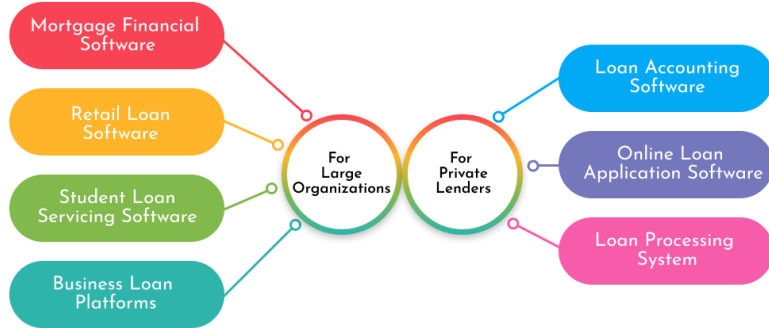


Banking Services



Application Areas(Current Scope)

Main Types of Loan Management System



Digital Loan Management System



Credit and Loan Management

Application Areas(Current Scope)



Investment Management



Investment and Wealth Management

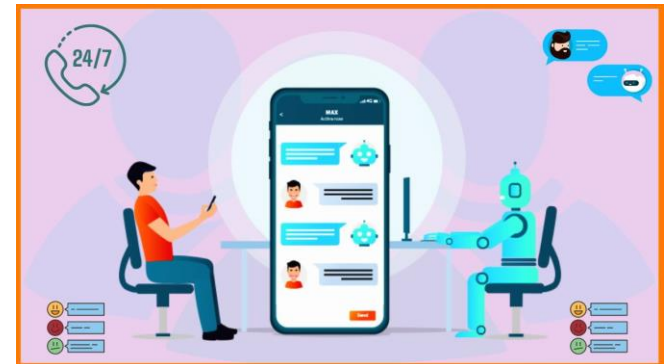
Traditional vs AAICS

Problem

- Based on traditional and outdated approaches
- Fail to satisfy customer needs
- Results in dissatisfaction and inefficiency

Opportunity

- Introducing AAICS, a smarter solution to understand, process, evaluate and respond to user queries efficiently.
- Goal to enhance customer service in real-time
- Help businesses



Software Solutions

NLP & Speech Recognition

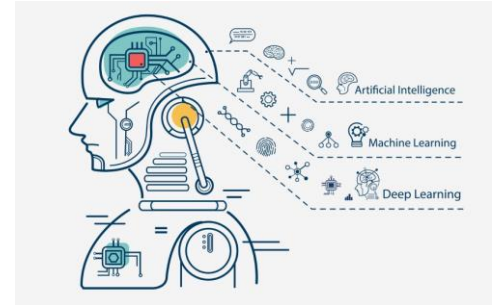
- ❖ Better understanding of customer queries
- ❖ Ability to accurately interpret, process, and manage customer queries by adapting to various linguistic nuances and accents

Machine Learning & Deep Learning

- ❖ Adaptive learning from customer interactions
- ❖ Handles complex conversations

Business Operations Integrations

- ❖ Tailored, relevant, and personalized responses to customers using company data



Software Solutions

User-Friendly UI

- ✓ Easy for both customers and agents

Seamless Human Escalation

- ✓ Transition conversations to human agents seamlessly, when needed

Quality Control, Continuous Feedback & Improvement

- ✓ Feedback-driven refinement
- ✓ Continuous optimization and improvement through feedback
- ✓ Ensure quality control and reliability

Scalability & Performance

- ✓ Ready for high volumes and new features
- ✓ High available and reliable
- ✓ Seamless integration of new features

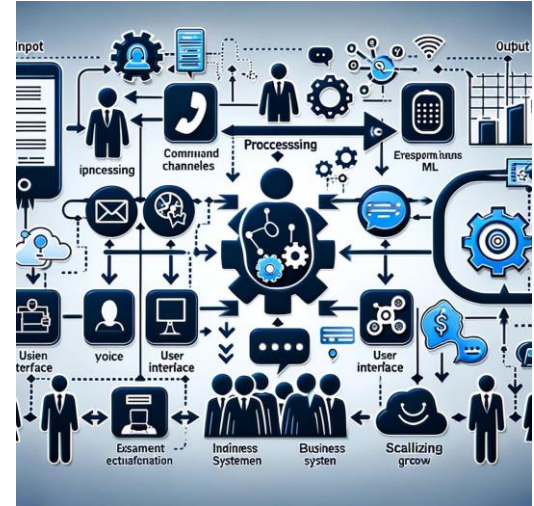


Workflow

Input: Accepts customer inquiries through various channels (voice, text, etc.)

Processing: Leverages advanced AI & ML to understand, process, and respond to inquiries with high accuracy and relevance

Output: Delivers precise, understandable, and helpful responses to customer inquiries, enhancing satisfaction and efficiency

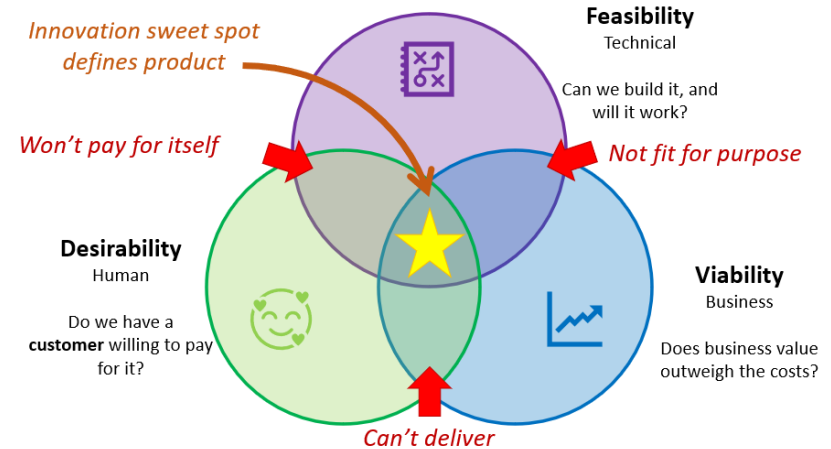
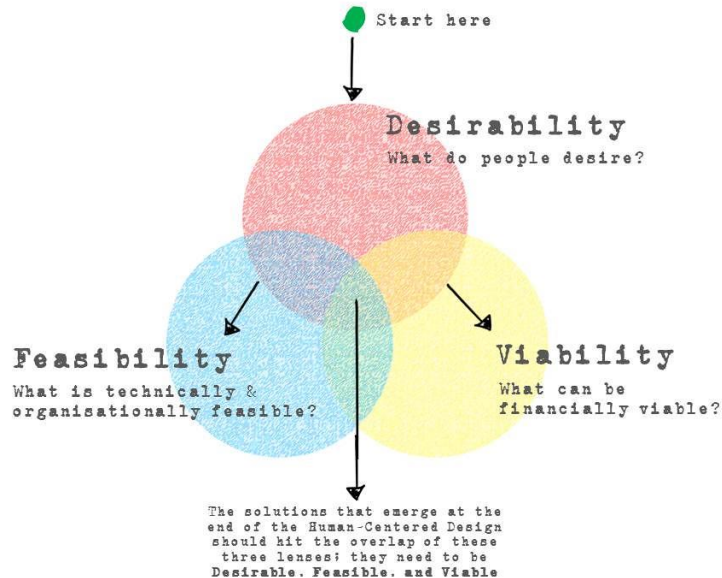


Workflow

- Systems provides user friendly interface to both agents and customers.
- System is designed to integrate with existing business systems seamlessly and scale to accommodate growing customer service demands

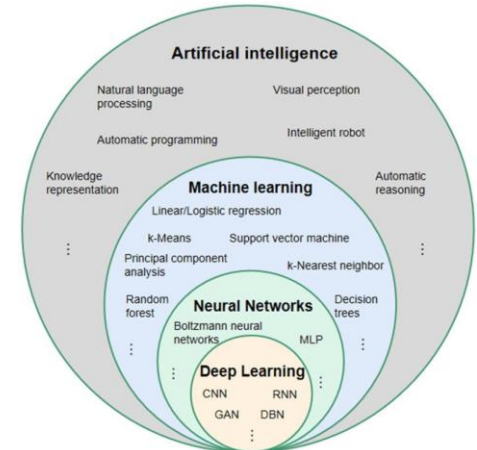
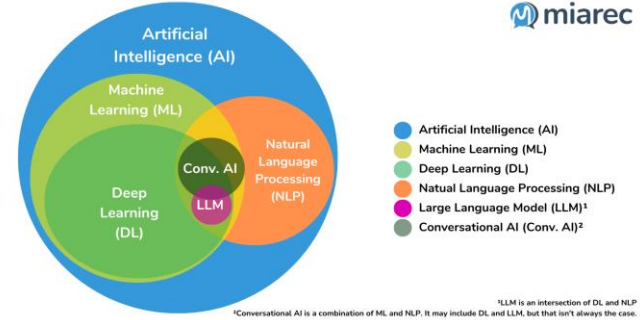
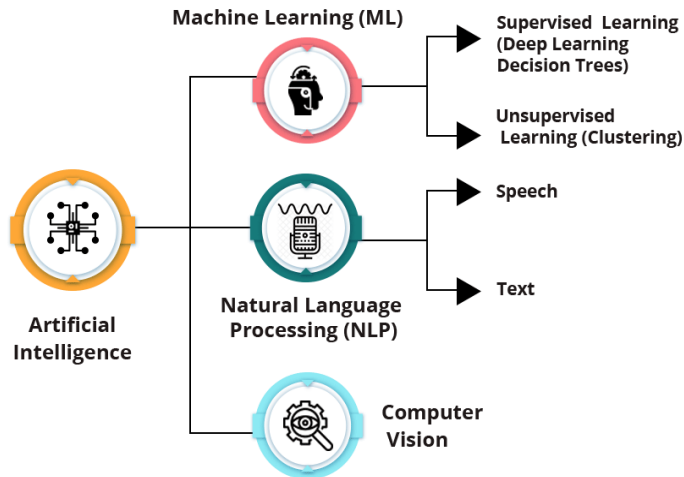
Feasibility and Viability

Objective: Evaluate the feasibility of AAICS across technical, operational, and economic dimension



Technical Feasibility Overview

- ✓ Necessity for advanced technologies: Natural Language Processing (NLP), Machine Learning (ML) / Deep Learning (DL), Backend, Frontend (Mobile or Web), Databases, and more
- ✓ Challenges in achieving high accuracy across languages and accents.
- ✓ Importance of data quality for ML / DL model effectiveness .



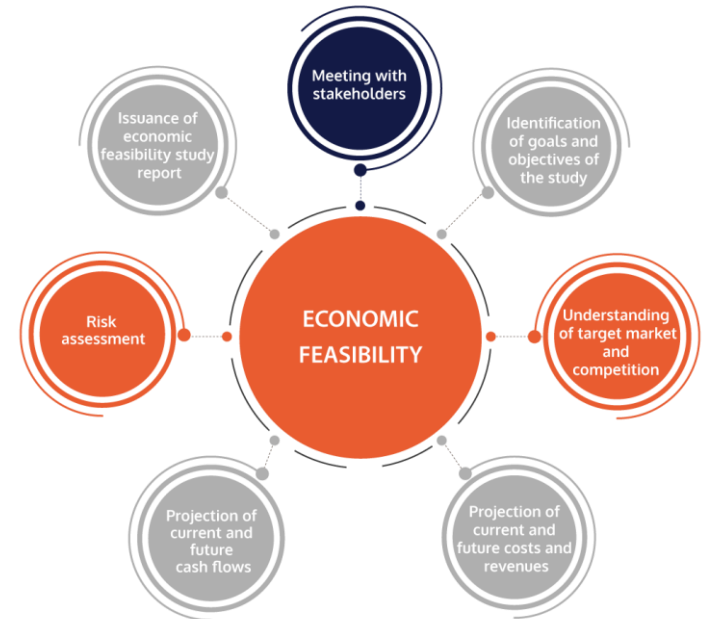
Operational Feasibility Overview

- Adjustments required in current operational workflows
- Training needs for staff to manage and intervene AI system operations
- Integration with existing business systems like CRM and databases



Economic Feasibility Overview

- Initial investment vs long-term savings in labor costs and improved customer satisfaction
- Scalability of cloud-based AI and ML services to reduce infrastructure costs
- Detailed cost-benefit analysis necessity for specific organizational context



Project Plan



Perform Project Research



Finalize a Formal Project Plan



Assemble Your Team



Define Your Project's Success Measurements



Define Your Scope and Goals



Employ Your Risk Management Plan



Review Your Budget



Create and Share Project Information



Estimate Your Schedule



Execute and Monitor Progress

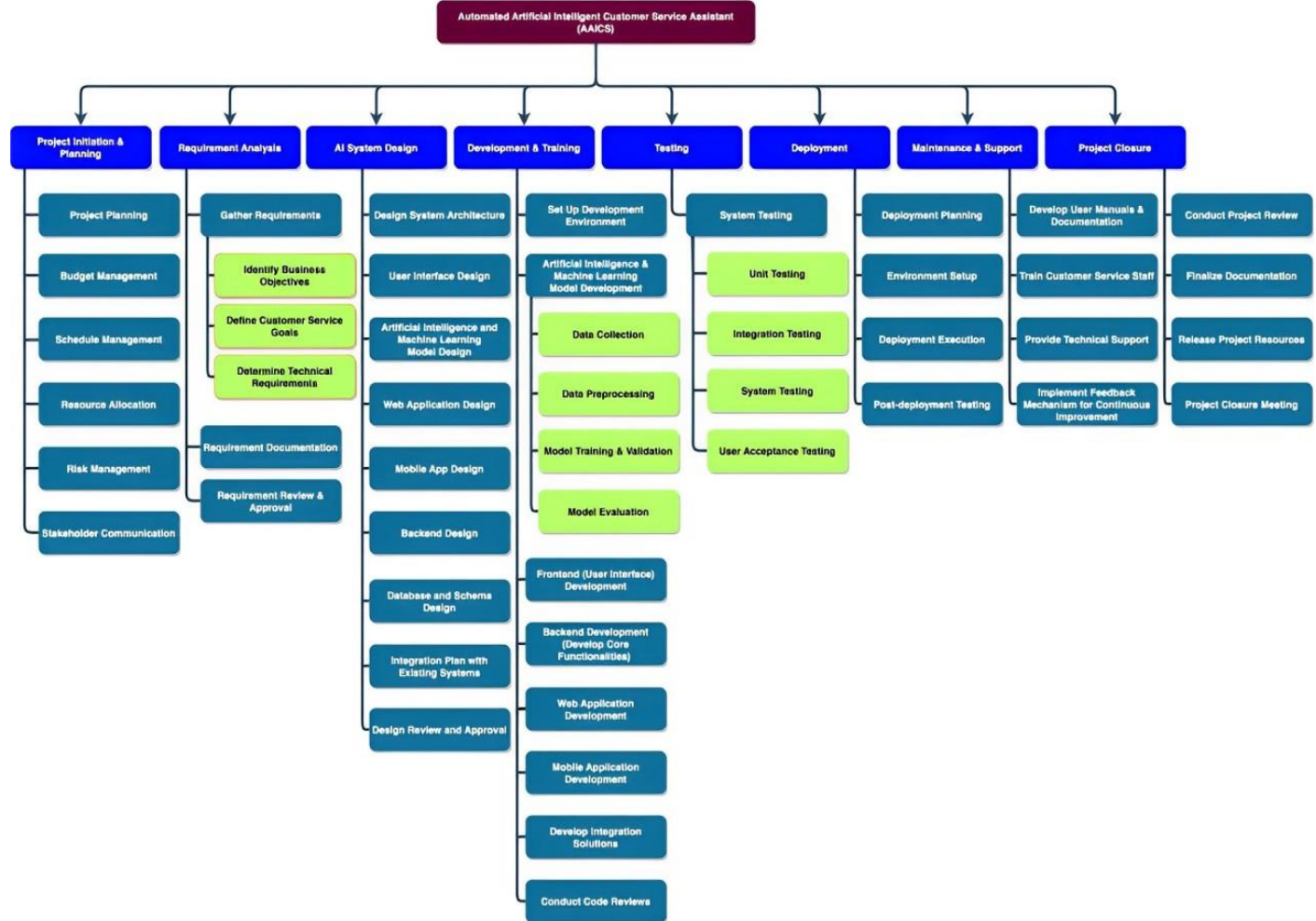


Create a Work Breakdown Structure



Confirm Completion and Close Out Project

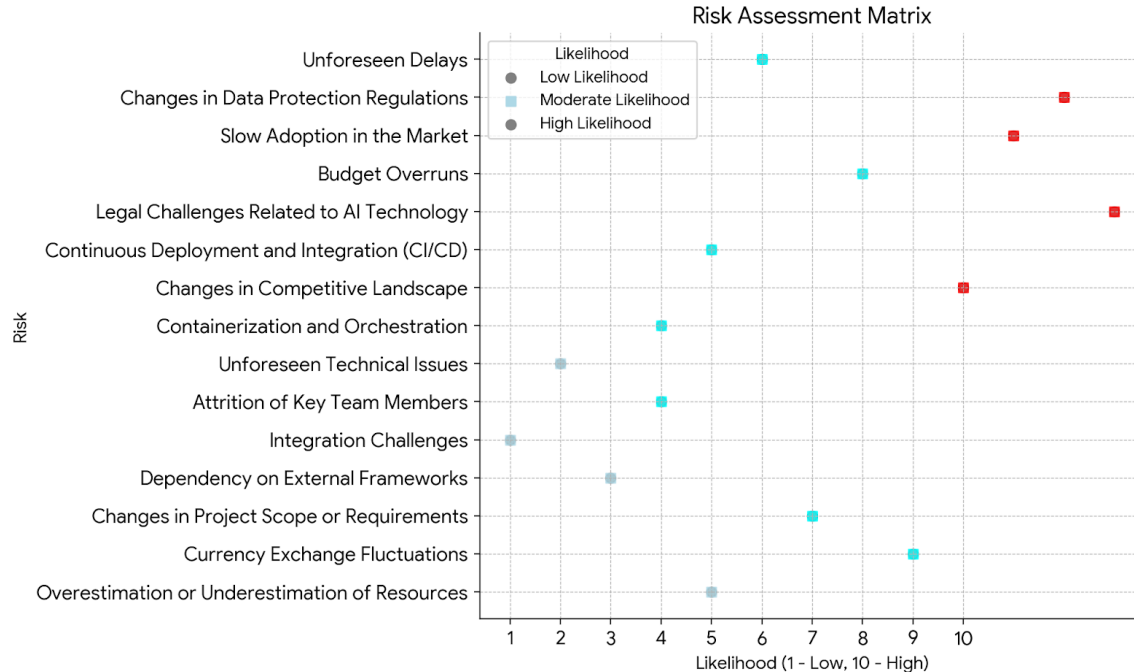
Work Break Down Structure (WBS)



WBS

Risk Management : Types and Impact

By considering both likelihood and impact, you can prioritize risks and allocate resources for mitigation efforts. For example, a risk with a high likelihood and high impact should be addressed first, even if there are other risks with a higher impact but lower likelihood.

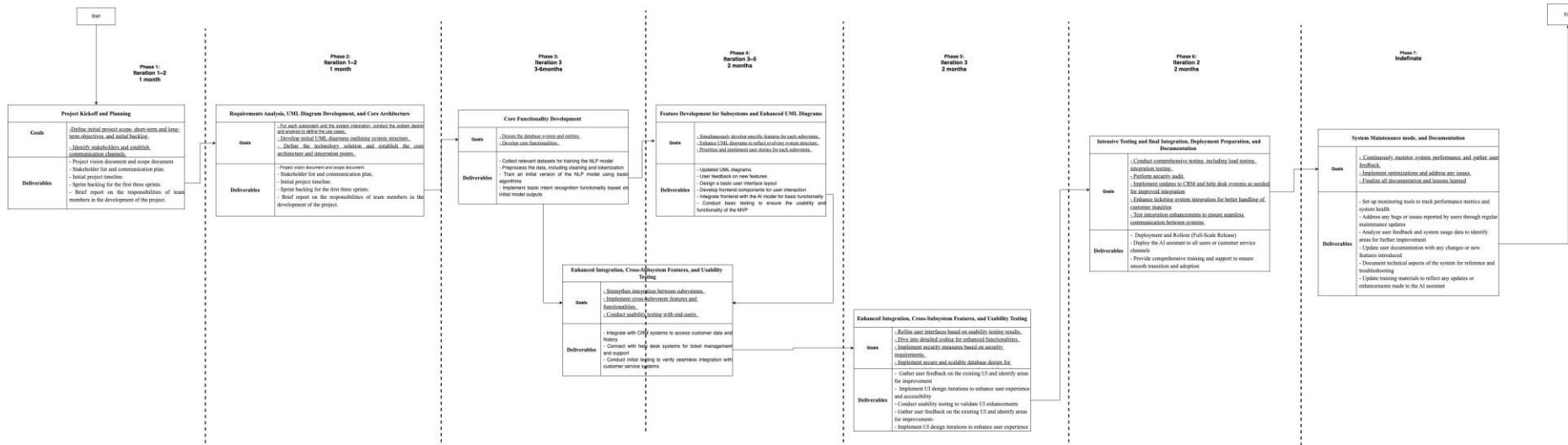


Risk Management



Milestone for each iteration

Automated Artificial Intelligent Customer Service Assistant



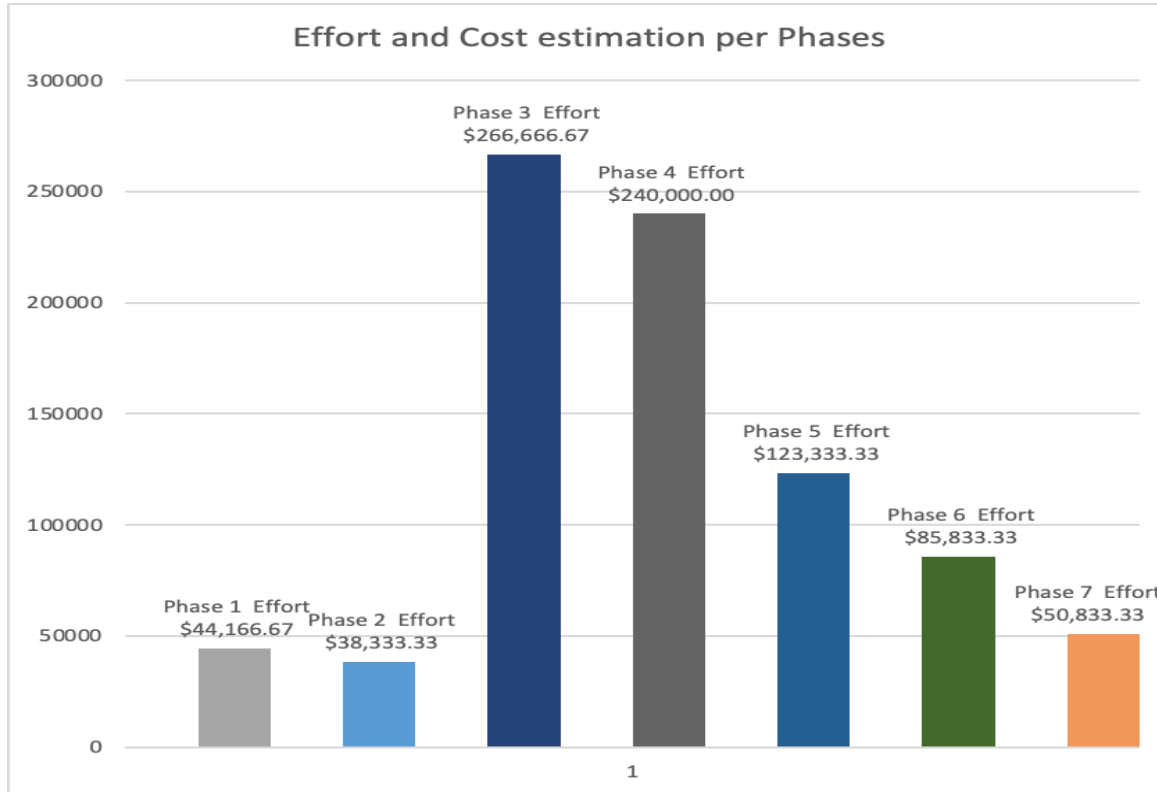
Resource Planning

Position	Head Count& Experience	Responsibility
Project Manager	1	Overall project planning, coordination, and execution. Stakeholder communication and management.
NLP/Speech Recognition Specialists	3	To develop algorithms and models to interpret and process human language and speech. Design systems that enable computers to understand, analyze, and generate natural language.
	Mid-Senior level	
Solution Architect	1	Provide the overall system architecture. Develop high-level design and integration strategies. Oversee technical aspects of the project
	Senior Level	
ML/DL Engineers	2	Develop and implement machine learning and deep learning models to solve complex problems across various domains
	Mid-Senior level	
UI/UX Designers	2	Create wireframes and prototypes. Improve the design based on internal and external feedback. Work closely with front-end developers.
	Mid level	
Integration Specialists	2	Integrate various software systems, applications, and technologies to ensure seamless communication and functionality, analyze requirements, design integration solutions, and implement them to enable
	Senior level	

Position	Head Count&	Responsibility
QA Engineer	1	Develop and execute test plans in every sprint. Perform regression, integration and acceptance testing. Work in concert with developers to
	Mid level	
Deployment Specialist	1	Build and maintain the system infrastructure. Implement CI/CD process. Ensure the scalability, high availability, reliability, and
	Senior level	
Training Specialist	1	To provide customer training on the system after deployment.
	Mid-level	
Documentation Specialist	1	Provide documentation of the APIs and knowledge journals.
	Mid-level	
Support Engineers	2	To support customer needs and keep track of the customer's issues.
	Mid-level	
Business Analyst	1	Gather and document functional and non-functional requirements. Conduct user interviews and workshops. Collaborate with
	Mid-level	
Marketing Manager	1	To manage all the marketing aspects and meet monthly quotes.
	Mid-level	
Marketing Specialists	1	To connect to different consumers, do market analysis.
	Mid-level	

[illegible]

Budget & Costing



Phases 3 and 4 likely have the most costly man-months because they involve significant development efforts and iterations to create and refine the core functionality and features of the AI customer service assistant.

Total budget with contingency plan

Total Cost	\$ 2,240,000.00
Office expenses	\$ 336,000.00
Miscellaneous Expenses	\$ 10,000.00
Contingency	\$ 20,000.00
Total Cost	\$ 2,606,000.00

Conclusion

AAICS has advantage such as:

- Adapt to various languages and accents
- Understand complex inquiries
- Fulfilling customer's Request
- Maintain and manage contextual conversations
- Enable smooth handoffs to human agents.
- Personalize customer interactions
- Learn and improve continuously

Our Project:

- ❖ The projects will be developed in iterations, each lasting 9-12 months.
- ❖ With total cost including resource + other expense+ contingency: \$2,606,000.00



Thank you so
much for your
attention

