
SUPPORT CHATBOT: AN AGILE PROJECT MANAGEMENT PLAN

Version 6.0

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VERSION HISTORY

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1.0	Cathy Millan	10/29/2023	Professor	10/30/2020	Updates to Sections 1 & 2
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Note to the Author

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- 5. Before submission of the first draft of this document, delete this “Notes to the Author” page and all instructions to the author, which appear throughout the document as blue italicized text enclosed in square brackets.]*

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1. INTRODUCTION

1.1 Purpose Of Project Management Plan

The purpose of the project management plan (PMP) for the "development of a customer support chatbot" is to provide a comprehensive document that outlines the key aspects of the project and serves as a reference for all project stakeholders. This includes the project sponsor, senior leadership, and the project team. The PMP will define the project's objectives, scope, assumptions, constraints, and stakeholder roles, ensuring a shared understanding of the project's goals and parameters. The intended audience of the Chatbot PMP are all project stakeholders including the project sponsor, senior leadership, and the project team.

2. EXECUTIVE SUMMARY OF PROJECT CHARTER

Chapter Project Name:

Development Of a Customer Support Chatbot

Project Description:

The project aims to create a sophisticated customer support chatbot capable of handling basic customer queries, guiding users through troubleshooting processes, and escalating issues to human agents when necessary. The chatbot will be seamlessly integrated into the company's website and mobile application, enhancing the overall user experience, and streamlining customer support operations.

Project Duration:

The project is scheduled to be completed within a 7-week timeframe, emphasizing the need for efficiency and timely delivery.

Overall High-Level Budget:

Budget constraints are in place to ensure cost-effectiveness, limiting the extent of external tools or services that can be utilized. The specific budget figures are outlined in the project's financial plan.

Purpose Of the Project:

The project is being undertaken to address several key objectives:
Enhanced Customer Support: To improve the effectiveness of customer support operations by providing customers with a responsive and efficient digital assistant available 24/7.

Efficiency And Speed:

To minimize customer, wait times and expedite query resolution by automating responses to standard inquiries.

Resource Optimization:

To reduce the workload on human support agents, allowing them to focus on resolving more complex issues and providing personalized assistance.

Continuous Improvement:

To leverage machine learning and natural language processing to enable the chatbot to continuously learn and improve its responses, providing a better experience over time.

Relevant Project Information:

The project assumes the availability of adequate resources, including both human and technological resources. It relies on the expertise of a development team comprising machine learning experts, software developers, and chatbot specialists. The access to existing customer support data will be crucial for training the chatbot effectively. The project will prioritize integration with the current customer support system without the need for significant system

overhauls. Stakeholder support and involvement throughout the project lifecycle are essential for its success. Legal and compliance considerations, particularly regarding data privacy and security, will be diligently addressed. This project is vital for improving customer satisfaction, reducing support costs, and maintaining competitiveness in the market by offering a state-of-the-art customer support experience. It aligns with the organization's commitment to leveraging technology for enhancing customer interactions and service quality.

2.1 Assumptions/Constraints

Assumptions

- Adequate resources (both human and technological) will be available throughout the project duration.
- The team possesses the necessary skills and knowledge in machine learning, natural language processing, and chatbot development.
- Access to existing customer support data for training the chatbot will be available.
- Integration with the current customer support system will be feasible without significant overhauls.
- The project will receive continuous support from stakeholders.

Constraints

- The project must be completed within a 7-week timeframe.
- Budget constraints limit the extent of external tools or services that can be utilized.
- The chatbot's accuracy and effectiveness are dependent on the quality and quantity of the training data available.
- The project is dependent on the availability of key personnel, including machine learning experts and chatbot developers.

3. SCOPE MANAGEMENT

The project's scope management plan will ensure that all necessary work (and only the necessary work) is included to complete the project successfully. This plan outlines the work definition, verification, and control procedures to be used for the project. It includes the WBS, the Change Control Management, and the Deployment Plan.

3.1 WORK BREAKDOWN STRUCTURE

Below is an example of what the WBS might look like. The tasks are numbered, and dependencies are noted. "Resource" refers to the person or team responsible for the task. The start and end dates are placeholders and should be updated according to your project schedule.

Task 1. Project Planning

- Dependencies: None
- Resources: Project Management Team
- Start Date: 2023-06-01
- End Date: 2023-06-03
- Notes: Initial project setup, including goals and objectives

Task 2. Stakeholder Identification

- Dependencies: 1.0
- Resources: Project Manager
- Start Date: 2023-06-03
- End Date: 2023-06-04
- Notes: Identify all project stakeholders

Task 3. Project Charter Development

- Dependencies: Task 2 (Stakeholder Identification)
- Resources: Project Manager, Senior Leadership Team
- Start Date: 2023-06-05
- End Date: 2023-06-07
- Notes: Create a project charter that outlines the project's objectives, scope, key stakeholders, identified risks, and overall approach. This document serves as a formal authorization for the project.

Task 4. Project Management Plan Creation

- Dependencies: Task 3 (Project Charter Development)
- Resources: Project Manager, Project Coordinator
- Start Date: 2023-06-08
- End Date: 2023-06-12
- Notes: Develop a comprehensive project management plan covering aspects such as scope management, schedule, budget, quality, human resources, communications, risk management, and procurement.

Task 5. Communication Plan Development

- Dependencies: Task 4 (Project Management Plan Creation)
- Resources: Project Manager, Communications Officer
- Start Date: 2023-06-13
- End Date: 2023-06-14

- Notes: Establish a communication plan outlining the communication strategy, including stakeholders' communication needs, information to be communicated, methods of communication, and the frequency of communication updates.

Task 6. Scope Definition

- Requirement Gathering
- Dependencies: 2.0
- Resources: Business Analyst
- Start Date: 2023-06-02
- End Date: 2023-06-05
- Notes: Define project scope in detail

Task 7. Scope Documentation

- Dependencies: 3.0
- Resources: Business Analyst
- Start Date: 2023-06-05
- End Date: 2023-06-07
- Notes: Document detailed project scope

WBS Development

Task 8. WBS Draft Creation

- Dependencies: 4.0
- Resources: Project Coordinator
- Start Date: 2023-06-06
- End Date: 2023-06-08
- Notes: Develop first draft of WBS

Task 9. WBS Review and Feedback

- Dependencies: 5.0
- Resources: Project Management Team
- Start Date: 2023-06-09
- End Date: 2023-06-10
- Notes: Review WBS and incorporate feedback

Task 10. Finalize WBS Structure

- Dependencies: Task 12
- Resources: Project Coordinator
- Start Date: 2023-06-17
- End Date: 2023-06-19
- Notes: Finalize the overall structure of the WBS, ensuring that all components of the project are logically organized and accounted for.

Task 11. WBS Validation & Stakeholders

- Dependencies: Task 13
- Resources: Project Manager, Key Stakeholders
- Start Date: 2023-06-20
- End Date: 2023-06-22
- Notes: Present the final WBS to key stakeholders for validation, ensuring that it aligns with their expectations and project objectives.

Task 12. Integration of WBS into Project Management Tools

- Dependencies: Task 14
- Resources: IT Department, Project Coordinator
- Start Date: 2023-06-23
- End Date: 2023-06-25
- Notes: Integrate the finalized WBS into project management tools and software for better tracking and coordination. Ensure that the tool allows for easy updates and tracking of progress against the WBS.

Task 13. WBS Component Review and Adjustments

- Dependencies: Task 12 (WBS Review and Feedback)
- Resources: Project Coordinator, Key Team Members
- Start Date: 2023-06-26
- End Date: 2023-06-28
- Notes: Review each component of the WBS for clarity, completeness, and alignment with project goals. Make necessary adjustments based on team input and insights.

Task 14. Assigning Resources to WBS Tasks

- Dependencies: Task 13 (WBS Component Review and Adjustments)
- Resources: Project Manager, Department Heads
- Start Date: 2023-06-29

- End Date: 2023-07-01
- Notes: Assign specific resources, including personnel and material resources, to each task in the WBS. This step is crucial for resource allocation and planning.

Task 15. Establishing WBS Task Milestones

- Dependencies: Task 14 (Assigning Resources to WBS Tasks)
- Resources: Project Manager, Project Coordinator
- Start Date: 2023-07-02
- End Date: 2023-07-04
- Notes: Identify and establish key milestones within the WBS. This includes defining major deliverables and critical points in the project timeline, which will aid in tracking progress and managing deadlines.

Software Development

Task 16. Detailed Feature Specification

- Dependencies: Task 15 (Integration of WBS into Project Management Tools)
- Resources: Business Analyst, Development Team
- Start Date: 2023-07-05
- End Date: 2023-07-07
- Notes: Develop detailed specifications for each feature of the chatbot, including functionality, user interface design, and technical requirements.

Task 17. Sprint Planning

- Dependencies: Task 16 (Detailed Feature Specification)
- Resources: Scrum Master, Development Team
- Start Date: 2023-07-08
- End Date: 2023-07-10
- Notes: Plan development sprints, outlining the specific features to be developed in each sprint and setting sprint goals.

Task 18. Development Sprint 1

- Dependencies: Task 17 (Sprint Planning)
- Resources: Development Team
- Start Date: 2023-07-11
- End Date: 2023-07-28
- Notes: Execute the first development sprint, focusing on implementing features according to the sprint plan.

Task 19. Development Sprint 2

- Dependencies: Task 18 (Development Sprint 1)

- Resources: Development Team
- Start Date: 2023-07-29
- End Date: 2023-08-15
- Notes: Execute the second development sprint, incorporating additional features and improvements.

Task 20. Code Review and Integration (Sprint 1&2)

- Dependencies: Task 18 (Development Sprint 1), Task 19 (Development Sprint 2)
- Resources: Lead Developer, Code Reviewers
- Start Date: 2023-08-16
- End Date: 2023-08-22
- Notes: Conduct code reviews for code produced in the first two sprints and integrate changes into the main codebase.

Task 21. Development Sprint 3

- Dependencies: Task 20 (Code Review and Integration)
- Resources: Development Team
- Start Date: 2023-08-23
- End Date: 2023-09-09
- Notes: Execute the third development sprint, implementing remaining features and enhancements.

Task 22. Development Sprint 4

- Dependencies: Task 21 (Development Sprint 3)
- Resources: Development Team
- Start Date: 2023-09-10
- End Date: 2023-09-27
- Notes: Execute the fourth development sprint, focusing on fine-tuning and optimization.

Task 23. User Interface (UI) Testing

- Dependencies: Task 22 (Development Sprint 4)
- Resources: QA Team, UI/UX Designers
- Start Date: 2023-09-28
- End Date: 2023-10-04
- Notes: Conduct UI testing to ensure that the chatbot's user interface is intuitive and user-friendly.

Task 24. Integration Testing

- Dependencies: Task 23 (User Interface Testing)
- Resources: QA Team, Development Team
- Start Date: 2023-10-05
- End Date: 2023-10-11
- Notes: Test the integration of various chatbot components to ensure seamless functionality.

Task 25. Security Testing

- Dependencies: Task 24 (Integration Testing)
- Resources: Security Experts, QA Team
- Start Date: 2023-10-12
- End Date: 2023-10-18
- Notes: Conduct security testing to identify and address vulnerabilities in the chatbot's code.

Task 26. Performance Testing

- Dependencies: Task 25 (Security Testing)
- Resources: Performance Testers, QA Team
- Start Date: 2023-10-19
- End Date: 2023-10-25
- Notes: Test the chatbot's performance under various load conditions to ensure it can handle user interactions efficiently.

Task 27. Documentation Preparation

- Dependencies: Task 26 (Performance Testing)
- Resources: Development Team, QA Team
- Start Date: 2023-10-26
- End Date: 2023-11-01
- Notes: Address and resolve any identified bugs and optimize the chatbot's performance.

Task 28. User Acceptance Testing (UAT) Preparation

- Dependencies: Task 27 (Bug Fixing and Optimization)
- Resources: Technical Writers, Development Team
- Start Date: 2023-11-02
- End Date: 2023-11-08
- Notes: Prepare user and technical documentation for the chatbot, including user guides and technical manuals.

Task 29. Deployment Package Preparation

- Dependencies: Task 29 (UAT Preparation)
- Resources: Deployment Team, Development Team
- Start Date: 2023-11-16
- End Date: 2023-11-22
- Notes: Prepare the deployment package, including all necessary files and instructions for deploying the chatbot to production.

Task 30. Requirements Analysis

Task 31. User Requirements Gathering

- Dependencies: Task 15 (Integration of WBS into Project Management Tools)
- Resources: Business Analyst, End Users
- Start Date: 2023-07-05
- End Date: 2023-07-10
- Notes: Gather user requirements through interviews, surveys, and feedback sessions to understand user expectations.

Task 32. Technical Requirements Analysis

- Dependencies: Task 31 (User Requirements Gathering)
- Resources: Business Analyst, Development Team
- Start Date: 2023-07-11
- End Date: 2023-07-17
- Notes: Analyze technical requirements, including system integration and performance expectations.

Task 33. Requirements Documentation

- Dependencies: Task 32 (Technical Requirements Analysis)
- Resources: Business Analyst, Technical Writers
- Start Date: 2023-07-18
- End Date: 2023-07-24
- Notes: Document both user and technical requirements comprehensively for use in the development phase.

Task 34. Review and Validation Requirements

- Dependencies: Task 33 (Requirements Documentation)
- Resources: Business Analyst, QA Team
- Start Date: 2023-07-25
- End Date: 2023-07-31

- Notes: Review and validate gathered requirements with stakeholders to ensure accuracy and alignment with project goals.

Task 35. Final Requirements sign-off

- Dependencies: Task 34 (Review and Validation of Requirements)
- Resources: Project Manager, Stakeholders
- Start Date: 2023-08-01
- End Date: 2023-08-05
- Notes: Obtain formal sign-off from stakeholders to confirm the accuracy and completeness of requirements before proceeding to development.

F. Design Specification

Task 36. Design Document Preparation

- Dependencies: Task 35 (Final Requirements Sign-Off)
- Resources: Software Architect, Design Team
- Start Date: 2023-08-06
- End Date: 2023-08-15
- Notes: Prepare a comprehensive design document outlining the technical architecture, database structure, and software components.

Task 37. UI/UX Design

- Dependencies: Task 36 (Design Document Preparation)
- Resources: UI/UX Designers, Design Team
- Start Date: 2023-08-16
- End Date: 2023-08-25
- Notes: Design the user interface and user experience elements of the chatbot, including wireframes and mockups.

Task 38. Design Review and Approval

- Dependencies: Task 37 (UI/UX Design)
- Resources: Project Manager, Stakeholders
- Start Date: 2023-08-26
- End Date: 2023-08-30
- Notes: Conduct a review of the design documents and obtain approval from stakeholders.

Task 39. Technical Design Implementation

- Dependencies: Task 38 (Design Review and Approval)
- Resources: Development Team, Software Architect

- Start Date: 2023-08-31
- End Date: 2023-09-10
- Notes: Implement the technical design specifications into the chatbot's codebase.

Task 40. Design Documentation

- Dependencies: Task 39 (Technical Design Implementation)
- Resources: Technical Writers, Development Team
- Start Date: 2023-09-11
- End Date: 2023-09-17
- Notes: Prepare documentation for the design specifications to guide developers and provide insights for future reference.

G. Coding

Task 41. Coding Sprint 1

- Dependencies: Task 40 (Design Documentation)
- Resources: Development Team
- Start Date: 2023-09-18
- End Date: 2023-10-05
- Notes: Execute the first coding sprint, implementing features based on design specifications.

Task 42. Coding Sprint 2

- Dependencies: Task 41 (Coding Sprint 1)
- Resources: Development Team
- Start Date: 2023-10-06
- End Date: 2023-10-23
- Notes: Execute the second coding sprint, incorporating additional features and code enhancements.

Task 43. Code Review and Integration (Sprint 1 and 2)

- Dependencies: Task 42 (Coding Sprint 2)
- Resources: Lead Developer, Code Reviewers
- Start Date: 2023-10-24
- End Date: 2023-10-30
- Notes: Conduct code reviews for code produced in the first two coding sprints and integrate changes into the main codebase.

Task 44. Coding Sprint 3

- Dependencies: Task 43 (Code Review and Integration)
- Resources: Development Team
- Start Date: 2023-10-31
- End Date: 2023-11-17
- Notes: Execute the third coding sprint, focusing on fine-tuning and adding remaining features.

Task 45. Code Optimization

- Dependencies: Task 44 (Coding Sprint 3)
- Resources: Development Team, Lead Developer
- Start Date: 2023-11-18
- End Date: 2023-11-25
- Notes: Optimize the codebase for performance and efficiency.

H. Testing

Task 46. Unit Testing

- Dependencies: Task 45 (Code Optimization)
- Resources: QA Team, Development Team
- Start Date: 2023-11-26
- End Date: 2023-12-02
- Notes: Perform unit testing on individual code modules to identify and address defects.

Task 47. Integration Testing

- Dependencies: Task 46 (Unit Testing)
- Resources: QA Team, Development Team
- Start Date: 2023-12-03
- End Date: 2023-12-09
- Notes: Test the integration of chatbot components to ensure they work together seamlessly.

Task 48. System Testing

- Dependencies: Task 47 (Integration Testing)
- Resources: QA Team, End Users
- Start Date: 2023-12-10
- End Date: 2023-12-16
- Notes: Conduct comprehensive system testing to verify the chatbot's functionality and performance.

Task 49. User Acceptance Testing (UAT)

- Dependencies: Task 48 (System Testing)
- Resources: End Users, QA Team
- Start Date: 2023-12-17
- End Date: 2023-12-23
- Notes: Involve end users in UAT to ensure the chatbot meets their expectations and needs.

Task 50. Testing Report and Issue Resolution

- Dependencies: Task 49 (User Acceptance Testing)
- Resources: QA Team, Development Team
- Start Date: 2023-12-24
- End Date: 2023-12-31
- Notes: Compile testing results, identify and resolve any issues, and prepare a testing report.

Task 51. Final Testing Sign-Off

- Dependencies: Task 49 (User Acceptance Testing)
- Resources: Project Manager, Stakeholders
- Start Date: 2024-01-01
- End Date: 2024-01-05
- Notes: Obtain formal sign-off from stakeholders to confirm the successful completion of testing and readiness for deployment.

I. Advanced Development

Task 52. API Integration

- Dependencies: Task 42 (Coding Sprint 3)
- Resources: Software Developers
- Start Date: 2023-11-18
- End Date: 2023-11-22
- Notes: Integrate essential APIs for enhanced functionality.

Task 53. Data Migration

- Dependencies: Task 50 (API Integration)
- Resources: Database Administrators
- Start Date: 2023-11-23
- End Date: 2023-11-27
- Notes: Migrate existing customer data to the new system safely.

Task 54. Task 52. Chatbot Training with AI

- Dependencies: Task 51 (Data Migration)
- Resources: AI Specialists
- Start Date: 2023-11-28
- End Date: 2023-12-04
- Notes: Train the chatbot using AI and machine learning algorithms with existing data.

J. Finalization and Optimization

Task 55. Task 53. Performance Optimization

- Dependencies: Task 52 (Chatbot Training with AI)
- Resources: Developers, Performance Engineers
- Start Date: 2023-12-05
- End Date: 2023-12-09
- Notes: Optimize chatbot performance for efficiency and speed.

Task 56. Task 54. Final Security Enhancements

- Dependencies: Task 53 (Performance Optimization)
- Resources: Security Experts
- Start Date: 2023-12-10
- End Date: 2023-12-14
- Notes: Implement final security enhancements and encryption methods.

Task 57. Task 55. Load Testing

- Dependencies: Task 54 (Final Security Enhancements)
- Resources: QA Team
- Start Date: 2023-12-15
- End Date: 2023-12-19
- Notes: Perform load testing to ensure stability under high traffic.
- J. Deployment Preparation

Task 58. Deployment Strategy Planning

- Dependencies: Task 55 (Load Testing)
- Resources: Project Manager, IT Specialists
- Start Date: 2023-12-20
- End Date: 2023-12-24
- Notes: Plan the strategy for deploying the chatbot to production.

Task 59. Final User Acceptance Testing (UAT)

- Dependencies: Task 56 (Deployment Strategy Planning)
- Resources: End Users, QA Team
- Start Date: 2023-12-25
- End Date: 2023-12-29
- Notes: Conduct final UAT to ensure readiness for deployment.

Task 60. Deployment Checklist Completion

- Dependencies: Task 57 (Final UAT)
- Resources: Project Coordinator
- Start Date: 2023-12-30
- End Date: 2024-01-03
- Notes: Complete all items on the deployment checklist to ensure no steps are missed.
- K. Deployment and Post-Deployment

Task 61. Production Deployment

- Dependencies: Task 58 (Deployment Checklist Completion)
- Resources: IT Department
- Start Date: 2024-01-04
- End Date: 2024-01-08
- Notes: Deploy the chatbot to the production environment.

Task 62. Post-Deployment Monitoring

- Dependencies: Task 59 (Production Deployment)
- Resources: IT Monitoring Team
- Start Date: 2024-01-09
- End Date: 2024-01-13
- Notes: Monitor the system for any immediate issues post-deployment.

L. Post-Deployment Activities

Task 63. Feedback Collection

- Dependencies: Task 60 (Post-Deployment Monitoring)
- Resources: Customer Support Team
- Start Date: 2024-01-14
- End Date: 2024-01-18
- Notes: Collect user feedback for initial performance evaluation.

Task 64. Initial Data Analysis

- Dependencies: Task 63 (Feedback Collection)
- Resources: Data Analysts
- Start Date: 2024-01-19
- End Date: 2024-01-23
- Notes: Analyze user interactions and feedback for insights.

Task 65. First Iteration Improvements

- Dependencies: Task 64 (Initial Data Analysis)
- Resources: Development Team
- Start Date: 2024-01-24
- End Date: 2024-01-28
- Notes: Implement improvements based on initial data analysis.

Task 66. Chatbot Re-Training

- Dependencies: Task 65 (First Iteration Improvements)
- Resources: AI Specialists
- Start Date: 2024-01-29
- End Date: 2024-02-02
- Notes: Re-train the chatbot with new data and feedback.

Task 67. Second Round of UAT

- Dependencies: Task 66 (Chatbot Re-Training)
- Resources: QA Team, End Users
- Start Date: 2024-02-03
- End Date: 2024-02-07
- Notes: Conduct another round of user acceptance testing for the updated chatbot.

Task 68. Marketing Campaign Launch

- Dependencies: Task 67 (Second Round of UAT)
- Resources: Marketing Team
- Start Date: 2024-02-08
- End Date: 2024-02-12
- Notes: Launch marketing campaign to promote the enhanced chatbot.

Task 69. Continuous Performance Monitoring

- Dependencies: Task 68 (Marketing Campaign Launch)
- Resources: IT Monitoring Team

- Start Date: 2024-02-13
- End Date: Ongoing
- Notes: Establish continuous monitoring for ongoing performance evaluation.

Task 70. Ongoing User Feedback Collection

- Dependencies: Task 69 (Continuous Performance Monitoring)
- Resources: Customer Support Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Regularly collect and analyze user feedback.

Task 71. Monthly Performance Review

- Dependencies: Task 70 (Ongoing User Feedback Collection)
- Resources: Project Manager, Data Analysts
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Conduct monthly reviews to assess chatbot performance and identify areas for improvement.

Task 72. Quarterly Feature Updates

- Dependencies: Task 71 (Monthly Performance Review)
- Resources: Development Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Plan and implement quarterly updates to add new features and enhancements.

Task 73. Annual System Upgrade

- Dependencies: Task 72 (Quarterly Feature Updates)
- Resources: IT Department, Development Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Perform annual upgrades to the system for major improvements and to stay current with technology trends.

Task 74. Stakeholder Reporting

- Dependencies: Task 73 (Annual System Upgrade)
- Resources: Project Manager
- Start Date: Ongoing

- End Date: Ongoing
- Notes: Provide regular reports to stakeholders on project progress, performance metrics, and future plans.

Task 75. Project Closure and Documentation

- Dependencies: Task 74 (Stakeholder Reporting)
- Resources: Project Coordinator, Technical Writers
- Start Date: Determined by Project Timeline
- End Date: Determined by Project Timeline
- Notes: Formally close the project with complete documentation including lessons learned, final reports, and a comprehensive project summary.

Task 76. Stakeholder Feedback and Analysis

- Dependencies: Task 75 (Project Closure and Documentation), Risk: Stakeholder Conflicts
- Resources: Project Manager, Data Analysts
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Continuously gather and analyze stakeholder feedback for insights and future project improvements.

Task 77. Ongoing Quality Assurance

- Dependencies: Task 76 (Stakeholder Feedback and Analysis), Risk: Quality Assurance Challenges
- Resources: Quality Assurance Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Implement continuous quality assurance processes to maintain and improve project quality.

Task 78. Performance Optimization

- Dependencies: Task 77 (Ongoing Quality Assurance), Risk: Technology Risks
- Resources: Performance Engineers, Development Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Continuously optimize project performance for efficiency and speed.

Task 79. Security Monitoring and Enhancements

- Dependencies: Task 78 (Performance Optimization), Risk: Data Security Breach
- Resources: Security Experts, IT Security Team

- Start Date: Ongoing
- End Date: Ongoing
- Notes: Continuously monitor project security and implement enhancements to prevent data breaches.

Task 80. Regulatory Compliance Monitoring

- Dependencies: Task 79 (Security Monitoring and Enhancements), Risk: Regulatory Changes
- Resources: Legal Counsel, Compliance Team
- Start Date: Ongoing
- End Date: Ongoing
- Notes: Stay updated with regulations and ensure project compliance through ongoing monitoring and adjustments.

3.2 DEPLOYMENT PLAN

The deployment plan will involve a structured rollout of the software to the user base. This will include final user acceptance testing, migration of data, and training of end-users. The deployment will be done in stages to minimize work disruption and allow for any unforeseen issues to be addressed without affecting the entire user base. Many times, stakeholders and influencers funding and key personnel are the main keys to development plans success with management (Jonathan, 2013).

3.3 CHANGE CONTROL MANAGEMENT

Changes to the project scope will be managed through a formal change control process. This process includes:

- Submission of a change request form to the project manager.
- Review of the change request by the Change Control Board (comprising stakeholders and team leads).
- Approval or rejection of the request with documented reasons.
- Communication of the decision to the requestor and the project team.
- Update of project plans, schedules, and documentation to reflect the approved changes.

Change requests must be submitted in writing and include a detailed description of the proposed change, the rationale for the change, and the anticipated impact on the project's scope, schedule, cost, and quality. This structured approach ensures that all changes are considered carefully and that their impacts are understood.

4. STAKEHOLDER MANAGEMENT

Stakeholder Name	Stakeholder Title	Role on Project	Notes
Project Sponsor	Executive	Approving the project, securing	Approving the project, securing

SUPPORT CHATBOT: AN AGILE PROJECT

Project Manager	Project Manager	Orchestrating, implementing, and concluding the project; ensuring smooth project execution	In charge of project management.
Development Team	Machine Learning Experts, Software Developers, Chatbot Specialists	Responsible for building and implementing the chatbot.	Key technical contributors.
Quality Assurance Team	Quality Assurance Team	Ensuring the chatbot meets all quality standards and functions as intended	Ensuring chatbot quality.
Customer Support Team	Customer Support Specialists	Providing input on the types of queries the chatbot should handle and assisting in training the chatbot.	Ensuring chatbot aligns with support needs.
IT Department	IT Specialists	Ensuring proper chatbot integration with existing systems and providing technical support.	Responsible for technical aspects.
End Users	Customers	Interacting with the chatbot; providing feedback for continuous improvement.	Feedback is essential for chatbot enhancement.
Legal and Compliance Team	Legal and Compliance Specialists	Ensuring chatbot compliance with legal and regulatory requirements, particularly data privacy and security.	Ensuring legal and ethical compliance.

5. COST/BUDGET MANAGEMENT

5.1.Executive Summary

Chatbot Development Project - this project budget is aligned with the work breakdown structure (wbs) For the chatbot development project. It encompasses budgeted costs, contingency funds, and Milestones for each major task within the project.

Project Name: Chatbot Development Project

Project Manager: (Current Manager Slotted)

Project Start Date: 2023-06-01

Project End Date: 2024-12-31

5.2.Budget/Project Planning

Task 1: Project Planning

Budget: \$15,000

Completion: 2023-07-01 (1 Month)

Task 2: Stakeholder Identification

Budget: \$10,000

Completion: 2023-07-15 (1.5 Months)

Task 3: Project Charter Development

Budget: \$20,000

Completion: 2023-08-15 (2.5 Months)

Task 4: Project Management Plan Creation

Budget: \$15,000

Completion: 2023-08-16 (1 Day)

Task 5: Communication Plan Development

Budget: \$7,000

Completion: 2023-08-17 (1 Day)

5.3.Scope Definition

Task 6: Requirement Gathering

Budget: \$8,000

Completion: 2023-08-18-2023-08-21 (3 Days)

Task 7: SCOPE DOCUMENTATION

Budget: \$6,000

Completion: 2023-08-22 – 2023-08-25(3 Days)

5.4.Wbs Development

Task 8: Wbs Draft Creation

Budget: \$12,000

Completion: 2023-08-30 (3 Months)

Task 9: Wbs Review And Feedback

Budget: \$8,000

Completion: 2023-09-15 (3.5 Months)

Task 10: Finalize Wbs Structure
Budget: \$10,000
Completion: 2023-10-01 (4 Months)

5.5.WBSIntegration And Validation

Task 11: Wbs Validation & Stakeholders
Budget: \$15,000
Completion: 2023-10-15 (4.5 Months)
Task 12: Integration Of WBS Into Project Management Tools
Budget: \$12,000
Completion: 2023-11-01 (5 Months)
Task 13: WBS Component Review And Adjustments
Budget: \$10,000
Completion: 2023-11-15 (5.5 Months)

5.6.Resource Assignment And Milestones

Task 14: Assigning Resources To Wbs Tasks
Budget: \$25,000
Completion: 2023-12-01 (6 Months)
Task 15: Establishing Wbs Task Milestones
Budget: \$15,000
Completion: 2023-12-15 (6.5 Months)

5.7.Software Development

Task 16: Detailed Feature Specification
Budget: \$30,000
Completion: 2024-01-15 (7.5 Months)
Task 17: Sprint Planning
Budget: \$15,000
Completion: 2024-01-31 (8 Months)
Task 18: Development Sprint 1
Budget: \$40,000
Completion: 2024-03-01 (9 Months)
Task 19: Development Sprint 2
Budget: \$40,000
Completion: 2024-04-01 (10 Months)
Task 20: Code Review And Integration (Sprint 1 & 2)
Budget: \$20,000
Completion: 2024-04-15 (10.5 Months)
Task 21: Development Sprint 3
Budget: \$30,000
Completion: 2024-05-15 (11.5 Months)
Task 22: Development Sprint 4
Budget: \$30,000
Completion: 2024-06-15 (12.5 Months)

- Task 23: User Interface (Ui) Testing
 - Budget: \$20,000
 - Completion: 2024-07-01 (13 Months)
- Task 24: Integration Testing
 - Budget: \$20,000
 - Completion: 2024-07-15 (13.5 Months)
- Task 25: Security Testing
 - Budget: \$25,000
 - Completion: 2024-08-01 (14 Months)
- Task 26: Performance Testing
 - Budget: \$25,000
 - Completion: 2024-08-15 (14.5 Months)
- Task 27: Documentation Preparation
 - Budget: \$15,000
 - Completion: 2024-09-01 (15 Months)
- Task 28: User Acceptance Testing (Uat) Preparation
 - Budget: \$15,000
 - Completion: 2024-09-15 (15.5 Months)

5.8.Requirements Analysis

- Task 30: Requirements Analysis
 - Budget: \$10,000
 - Completion: 2024-10-01 (16 Months)
- Task 31: User Requirements Gathering
 - Budget: \$15,000
 - Completion: 2024-10-15 (16.5 Months)
- Task 32: Technical Requirements Analysis
 - Budget: \$12,000
 - Completion: 2024-11-01 (17 Months)
- Task 33: Requirements Documentation
 - Budget: \$15,000
 - Completion: 2024-11-15 (17.5 Months)
- Task 34: Review And Validation Requirements
 - Budget: \$10,000
 - Completion: 2024-12-01 (18 Months)
- Task 35: Final Requirements Sign-Off
 - Budget: \$5,000
 - Completion: 2024-12-15 (18.5 Months)

5.9.Design Specification

- Task 36: Design Document Preparation
 - Budget: \$20,000
 - Completion: 2025-01-15 (19.5 Months)
- Task 37: Ui/Ux Design
 - Budget: \$18,000

Completion: 2025-02-01 (20 Months)
Task 38: Design Review And Approval
Budget: \$12,000
Completion: 2025-02-15 (20.5 Months)
Task 39: Technical Design Implementation
Budget: \$22,000
Completion: 2025-03-01 (21 Months)
Task 40: Design Documentation
Budget: \$10,000
Completion: 2025-03-15 (21.5 Months)

5.10. Coding

Task 41: Coding Sprint 1
Budget: \$35,000
Completion: 2025-04-01 (22 Months)
Task 42: Coding Sprint 2
Budget: \$35,000
Completion: 2025-05-01 (23 Months)
Task 43: Code Review And Integration (Sprint 1 & 2)
Budget: \$15,000
Completion: 2025-05-15 (23.5 Months)

5.11. Testing

Task 44: Testing Sprint 1
Budget: \$30,000
Completion: 2025-06-01 (24 Months)
Task 45: Testing Sprint 2
Budget: \$30,000
Completion: 2025-07-01 (25 Months)
Task 46: Advanced Testing
Budget: \$40,000
Completion: 2025-08-01 (26 Months)
Task 47: Code Optimization
Budget: \$20,000
Completion: 2025-09-01 (27 Months)
Task 48: Final Security Enhancements
Budget: \$15,000
Completion: 2025-09-15 (27.5 Months)
Task 49: Load Testing
Budget: \$15,000
Completion: 2025-10-01 (28 Months)

5.12. Advanced Development

Task 50: Feature Enhancements
Budget: \$30,000

Completion: 2025-11-01 (29 Months)
Task 51: Performance Optimization
Budget: \$20,000
Completion: 2025-12-01 (30 Months)

5.13. Finalization And Optimization

Task 52: Deployment Strategy Planning
Budget: \$12,000
Completion: 2026-01-01 (31 Months)
Task 53: Final User Acceptance Testing (UAT)
Budget: \$15,000
Completion: 2026-01-15 (31.5 Months)
Task 54: Deployment Checklist Completion
Budget: \$8,000
Completion: 2026-02-01 (32 Months)

5.14. Deployment Preparation

Task 55: Production Deployment
Budget: \$25,000
Completion: 2026-03-01 (33 Months)
Task 56: Post-Deployment Monitoring
Budget: \$10,000
Completion: 2026-03-15 (33.5 Months)

5.15. Deployment And Post-Deployment

Task 57: Feedback Collection
Budget: \$8,000
Completion: 2026-04-01 (34 Months)
Task 58: Initial Data Analysis
Budget: \$10,000
Completion: 2026-04-15 (34.5 Months)
Task 59: First Iteration Improvements
Budget: \$15,000
Completion: 2026-05-01 (35 Months)
Task 60: Chatbot Re-Training
Budget: \$10,000
Completion: 2026-05-15 (35.5 Months)
Task 61: Second Round Of Uat
Budget: \$12,000
Completion: 2026-06-01 (36 Months)
Task 62: Marketing Campaign Launch
Budget: \$20,000
Completion: 2026-06-15 (36.5 Months)
Task 63: Continuous Performance Monitoring
Budget: \$12,000

Completion: 2026-07-01 (37 Months)
Task 64: Ongoing User Feedback Collection
Budget: \$8,000
Completion: 2026-07-15 (37.5 Months)
Task 65: Monthly Performance Review
Budget: \$10,000
Completion: 2026-08-01 (38 Months)
Task 66: Quarterly Feature Updates
Budget: \$15,000
Completion: 2026-08-15 (38.5 Months)
Task 67: Annual System Upgrade
Budget: \$20,000
Completion: 2026-09-01 (39 Months)
Task 68: Stakeholder Reporting
Budget: \$8,000
Completion: 2026-09-15 (39.5 Months)
Task 69: Project Closure And Documentation
Budget: \$10,000
Completion: 2026-10-01 (40 Months)

5.16. Finalized Projected Budget

Contingency fund: \$50,000 (5% of the total project budget)
Total project budget: \$650,000

5.17. Milestones

Project planning completion: 2023-08-01
Wbs development completion: 2023-11-30
Wbs integration and validation completion: 2024-02-29
Resource assignment and milestones completion: 2024-05-31
Software development completion: 2025-03-15
Requirements analysis completion: 2025-09-15
Design specification completion: 2025-03-15
Coding completion: 2025-05-15
Testing completion: 2025-10-01
Advanced development completion: 2025-12-01
Finalization and optimization completion: 2026-02-01
Deployment preparation completion: 2026-03-15
Deployment and post-deployment completion: 2026-05-15
Post-deployment activities completion: 2026-10-01

Note: budget figures are estimates and may be subject to change based on project requirements and unforeseen circumstances. Contingency funds are reserved for addressing unexpected issues during project execution.

6. QUALITY MANAGEMENT

In this crucial phase of the chatbot project, our Quality Management plan is structured to ensure the highest standard of deliverables, aligning with best practices in the field (Project Management Institute, 2017).

6.1 Quality Standards and Metrics

Consistency in Interaction: It is essential for the chatbot to deliver uniform and reliable interactions, a key factor in user satisfaction (Jones & Boucher, 2019).

Accuracy of Responses: The chatbot's ability to understand and correctly respond to queries is paramount. We aim to achieve a high rate of first-attempt accuracy.

User Interface Consistency: The visual and interactive elements of the chatbot will adhere to established design guidelines, ensuring a seamless user experience.

6.2 Quality Control Processes

Regular Inspections and Audits: To ensure the chatbot's algorithms perform optimally, we will conduct routine checks and evaluations.

Defect Tracking System: This will be in place to identify, fix, and re-evaluate any issues, ensuring continuous improvement in the chatbot's performance.

User Acceptance Testing (UAT): Extensive UAT will be performed to validate that the chatbot meets the end-users' needs and expectations.

6.3 Quality Assurance Methods

Comprehensive Testing: The development cycle will include rigorous testing stages to validate each part of the chatbot's functionality.

Detailed Documentation: All testing procedures and outcomes will be meticulously documented for future reference and traceability.

Traceability Matrix Utilization: This tool will be employed to ensure that all critical requirements have been addressed and are traceable throughout the development process.

6.4 Continuous Improvement

Feedback Loop Implementation: End-user feedback will be continuously gathered and utilized to refine and enhance the chatbot.

Performance Metrics Analysis: The performance of the chatbot will be regularly reviewed using various metrics to identify areas for further improvement.

7. COMMUNICATIONS MANAGEMENT

The communication plan is vital for this project to maintain transparency, facilitate stakeholder engagement, and ensure the project meets its goals within the set timelines. It will be designed to address the needs of both the project team and the stakeholders. Also, the importance of communication management is starting with coordination, easier for solving problems, sharing information that will help others in an easier way, and a more efficient way to solve conflicts such as jealous disagreements between coworkers (Pawan, 2021).

7.1 Communication Matrix

Responsible Party/ Situation	Audience	Vehicles of communication	Frequency	Medium	Feedback Mechanisms/ Notes
Project Manager / Weekly Status Update	Project Team, Stakeholders	Team meetings	Weekly, Mondays @ 9 am	Presentation, Verbal, Email	Questions via email or during the meeting
Business Analyst / Requirements change	Project Team	Email, Ad-hoc Meetings	As needed	Email, Document Sharing	Feedback through email or shared documents
IT Lead / Technical Issues	Development Team	Stand-up Meetings	Daily @ 10am	In-person, Verbal	Immediate verbal feedback: critical issues logged in issue tracker
QA Manager / Testing Outcomes	Project Manager, Developers	Bi-weekly Meetings	Every other Wednesday @ 11am	Verbal, Reports	Question & Answer session post-presentation
Training Coordinator / Training Sessions	End Users, Support Staff	Scheduled Training Sessions	As per Training Schedule	In-person, Hands-on	Feedback forms post- session; Q&A during session
Project Sponsor / Monthly Project Review	Executive Team	Monthly Review Meetings	Monthly, First Tuesday @ 3pm	Presentation, Verbal	Executive feedback form; open floor for Q&A
Change Manager / Change Requests	Change Advisory Board	Change Review Meetings	As required by change volume	Email, In- person	Approval or comments on change request form
Communication Officer / Newsletter	All Employees	Newsletter	Monthly	Email, PDF Document	Feedback via email; suggestions for next issue

8. RISK MANAGEMENT

Risk	Likelihood	Impact	Mitigation Strategy	Contingency
Scope Creep	Medium	High	Strict change control procedures, regular scope reviews, and stakeholder communication.	Additional resources allocated for scope changes if approved.
Technical Challenges	High	High	Detailed technical planning, early identification of challenges, and collaboration with experts.	Dedicated technical support team and extended project timeline.
Resource Constraints	Medium	High	Continuous resource monitoring, resource allocation adjustments, and resource sharing among tasks.	Cross-training team members and outsourcing if necessary.
Stakeholder Misalignment	Low	Medium	Regular stakeholder meetings, clear communication, and addressing concerns promptly.	Escalation plan for unresolved issues.
Data Security Breach	Medium	High	Stringent data security measures, encryption, and regular security audits.	Immediate response plan, data recovery procedures, and legal support.
Vendor/Supplier Issues	Low	Medium	Due diligence in vendor selection, contract reviews, and alternative supplier identification.	Rapid sourcing of alternative vendors if needed.
Regulatory Changes	Medium	High	Continuous monitoring of regulations, legal counsel, and proactive compliance measures.	Rapid response team for adapting to regulatory changes.
User Adoption	Medium	Medium	User training and education, feedback collection, and iterative improvements.	User support team and additional training resources.
Natural Disasters	Low	High	Data backup and disaster recovery plan, geographic redundancy, and insurance coverage.	Emergency response plan and temporary relocation if required.

9. PROCUREMENT MANAGEMENT/ HUMAN RESOURCE MANAGEMENT

9.1 Procurement Management Plan

The procurement management plan for the customer support chatbot project encompasses the acquisition of sophisticated software tools and platforms, including ai and machine learning platforms such as tensorflow and pytorch, chatbot development frameworks like microsoft bot framework and dialogflow, comprehensive integrated development environments, version control systems like git, and project management tools including jira and trello. Additionally, effective team collaboration will be facilitated using

tools like slack and microsoft teams. In terms of hardware, the plan involves procuring high-performance computing devices for the development team, various devices for thorough cross-platform testing, and cloud-based servers for hosting the chatbot and related databases. The project also integrates external services and contracts, which include engaging with specialized ai consultants, contracting design agencies for advanced ui/ux design, and securing legal services for compliance purposes. The procurement strategy is designed to ensure cost-effectiveness and efficiency, employing competitive bidding for

software and hardware procurement, performance-based contracts for external services, and leasing options for certain equipment to manage upfront costs effectively.

9.1.1 Software Tools and Platforms

- **AI and Machine Learning Platforms:** tools like TensorFlow, Pytorch for AI model development
- **Chatbot Development Frameworks:** Microsoft bot framework, Dialogflow for chatbot scripting and integration
- **Development Environments:** integrated development environments (ides) like visual studio, Pycharm
- **Version Control Systems:** git, for source code management
- **Project Management Tools:** Jira or Trello for tracking progress and agile management
- **Collaboration Tools:** Slack, Microsoft Teams for team communication

9.1.2 Hardware Resources

- **Development computers:** high-performance laptops or desktops for the development team
- **Testing devices:** various mobile devices and computers for cross-platform testing
- **Servers:** cloud-based servers (e.g., aws, azure) for hosting the chatbot and related databases

9.1.3 External services and contracts

- **Consultancy services:** engaging with ai and machine learning experts for specialized tasks
- **Ui/ux design services:** contracting design agencies for advanced interface design
- **Legal and compliance services:** for ensuring data privacy and regulatory compliance

9.1.4 Procurement strategies

- **Competitive bidding:** for software and hardware procurement to ensure cost-effectiveness
- **Performance-based contracts:** for external services, ensuring deliverables are met with predefined standards
- **Leasing of equipment:** where applicable, to reduce upfront costs and ensure up-to-date technology

9.2 Human resource management plan

The human resource management plan of the project focuses on assembling a skilled team consisting of a Project Manager, responsible for overseeing the project execution and resource allocation; Software Developers with expertise in AI, machine learning, and chatbot development; Quality Assurance Engineers tasked with ensuring product quality; UI/UX Designers to enhance user experience; and Business Analysts to align technical solutions with business objectives. Resource allocation will be managed dynamically, adapting to the

evolving needs of different project phases, supplemented by regular training sessions to keep the team abreast with the latest in technology and methodologies.

Performance management forms a core part of the plan, with regular reviews and assessments to ensure individual and team effectiveness. Collaboration tools will be employed to facilitate efficient teamwork and communication. The plan also outlines a resource acquisition strategy, which includes the recruitment of new talents and the use of contract staffing, particularly for specialized roles or to manage peak workload periods. This approach ensures that the project is well-staffed with the right mix of skills and expertise to meet its objectives efficiently.

9.2.1 Team Composition and Roles

- Project Manager: Overseeing project execution, resource allocation.
- Software Developers: Specializing in AI, ML, and chatbot development.
- Quality Assurance Engineers: For testing and ensuring product quality.
- UI/UX Designers: To design the user interface and enhance user experience.
- Business Analysts: To align technical solutions with business objectives.

9.2.2 Resource Allocation and Training

- Dynamic Resource Allocation: Adjusting team composition as per project phase.
- Continuous Training: Regular training sessions on the latest technologies and methodologies.

9.2.3 Performance and Collaboration

- Performance Reviews: Regular assessment of individual and team performance.
- Team Collaboration Tools: Utilization of tools like Microsoft Teams for effective collaboration.

9.2.4 Resource Acquisition

- Recruitment and Staffing: Hiring new talents or allocating existing staff based on project needs.
- Contract Staffing: Utilizing contract staff for specialized roles or peak periods.

Appendix A: Project Management Plan Approval

The undersigned acknowledge they have reviewed the *<Project Name>* **Project Management Plan** and agree with the approach it presents. Changes to this **Project Management Plan** will be coordinated with and approved by the undersigned or their designated representatives.

[List the individuals whose signatures are required for this project. Examples of such individuals are Business Steward, Project Manager or Project Sponsor. Add additional lines for signature as necessary. Although signatures are desired, they are not always required to move forward with the practices outlined within this document.]

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

APPENDIX B: CHARACTERISTICS OF A GOOD PM AND TEAM

[Include the characteristics of a good project manager and a good team in this section.]

APPENDIX C: SUMMARY OF SPENDING

[You may double-click on the table to edit it according to the information applicable to this project.]

Budget Item	PY-1	PY	CY	BY	BY + 1	BY + 2	BY + 3	BY + 4	Total
Planning:									
Budgetary Resources					\$ -	\$ -	\$ -	\$ -	\$0.00
Outlays					\$ -	\$ -	\$ -	\$ -	\$0.00
Development & Implementation of Project:									
Budgetary Resources					\$ -	\$ -	\$ -	\$ -	\$0.00
Outlays					\$ -	\$ -	\$ -	\$ -	\$0.00
Total, sum of stages:									
Budgetary Resources					\$ -	\$ -	\$ -	\$ -	\$0.00
Outlays					\$ -	\$ -	\$ -	\$ -	\$0.00
Operations & Maintenance:									
Budgetary Resources					\$ -	\$ -	\$ -	\$ -	\$0.00
Outlays					\$ -	\$ -	\$ -	\$ -	\$0.00
Total, all stages:									
Budgetary Resources					\$ -	\$ -	\$ -	\$ -	\$0.00
Outlays					\$ -	\$ -	\$ -	\$ -	\$0.00
Government FTE cost					\$ -	\$ -	\$ -	\$ -	\$0.00

PY: Previous Year; CY: Current Year; BY: Budget Year

APPENDIX D: PROJECT METHODOLOGY

[This is based on the specific project methodology that was selected in week 2. Note differences in this project plan versus what would be included in the specific project method selected. Please note: what's left out, what's extra, if you've modified this template how and why based on the methodology selected, and anything else of interest.]

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