

Project Design Phase
Problem – Solution Fit Template

Date	26 june 2025
Team ID	LTVIP2025TMID59401
Project Name	SmartSDLC – AI-Enhanced Software Development Lifecycle
Maximum Marks	2 Marks

Problem–Solution Fit Template (Customized for Your Project)

Problem–Solution Fit means identifying a real, validated problem faced by a specific customer segment and delivering a solution that genuinely addresses it. In the context of your project — an AI chatbot built with IBM Watsonx, FastAPI, and Streamlit — this fit is clearly visible.

Purpose (Applied to Your Project)

Solve complex problems in a way that fits the state of your customers

Your solution targets non-technical users (startups, small businesses, students) who want access to AI capabilities without the complexity of traditional AI integrations. You simplify that process using easy-to-use interfaces and pre-built integration logic.

Succeed faster and increase solution adoption by tapping into existing mediums and channels of behavior

Your project leverages familiar technologies like Streamlit (for UI), GitHub (for distribution), and IBM Cloud (for backend AI), which your customer segment already explores through tutorials and forums.

Sharpen your communication and marketing strategy with the right triggers and messaging

By highlighting "Low-cost AI integration", "No ML experience needed", and "Built with IBM Watson", you speak directly to pain points your users face — encouraging faster trust and adoption.

Increase touchpoints with your company by finding the right problem-behavior fit

Frequent user needs like chatbot automation, query handling, and AI-powered generation are addressed directly. Your caching and secure token handling features eliminate frequent friction points.

Understand the existing situation in order to improve it for your target group

Your understanding of constraints — like budget, complexity, and lack of clarity — led to a lightweight, open-source solution that directly fills the gap for entry-level users and small teams.

Template:

Problem Solution Fit

1.Customer Segments Software developers, project managers, tech teams working with PDF-based requirement documents in medium to large software companies.	4. Emotions Before: Overwhelmed, frustrated, delayed, under pressure. After: Confident, relieved, productive, in control.	7. Behavior + Intensity - Teams rely heavily on manual review of PDF documents. - Frequent rework and version mismanagement. - Moderate to high frustration from inefficiency.
2. Problems / Pains - Manually analyzing lengthy requirement documents takes time. "Make sure the requirements are accurate." - Misclassification of SDLC phases. - Delays in pr	5. Solutions - Manual SDLC planning via spreadsheets. - Text annotation using basic NLP tools. PDCons: Time-consuming, error-prone, lacks AI precision.	8. Channels of Behavior Online: GitHub, Jira, Google Drive, company knowledge bases. Offline: Stand-up meetings, printed documentation, whiteboard planning.
3.Triggers to Act - Need to reduce project onboarding and planning time. Time wasted manually sorting through lengthy documents. - Shift toward AI-powered developm	6. Customer Limitations - Limited AI knowledge. - Budget constraints for integrating enterprise solutions. Streamlined process to auto-classify content into	9. Problem Root / Cause - Lack of intelligent automation in requirement analysis. - No structured mapping between unstructured text and SDLC phases.