

Project Design Phase

Problem – Solution Fit Template

Date	15 February 2025
Team ID	LTVIP2025TMID29410
Project Name	Smart SDLC using Generative AI on IBM Cloud
Maximum Marks	2 Marks

Problem – Solution Fit :

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:


- ☐ Streamline and enhance the Software Development Life Cycle (SDLC) using Generative AI tools on IBM Cloud.
- ☐ Address inefficiencies, communication gaps, and manual effort within traditional SDLC models.
- ☐ Automate repetitive tasks (e.g., documentation, code generation, testing) and provide intelligent decision support throughout development phases.
- ☐ Reduce development cycle time while maintaining high code quality and adherence to compliance norms.

Template:

Problem-Solution Fit canvas
Purpose / Vision: _____
Version: _____

<div style="background-color: #f0f0f0; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">1. CUSTOMER SEGMENT(S) CS</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Dev teams, startups, IT project leads</div>	<div style="background-color: #f0f0f0; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">6. CUSTOMER LIMITATIONS <small>(e.g. budget, services)</small> CL</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Low AI skills, tight budget, legacy tools</div>	<div style="background-color: #f0f0f0; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">5. AVAILABLE SOLUTIONS <small>PROS & CONS</small> AS</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">JIRA, GitLab, AWS CodeGuru, manual</div>
<div style="background-color: #fff9c4; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">2. PROBLEMS / PAINS <small>• ITS FREQUENCY</small> PR</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Manual, repetitive, and time-consuming tasks. Delayed feedback cycles in development and testing.</div>	<div style="background-color: #fff9c4; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">9. PROBLEM ROOT / CAUSE RC</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Lack of intelligent automation in SDLC phases. Siloed toolchains and inconsistent workflows.</div>	<div style="background-color: #fff9c4; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">7. BEHAVIOR <small>• ITS INTENSITY</small> BE</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">High developer burnout due to overload. Reluctance to adopt new AI tools due to fear of errors</div>
<div style="background-color: #e8f5e9; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">3. TRIGGERS TO ACT TR</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Need faster delivery, reduce bugs</div>	<div style="background-color: #e8f5e9; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">10. YOUR SOLUTION SL</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;">Smart SDLC app in Python + Streamlit using IBM Cloud: auto-code, smart tests, AI risk alerts, deploy via IBM DevOps tools</div>	<div style="background-color: #e8f5e9; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">8. CHANNELS of BEHAVIOR</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;"> <div style="background-color: #e8f5e9; padding: 2px; margin-bottom: 5px;">ONLINE</div> <div style="border: 1px solid #ccc; padding: 5px; min-height: 40px;">GitHub, IBM Cloud</div> <div style="background-color: #e8f5e9; padding: 2px; margin-top: 5px;">OFFLINE</div> <div style="border: 1px solid #ccc; padding: 5px; min-height: 40px;">Team meetings, training</div> </div>
<div style="background-color: #e8f5e9; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">4. EMOTIONS <small>BEFORE / AFTER</small> EM</div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;"> Before: Frustrated After: Confident </div>		

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Problem	Solution
Manual SDLC processes, delays, inefficiency	Smart SDLC using Generative AI + IBM Cloud tools
Target Users	Benefits
Developers DevOps teams Project Managers	<ul style="list-style-type: none"> • Faster development cycles • Automated documentation & testing • AI-assisted decision-making
<div>      </div> <p>CI/CD pipelines</p>	