GenAI Framework Documentation

1.Problem Statement

Every year, crores of rupees meant to support Indian farmers are left untouched not because they don't need help, but because the system is just too far out of reach. Many farmers don't know what schemes exist, struggle to understand official language, or simply give up after seeing the mountain of paperwork. They often rely on word-of-mouth or middlemen and sometimes miss out completely. It's not a lack of effort on their part, but a system that isn't built for them. When the aid doesn't reach the people who grow our food, it's not just their loss it's everyone's. Fixing this problem means empowering millions to access what's already rightfully theirs**.**

2.Target Audience and Context

Our focus is on India's small and marginal farmers the ones who work the land every day, often with limited resources and even more limited support. Most of them speak only their local language, use basic phones, and aren't comfortable with online forms or portals. They're not online-savvy, but they know what they need: water, seeds, loans, insurance. The challenge is the system doesn't talk their language, literally or otherwise. By building something that speaks *to* them and *for* them, we can bridge this gap and finally bring these schemes to life on the ground

3.Use of GenAI

Generative AI is the heart of this solution making it intuitive, accessible, and tailored to each farmer's need. Advanced language models such as GPT-4o allow farmers to type or speak inquiries in their own language and receive responses in their native tongue. Saying, for instance, "माझ्या शेतासाठी कर्ज मिळेल का?" (Can I get a loan for my farm?), the system interprets the question, locates the appropriate government programs, determines the user's eligibility, and provides clear, understandable explanations of each step. It can even help fill out the forms with previously given information and list the necessary papers. This eliminates the need for farmers to rely on third parties or navigate perplexing websites. They receive individualized, transparent assistance directly from their phone. By memorizing specifics, the AI streamlines the process by reducing data entry. What was once difficult and irritating becomes simple with a nice discussion. GenAI makes complex government processes understandable and familiar, providing farmers the confidence and tools to claim what they deserve.

4.**Solution Framework**

KrishiSaathi is a voice-first GenAI assistant that makes it easier for Indian farmers to access government programs and subsidies. KrishiSaathi uses GPT-4o to comprehend the query and match it with pertinent schemes from a curated database, while Whisper converts voice to text and allows farmers to speak naturally in their native tongue. After that, it provides a list of necessary documents, explains eligibility requirements, and assists in automatically filling out the appropriate government form. The user receives a download link or SMS with the completed form. Using actual scheme data, our prototype illustrates this complete flow, from voice input to a filled-out form. KrishiSaathi uses voice and GenAI to simplify, make accessible, and make complicated government processes farmer-friendly.

5.Feasibility And Execution

Because of its scalable, modular architecture and the availability of strong open-source tools, KrishiSaathi is very feasible. Whisper handles voice-to-text, and GPT-4o makes sure that queries are understood correctly. Scheme data is manually selected and stored in a Firebase or JSON database, which can then be automatically scraped or expanded. Standard formats for government forms enable dependable auto-filling with PyMuPDF. In order to illustrate end-to-end flow, our prototype concentrates on a small number of crucial schemes; it can be expanded to accommodate additional languages, schemes, and states. Building a basic voice-activated user interface, integrating APIs, and testing with actual queries are all part of execution. This solution is useful, deployable, and expandable to other industries, including education, healthcare, and MSMEs**.**

6.Scalability and Impact

KrishiSaathi is made to be scalable across sectors, languages, and geographical areas. The system can readily expand to areas like healthcare, education, MSME support, and more after beginning with agricultural schemes. Because of its modular design, adding new schemes is as easy as updating the database. Low-literacy and regional users throughout India can use it thanks to voice input and multilingual GenAI. KrishiSaathi can help millions of farmers by being integrated into rural service centres or government portals. It decreases reliance on intermediaries, eliminates delays, and boosts trust by providing direct, knowledgeable access to subsidies. When implemented widely, KrishiSaathi could raise awareness of policies, boost the use of schemes, and encourage real digital inclusion in rural India.

7.Conclusion

This is more than just an app it’s a helping hand for farmers, powered by their voice and their language. By combining voice recognition, local language support, and GPT-powered guidance, we can break the barriers holding them back. Even a simple version voice query, scheme match, auto-filled form could start changing lives from Day 1. That’s the vision.