

Mobile Agro Advisory System Innovation Labs

Progress among rural communities is impeded by factors such as illiteracy, poor economic condition, technological anxiety towards IT infrastructure and lack of connectivity to the sources of information.

Providing farmers with innovative technology, to tap into scientific and agricultural knowledge sources meaningfully, can make a significant impact in rural scenarios. Towards this end, Tata Consultancy Services' (TCS) Mobile Agro Advisory System (mKRISHI) connects farmers with an ecosystem that empowers them to make efficient decisions about agriculture, drive profits, and conserve the environment.

Overview

Farmers require information on weather, soil, fertilizer and pesticide that are specific to their plot of land. They also need information and clarification about new types of seeds and crops that are available in the market. Further, local market price information for various agricultural produce is valuable to them. However, media broadcasts do not provide highly localized information. Culturally too, farmers only rely on their personal network for making crucial decisions related to fertilizer, irrigation, disease control, finance and so on. Our Mobile Agro Advisory System uses advances in information and communication technology (ICT) to address such issues. Farmers can now receive information on microclimate, local mandi (market) price, expert's advice, and other information relevant to them, on a mobile phone.

The mKRISHI application enable farmers to send queries, comprising of text, voice and pictures, specific to their land and crop to agricultural experts, using their mobile phones. The mKRISHI ecosystem provides an integrated view of the farmers profile, farming history, and the required farm parameters on a console at a remote location to an expert. Farmers can also send pictures of their crops and pests captured with mobile phone cameras; sensors provide farm specific soil and crop data, weather stations provide microclimate details and voice based querying system gives freedom to the farmers to ask any query in their local (natural) language. After analysis of the available information, the expert's advice on the farmer's query is provided on the farmer's mobile phone.

Benefits

The solution broadcasts best farming practices to each farmer, and provides organizations, NGOs, and the government a platform to exchange information with farmers. TCS Mobile Agro Advisory System is best suited for a rural audience, as it:

- **Breaks literacy barriers.** The solution has rich content and media formats, local language interfaces, voice messaging systems that are accessible to semi-literate and number-literate users.
- **Uses familiar technology:** The end user needs to use mobile phone which is more popular compared to computers in rural India.
- **Provides connectivity to the sources of information.** It provides a framework to connect farmers to the information relating to government policies, financial institutions, crop insurance, market prices, fungicides, pesticides, seeds and cold storage availability.
- **Improves social Interaction among rural community:** With the help of developed Rural-Net (R-Net), a mobile phone based social networking environment, rural masses can interact with each other by posting and browsing voice microblogs in any language of their choice. The application also provides news feeds in local language and information about cloud coverage, rainfall and temperature in easy to interpret graphical format. Currently R-Net is available in its two variants Gappa Goshti and Gappa Shappa, for Maharashtra-India and Punjab-India, respectively.
- **Inspires scalable business models.** The technical adaptations and the business model of the Agro Advisory System can be scaled to reach a large underserved population. It provides another channel for stakeholders in the agriculture sector to address the base of the pyramid market.

Why TCS

With our extensive domain experience, we understand the factors that can make communication successful in a rural environment. Our offering provides a solution that addresses crucial rural needs. The benefits are also from:

- **Cost effective, award winning mKRISHI and PIM2R solutions:** We use an internally developed and patented Interactive voice response (IVR) type platform called Packet interactive multimedia response (PIM2R) which uses the inexpensive data channel for transferring rich content. The Mobile Agro Advisory System has won national and international awards for its innovative use of technology.
- **An end to end Business Model:** Our Mobile Agro Advisory System shows how several stakeholders such as farmers, government, research institutes, agro based industries and content providers can be connected for mutual benefit.
- **Research at TCS Innovation Labs:** Mobile Agro Advisory System (mKRISHI) has evolved from the efforts of the TCS Innovation Labs Mumbai, which researches into mobile applications, wireless sensor networks, speech recognition and natural language processing areas, and has won international recognition for the same. TCS Innovation Labs nurture asset and solution development, and IPR generation. This helps TCS to conceptualize low cost innovative solutions.

About Tata Consultancy Services (TCS)

Tata Consultancy Services is an IT services, business solutions and outsourcing organization that delivers real results to global businesses, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled services delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development.

A part of the Tata Group, India's largest industrial conglomerate, TCS has over 160,000 of the world's best trained IT consultants in 42 countries. The company generated consolidated revenues of US \$6.3 billion for fiscal year ended 31 March 2010 and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at www.tcs.com.

Contact

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