**Krishi Samvardhan**

**PROJECT SYNOPSIS**

**BACHELOR OF TECHNOLOGY**

Computer Science and Engineering

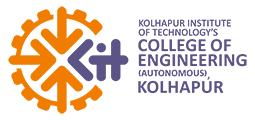
SY PBL Fundamentals of Web

(UCSCO309)

SUBMITTED BY

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| --- | --- | --- |
| Roll No. | Name | PRN |
| 03 | Rehan Bagwan | 2223000789 |
| 07 | Vaibhav Chaudhari | 2223000949 |
| 11 | Sharan Desai | 2223000746 |
| 20 | Atharva Kadam | 2223000061 |
|  |  |  |
|  |  |  |

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GUIDED BY

Mr. Vivek R. Ugale

Assistant Professor

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**Kolhapur Institute of Technology’s**

**College of Engineering (Autonomous), Kolhapur**

**Abstract**

A comprehensive agriculture website serves as a multifaceted platform, offering a diverse array of information and resources related to farming, cultivation, and agricultural practices. It encompasses a broad spectrum of topics, including crop cultivation techniques, livestock management, sustainable farming methods, agricultural technology, market trends, agribusiness insights, and environmental conservation practices. Through engaging content such as articles, guides, videos, and interactive tools, it aims to educate, inform, and empower farmers, agricultural professionals, enthusiasts, and the general public. This digital hub serves as a knowledge repository, facilitating discussions, sharing best practices, and fostering innovation within the agricultural community while addressing challenges and promoting the advancement and sustainability of global agriculture.

**1. Motivation**

Krishi Samvardhan websites are a valuable resource for farmers in India, providing information on various aspects of agriculture, including crop management, pest control, and market information. These websites have the potential to improve the lives of farmers in a number of ways, including:

* Increasing agricultural productivity: By providing farmers with access to accurate and up-to-date information, Krishi Samvardhan websites can help them to make more informed decisions about their farming practices. This can lead to increased crop yields and profits.
* Improving food security: By helping farmers to produce more food, Krishi Samvardhan websites can help to improve food security in India.
* Reducing rural poverty: By increasing the incomes of farmers, Krishi Samvardhan websites can help to reduce rural poverty.

In addition to these economic benefits, Krishi Samvardhan websites can also have a positive impact on the environment. By helping farmers to adopt sustainable farming practices, these websites can help to reduce pollution and protect natural resources.

The motivation for developing and maintaining Krishi Samvardhan websites is to support the agricultural sector in India and to improve the lives of farmers. These websites can play a vital role in helping India to achieve its goal of food security and sustainable development.

**2. Literature review**

The Krishi Samvardhan websites are a valuable resource for farmers in India, providing information on various aspects of agriculture, including crop management, pest control, and market information. However, the effectiveness of these websites depends on their usability and accessibility, which are largely determined by their front-end development.

This literature review aims to identify and analyze existing academic literature on front-end web development specifically related to Krishi Samvardhan websites. This review will focus on the following key areas:

* User-centered design principles: This will involve examining how Krishi Samvardhan websites can be designed to meet the needs and expectations of their target audience, which includes farmers with varying levels of literacy and technological expertise.
* Accessibility guidelines and standards: This will involve analyzing how Krishi Samvardhan websites can be made accessible to people with disabilities, ensuring that everyone has equal access to the information provided.
* Mobile-first development: This will explore how Krishi Samvardhan websites can be optimized for mobile devices, given the increasing use of smartphones and tablets in rural areas.
* Emerging technologies: This will examine how emerging technologies, such as artificial intelligence and voice recognition, can be used to improve the user experience of Krishi Samvardhan websites.

**3. Existing systems and their limitations**

1. Lack of user-centered design:

* Many Krishi Samvardhan websites are not designed with the needs of farmers in mind. The content is often text-heavy and difficult to understand, and the navigation can be confusing.

2. Limited accessibility:

* Many Krishi Samvardhan websites are not accessible to people with disabilities. This can be due to a lack of alt text for images, poor color contrast, and other accessibility issues.

3. Insufficient mobile optimization:

* With the increasing use of mobile devices, it is crucial for Krishi Samvardhan websites to be optimized for mobile devices.

4. Underutilization of emerging technologies:

* Emerging technologies, such as artificial intelligence and voice recognition, have the potential to significantly improve the user experience of Krishi Samvardhan websites.
* For example, AI-powered chatbots can provide farmers with real-time assistance, and voice recognition can make it easier for farmers to access information without having to type.

**4. Proposed system**

**Proposed system**

The proposed system could be funded by a variety of sources, including the government, non-profit organizations, and private businesses. The system could also be self-sustaining through advertising or subscription fees.The proposed system has the potential to be a valuable resource for farmers in India. By addressing the limitations of existing websites, the system could help to improve the lives of farmers and support sustainable agriculture.

**Advantages over Existing systems**

Several advantages can be gained from adopting new approaches in developing and maintaining Krishi Samvardhan websites. These advantages can overcome the limitations of existing systems and provide farmers with a more effective and user-friendly experience.

1. User-centered design:

* New approaches emphasize user-centered design principles, ensuring the websites are easy to navigate, understand, and utilize by farmers with varying literacy and technological knowledge.
* This can involve features like:
  + Simple and clear language: Avoiding jargon and technical terms.
  + Visual aids: Utilizing infographics, videos, and images to enhance understanding.
  + Interactive elements: Incorporating quizzes, polls, and chat features to engage users.
  + Personalized content: Tailoring information to individual needs based on location, crops grown, and specific interests.

2. Accessibility:

* New approaches prioritize accessibility, ensuring the websites are usable by people with disabilities.
* This can involve:
  + Alt text for images: Describing images for screen reader users.
  + Text-to-speech functionality: Converting text into audio for visually impaired users.
  + Keyboard accessibility: Ensuring all features are accessible using only a keyboard.
  + Color contrast: Implementing high contrast ratios for easy readability.

3. Mobile-first development:

* New approaches prioritize mobile-first development, recognizing the increasing use of smartphones and tablets among farmers.
* This ensures websites are optimized for smaller screens and touch interfaces, providing a seamless user experience on mobile devices.
* This can involve:
  + Responsive design: Adapting the website layout to different screen sizes.
  + Fast loading times: Optimizing images and code for faster loading on mobile networks.
  + Offline functionality: Enabling access to essential information even without an internet connection.

4. Utilization of emerging technologies:

* New approaches leverage emerging technologies like AI and voice recognition to enhance the user experience.
* This can involve:
  + AI-powered chatbots: Providing farmers with 24/7 assistance and answering questions in real-time.
  + Voice recognition: Allowing farmers to access information hands-free and in their preferred language.
  + Machine translation: Providing multilingual support for a wider audience reach.
  + Data analytics: Personalizing content and recommendations based on user behavior and preferences

**5. Aim of project**

**Aim**

Krishi Samvardhan aims to promote agricultural development by implementing various strategies, programs, or initiatives focused on enhancing agricultural productivity, sustainability, and the overall growth of the agricultural sector. Implementing practices, technologies, and methods to increase crop yields, improve livestock management, and enhance overall agricultural production.

**Objectives**

1. **Enhancing Agricultural Productivity:** Increasing crop yields, improving livestock production, and promoting efficient agricultural practices to raise overall productivity.
2. **Sustainable Farming Practices:** Encouraging the adoption of eco-friendly and sustainable agricultural methods to preserve natural resources, soil fertility, and biodiversity.
3. **Empowering Farmers:** Providing support, resources, training, and access to information and technology to empower farmers, improve their livelihoods, and make them self-reliant.
4. **Infrastructure Development:** Investing in agricultural infrastructure like irrigation systems, storage facilities, roads, and market linkages to improve accessibility and efficiency in the agricultural value chain.
5. **Market Access and Fair Pricing:** Facilitating better market access for farmers, establishing fair pricing mechanisms, and improving market linkages to ensure better returns for their produce.
6. **Research and Development:** Supporting agricultural research initiatives to develop improved seeds, technologies, and farming techniques suited to local conditions, aiming for innovation and progress in the sector.

**6. Methodology**

The methodology for Krishi Samvardhan websites should be based on the following principles:

* User-centered design: The website should be designed with the needs of farmers in mind. This includes considering their literacy levels, technological expertise, and language preferences.
* Accessibility: The website should be accessible to people with disabilities. This includes using clear and concise language, providing alt text for images, and using high contrast colors.
* Mobile-first development: The website should be optimized for mobile devices. This includes using a responsive design that adapts to the screen size of the device.
* Use of emerging technologies: Emerging technologies, such as artificial intelligence and voice recognition, can be used to improve the user experience of Krishi Samvardhan websites.

Specific steps for developing a Krishi Samvardhan website:

1. Conduct research: Gather information about the target audience, including their needs, interests, and challenges.
2. Develop a user persona: Create a fictional character that represents the target audience. This will help you to understand their needs and motivations.
3. Create a site map: Identify the key pages and sections of the website.
4. Design the website: Create wireframes and mockups to visualize the look and feel of the website.
5. Develop the website: Implement the website using a web development framework or CMS.
6. Test the website: Get feedback from farmers to ensure that the website is easy to use and meets their needs.
7. Promote the website: Let farmers know about the website and how they can use it.

Additional considerations for Krishi Samvardhan websites:

* Content: The website should provide accurate and up-to-date information on a variety of topics related to agriculture. The content should be written in a clear and concise way that is easy to understand.
* Language: The website should be available in multiple languages to reach a wider audience.
* Interactivity: The website should include interactive features that make it more engaging for farmers.
* Personalization: The website should personalize the content to the individual needs of farmers.
* Feedback: The website should have a feedback mechanism in place so that farmers can provide feedback on the website and suggest improvements.

By following these principles and steps, it is possible to create Krishi Samvardhan websites that are effective in reaching farmers and supporting sustainable agriculture in India.

**7. Requirements**

**Hardware requirements**

* Processor : core i3 and above
* Ram : 2 GB
* Hard disk : 2 GB

**Software requirements**

* Operating system : Windows or linux
* Software : Visual studio code
* Web – browser : Any web browser releasing after 2016

**8. References**

Reports

* National e-Governance Division (NeGD). (2022). Krishi Samvardhan portals: A review. Government of India.

Books

* Kulkarni, P., & Kulkarni, A. (2020). User-centered design for Krishi Samvardhan portals. Springer Nature.