FARMERS INTERACTIVE WEBSITE

Human Computer Interaction (CSE4015)

submitted by

JOSYULA SAI SHREESH

17BCE2176

in partial fulfillment for the award of the degree of

B.Tech

in

COMPUTER SCIENCE

VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

submitted to

Prof. Joshva Devadas

ACKNOWLEDGEMENT

With due regards, we would like to thank our faculty Prof. Joshva Devadas for continually supporting us in making our project work. Without his much needed support, it would have been impossible for us to carry out our work. His guidance laid the foundation for my project. At last, we would also like to thank VIT University for providing us the proper ambiance to carry out our project work successfully. We even learned to carry out a project in a group by dividing the workload.

Place: Vellore

Date: 6th JUNE, 2020

CONTENT

Module 1:

Creating Frontend - HTML, CSS, Javascript.

The Frontend is what is able to see and interact with it and it is the major and important part of the project.

Module 2:

Additional help for Frontent to connect with the Backend - Adding , JQuery, Bootstrap, Semantic UI into the frontend code and connecting it.

These are some additional resources that help to make the frontend programming more smooth and compatible for viewing in any device. Also going to add the google translate for the farmers in different countries.

Module 3:

Backend - NodeJs, Express, MongoDB.

Backend help to get information processes and save them on the server. Any information about the user and other pieces of information about the website is stored in the backend. A few of these softwares helps us to achieve the goal.

ABSTRACT

The project deals with the interaction of Farmers with our website. Farmers are those part of society that has very least amount of interaction with technology around them. This project deals with creating a website to solve their agricultural problem and making a seamless interface for easy and efficient use. Nowadays, farmers are decreasing due to their losses in their farming. Day by day, the number of farmers is decreasing. This can be due to a lack of support. So this project aims to help them in every way possible. Solving the problem and making the website doesn't help them ultimately. Building a better interface important at the same time. Creating a better user experience for farmers is another essential part of my project.

INTRODUCTION

1.1 AIM

Agriculture is the backbone of the Indian Economy. Even today, the situation is still the same, with almost the entire economy being sustained by agriculture, which is the mainstay of the villages. Indian farmers are second to none in production and productivity even though millions are marginal and small farmers. They adopt improved agriculture technology as efficiently as farmers in developed countries.

The project aims to help Indian farmers in the growth rate of agriculture development and crop production productivity by making available relevant information and services to the farming community and the private sector. We aim to create a one-stop-shop for meeting all informational needs relating to Agriculture, Animal Husbandry and Fisheries sectors production, sale/storage of an Indian farmer. With this Indian Farmer will not be required to sift through the maze of websites created for specific purposes.

1.2. Objective

An Interactive platform is built for farmers where they can get all kinds of information related to agriculture and can interact with agricultural experts other farmers to solve their queries & share their experiences.

Registered Farmers can ask questions, suggest solutions and can also share their success/failure experiences.

Once in the Farmers' Portal, a farmer will be able to get all relevant information on specific subjects around his village/block /district or state. This information will be delivered in the form of text, SMS, email and audio/video in the language he or she understands. These levels can be easily reached through the Map of India placed on the Home page.

Technology Stack: Frontend- HTML, CSS, Javascript, jQuery, Bootstrap, Semantic UI.

Backend- NodeJs, Express, MongoDB.

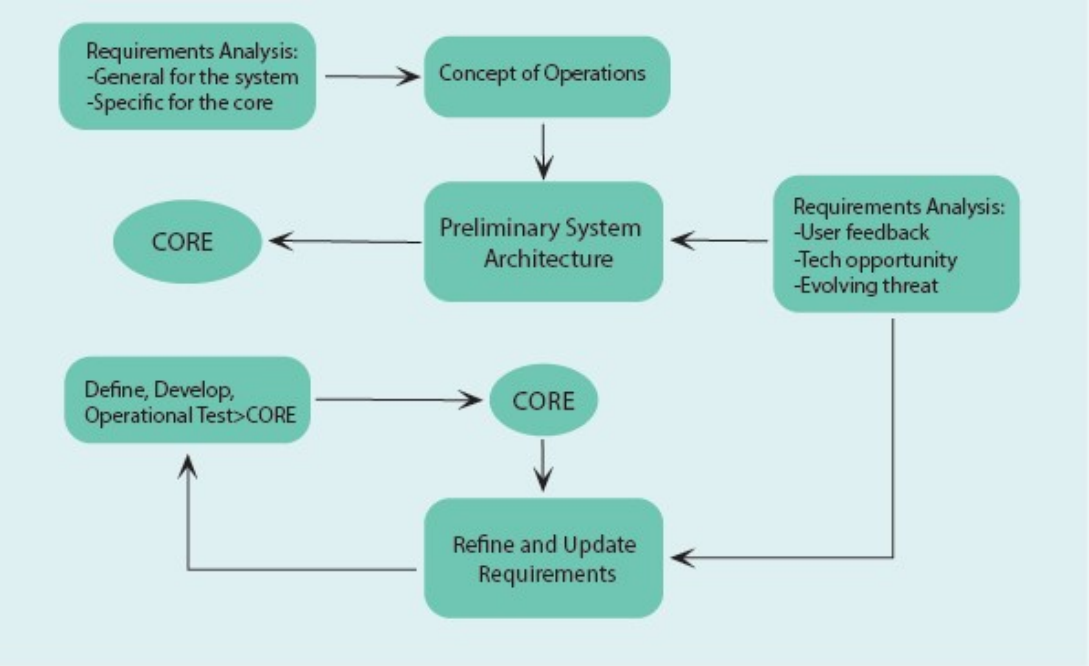
REQUIREMENT ANALYSIS

The Requirement analysis establishes the goal for the website from the standpoint of the farmers (user). Firstly have to know what the farmers have problem and solving them one by one.

Farmers need:-

1. Know about Government Programmes and Schemes
2. Knowing about weather detail
3. Information about latest techniques available
4. Asking Question related to their problem
5. Know the experience of other farmers.

Evolutionary Acquisition starts with the requirements analysis, see Img 1. After defining the "general." requirements for the system and the "specific" requirements for the core, the concept of operations is elaborated. The preliminary system architecture is developed with a requirements analysis of user feedback, technological opportunities, and threats evaluation. From the system architecture, a core is produced. New definitions and developments with an operational test may result in a new version of the heart. With experience and use, new requirements refinements and updates may be identified and used to develop a new core or improve it.

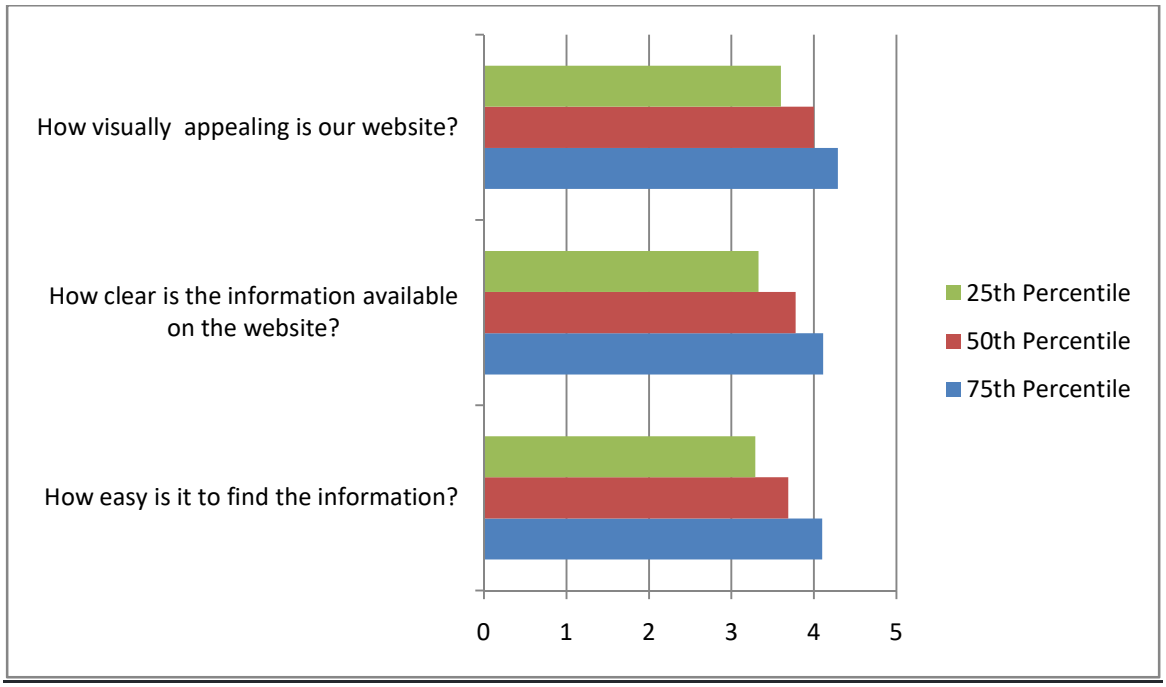


Img 1. Acquisition model

Target User-

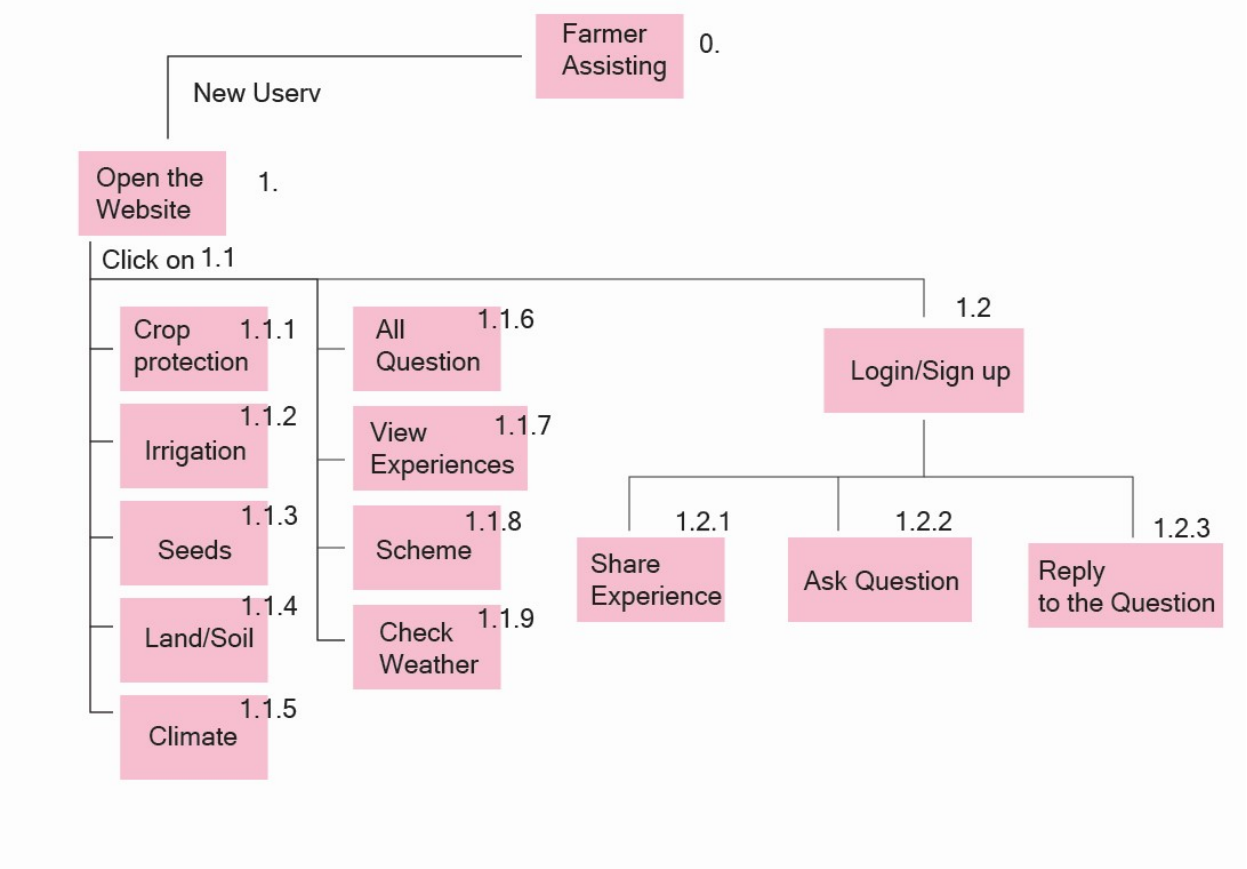
1) Farmers
2) Agricultural Experts

Requirement analysis based on survey results



DATA FLOW

HTA DIAGRAM



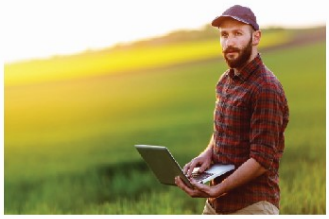
STORY BOARDING

Farmer Assistance Website

Farmer following his daily routine.

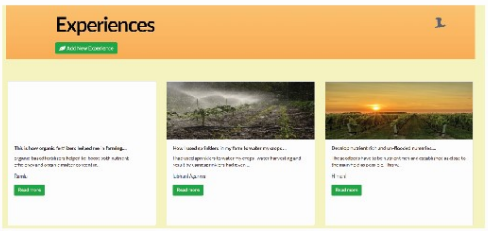
Farmers facing problem

Farmer searching for website.



Farmer visit the website and see the thing available in website

Farmer Ask Question

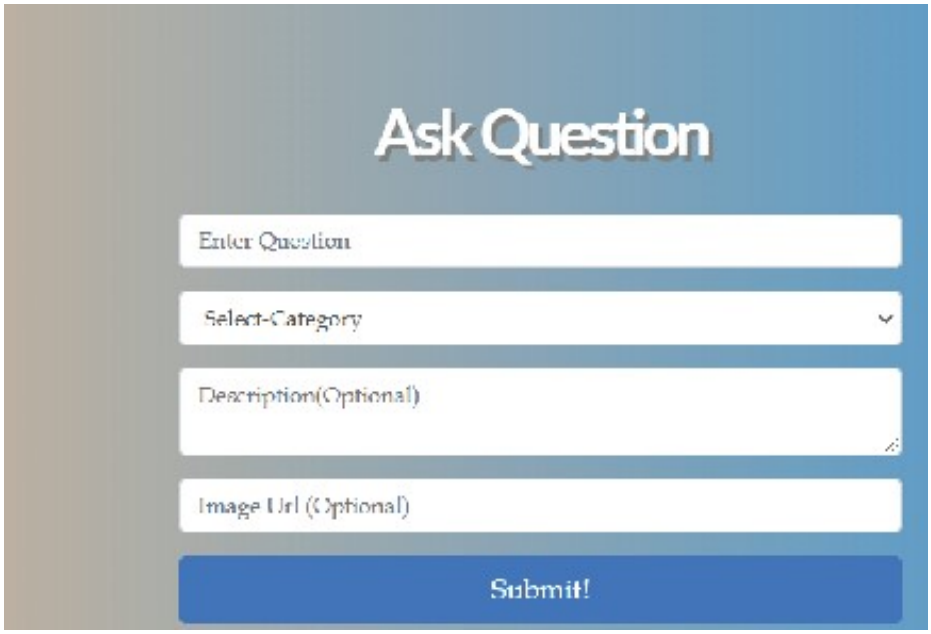


Farmer answer others question, view all Experience of farmers.

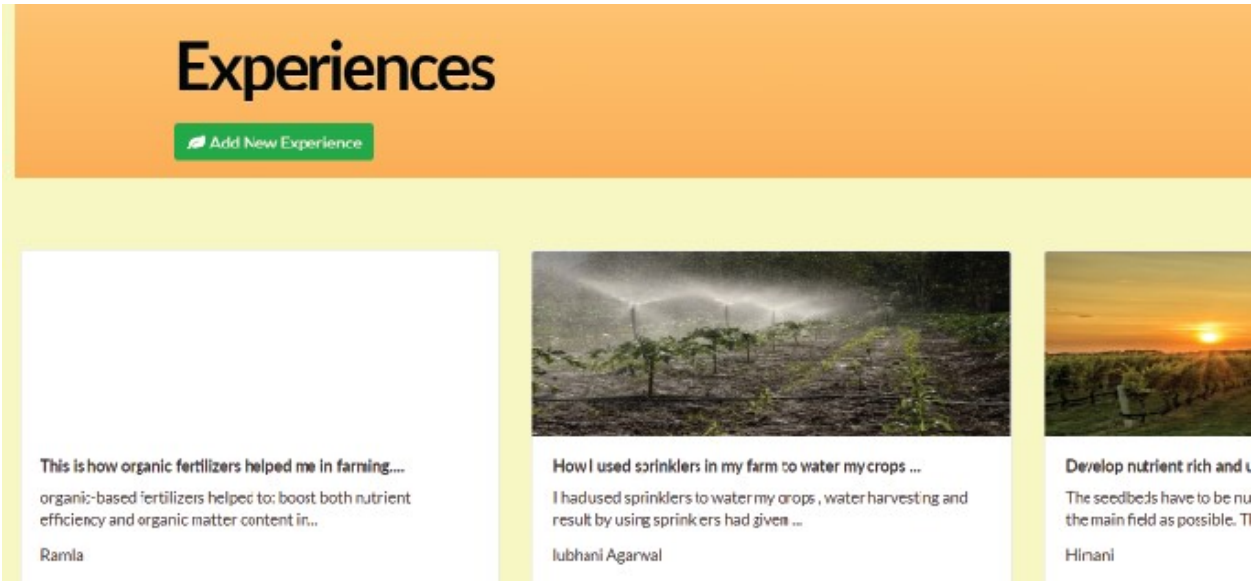
Farmers after gaining knowledge and solving their

DESIGN

Ask Question



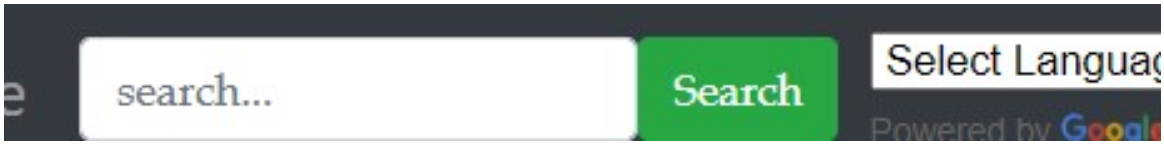
View Experiences by other Farmes



Scheme by GOV

Weather Check

Search and translate



HUERISTIC EVALUATION

Sno.	Nielson's Heuristic	Evaluation
1	Visibility of system status	Loading and downloading of libraries will be shown to the user.
2	Match between system and real world	Cursor movement and courser click.
3	User control and freedom	The user can move the cursor to the categories on screen and close the window.
4	Error prevention	The user will be prompted with an error message if there and travel back.
5	Help users recognize, diagnose, and recover from errors	User are travel back to last page.
6	Consistency and standards	Consistency and standards are maintained throughout website and the fonts and colour schemes is maintained.

7	Recognition rather than recall	The main categories have animated marking to prompt them to click.
8	Flexibility and efficiency of use	Faster the processor greater will be the flexibility and processing speed for greater efficiency.
9	Aesthetic and minimalist design	Interface and UX is minimalistic and and easy to use .
10	Help and Documentation	Documentation provided is simple and easy to follow without any complications.

TESTING

Testing

Purpose of testing:

- Create an environment in Json .
- Install all the required libraries.
- Download prebuilt models and link the folder in the code.
- Window appears and website starts running and the backend will fectch the data.
- The category animation promt the user to click.

Testing methods

- Usability testing

  o Usability test approach-

  - ▪ We check if the web server is working properly or not.
  - ▪ Check if the libraries are updated and installed correctly
  - ▪ Check if the all the data is perfectly fetched.

  - ◦ Perform usability test-
    - ▪ Version checking of libraries.
    - ▪ Compatible packages used with the new system.
    - ▪ Proper execution of the code.

Test case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/Fail
1	Backend sever	Server reload in the same level as you view the screen		Proper of webcam	Web cam placed on top of the screen	Pass
2	Libraries	Install necessary libraries	Libraries readily available	Libraries installed	Libraries installed	Pass
3	Model	Run the code	Json code	Code runs successfully	Code runs successfully	Pass
4	Placements of the buttons, Tab, text box,etc.	Proper positioning of Hand .	Buttons position	Same level as the screen	Proper placement	Pass

- **Interface testing**

Test case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/Fail
1	Buttons on place	Check the code Check it on website		Proper alignment	Proper alignment	Pass
2	Each activity linked	Run the code Check the interface		Properly linked	Properly linked	Pass
3	Model architecture	Each activity linked in order Check the interface		Proper Order.	Proper Order.	Pass
4	Placements of the buttons, Tab, text box,etc.	Proper positioning.	Buttons position	Same level as the screen	Proper Placement.	Pass

CONCLUSION

India is an agricultural country. Agriculture and its allied activities act as main source of livelihood for more than 80% population of rural India. It provides employment to approximately 52% of labour. Its contribution to Gross Domestic product (GDP) is between 14% to 15%. This growth in itself represents a remarkable achievement in the history of world agriculture. India has achieved significant growth in agriculture, milk, fish, oilseeds and fruits and vegetables owing to green, white, blue and yellow revolutions. All these revolutions have brought prosperity for the farmers. Many factors are responsible for these achievement viz conducive government policies, receptivity of the farmers and also establishment of higher agricultural education institutions. The new breed of skilled human resource was instrumental in generating new technologies, and in its assessment, refinement and finally its dissemination to the farming community through extension methods.