IJARCCE

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

Vol. 10, Issue 6, June 2021

DOI 10.17148/IJARCCE.2021.10675

Innovation Farming for Farmers

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ABSTRACT: In order to improve the economy of India, agricultural growth is very important. This demands small and marginal scale agriculture farmers to become efficient and self-sustaining. A mobile application that the farmers can use to hire tractors as well as other mechanizations at a nominal amount all using their mobile phones. This would not only help them avoid manual labor but can also be considered as an important step to encourage this profession. Using this software for farmers to hire farming equipment like tractors and other machines. We proposed a system to make the farmers aware of the current market rate of the product. This type of system is very beneficial for the young generation to adapt to the traditional farming technique. It will increase the easy access to farm mechanization solutions through rental of tractors and farm equipment for small and marginal farmers. The benefits of our project is Avoid bidding problems and Cost is not the issue because of the mobile based application.

1. INTRODUCTION

In this mobile application, farmers will hire tractors based on their needs and other mechanization at a normal price. In this application, we will choose for the demand of the farmer based on his demand. We will recommend hiring a tractor with other mechanizations. In this, we take farmers phone numbers and contact them using their phone number, nearby machinery based on farmer's requirements. This application will provide detail about the equipment so that the farmer can choose a type of equipment they need based on his requirements and can easily get familiar with it. To register the farmer, only mobile no,name, and address will be required for future use. In this android application a farmer just needs to register himself and then he'll be able to book equipment at the appropriate price. Users only need to select the book option, the application will show you the contact details of the user so the user will communicate and proceed.

2. LITERARTURE SURVEY

With the help of different papers, journals and websites we find out the working different renting systems. From this papers we learn how to manage the online equipment store as well as we learn from the research papers how to handle the requirements of the user. This survey helps us to identify the different problems which are occurring during hiring any online stuff. The websites gave us the basic idea of the general renting system.Bike Sharing and Rental System, This paper is proved very helpful as it says about the bike rental system which shows us the complete working of bike rental system. The optimal distribution of bike sharing stations should first of all cover the stops of medium/long range transportation modes. We can say that most of the station is visible; the more effective is the location. This paper explains the complete bike sharing and rental system in which the user hires a bike from this system. The amount of rent is calculated by this system with respect to the time [1] Web-based Agricultural Machinery Rental Management System (Research Article on Science Central Journal) A user searches through the agricultural machinery database (set up by the administrator) and selects the desired equipment to rent, at which point the terms and conditions and the rental fee are confirmed and an online application form is submitted. The contents of the application are stored on the DB server, and the administrator queries the reservation list and manages the fleet of agricultural machinery.. This study was conducted to develop a web-based business management system to ensure the efficient operation and transparent management of government-subsidized agricultural machinery rental businesses. In this article it is clear that the government will provide the agricultural machinery to the user. From this article we learn about the requirements of farmer's [2]

3. EXISITING SYSTEM

Innovation forming for Formers is an Android based web application.It provides complete information on Crop Production, Crop Protection, smart farming with agriculture and allied services. In addition to being an information portal, AgriApp is also an online marketplace for bringing in farmers, Agri input, retailers & fulfilment services on a common digital platform. AgriApp is powered by passionate professionals and dreams about making agriculture more

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sustainable, in terms of both ecology and economy, with the help of technology in a short time. This is an agriculture app for farmers that will be greatly beneficial to the farming community.
Innovation forming for Formers, works to fill the gap between farmers and accurate strategic Agricultural information, with the involvement of Agriculture Experts. Thus, enabling farmers to reach high-efficiency technology-enabled agriculture production and marketing of the Agriculture produce, ensuring a win-win situation to Farmers and Agriculture Economy.

4. PROPOSED SYSTEM

Our proposed system is to develop an application using which the above entire flow can be automated so that the farmers can sell or buy the surplus products. Users get to know the information about the nearby available products like plants, seeds, pesticides, agricultural machinery. Sometimes, these products may get abridged due to surplu purchase. Collaterally, there are some people who may require the same quantity of products. The main features of this application includes information retrieval facilities and marketing from anywhere in the form of obtaining statistical information about fertilizers, pesticides, seeds, and plants.

BENEFITS OF PROPOSED SYSTEM

- With the help of our application, We can reduce the wastage of the product and can sell that to the required person.
- connects local people to buy, sell or exchange used goods and services enabling people to post a listing through their mobile phone or on the web.
- customers can now create and interact with the easy reports on various key business metrics.
- The maps integration feature within the app makes it possible to present the location of the address.

5 DESIGN:

5.1 DESIGN CONCEPTS:
The main aim of design engineering is to generate a model which shows firmness, delight and commodity. Software design is an iterative process through which requirements are translated into the blueprint for building the software. The set of fundamental software design concepts are as follows:

5.1.1 Abstraction:

A solution is stated in large terms using the language of the problem environment at the highest level abstraction. The lower level of abstraction provides a more detailed description of the solution.A sequence of instructions that contain a specific and limited function refers to a procedural abstraction. A collection of data that describes a data object is a data abstraction.

5.1.2 Architecture:

The complete structure of the software is known as software architecture.Structure provides conceptual integrity for a system in a number of ways. The architecture is the structure of program modules where they interact with each other in a specialized way. The components use the structure of data. The aim of the software design is to obtain an architectural framework of a system. The more detailed design activities are conducted from the framework.

5.1.3 Patterns:

A design pattern describes a design structure and that structure solves a particular design problem in a specified content.

5.1.4 Modularity:

Software is separately divided into name and addressable components. Sometimes they are called modules which integrate to satisfy the problem requirements. Modularity is the single attribute of software that permits a program to be managed easily.

5.1.5 Information hiding

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Modules must be specified and designed so that the information like algorithm and data presented in a module is not accessible for other modules not requiring that information.

5.1.6 Functional independence:

The functional independence is the concept of separation and related to the concept of modularity, abstraction and information hiding. The functional independence is accessed using two criteria i.e Cohesion and coupling.
Cohesion: Cohesion is an extension of the information hiding concept. A cohesive module performs a single task and it requires a small interaction with the other components in other parts of the program.
coupling: Coupling is an indication of interconnection between modules in a structure of software.

5.1.7 Refinement:

Refinement is a top-down design approach. It is a process of elaboration. A program is established for refining levels of procedural details. A hierarchy is established by decomposing a statement of function in a stepwise manner till the programming language statements are reached.

5.1.8 Refactoring:

It is a reorganization technique which simplifies the design of components without changing its function behavior. Refactoring is the process of changing the software system in a way that does not change the external behavior of the code and still improves its internal structure.

5.1.9 Design classes:

The model of software is defined as a set of design classes. Every class describes the elements of the problem domain and that focus on features of the problem which are user visible.

5.2 Design Constraint

Design Constraints are generally the limitations on a design. They include imposed limitations that you don't control and limitations that are self-imposed as a way to improve a design. The following are common types of design constraints.

5.2.1 Commercial Constraints

Basic commercial constraints such as time and budget come under commercial constraints. As it is a website, all the software used in it is obtained from open sources. So, there is a very low budget here. And the time limit for completing this project is 3 to 4 months.

5.2.2 Requirements

Requirements specify the basic needs of a project such as Functional and Non-Functional Requirements. Both Functional and Non-Functional Requirements of this project are discussed earlier.

Non-Functional Requirements:

Non-Functional requirements are the requirements that specify intangible elements of a design.

Functional Requirements:
Functional requirements are the desired operations of a program that specify the behaviour.

Compliance:

Compliance refers to applicable laws, regulations and standards.

Style:

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A style guide or multiple style guides related to an organization, brand,product, service, environment or project. For example, a product development team may follow a style guide for a brand family that constrains the colors and layout of package designs.

Sensory Design

Beyond visual design, constraints may apply to taste, touch, sound and smell. For example, a brand identity that calls for products to smell fruity.

Usability:

Usability principles imply frameworks and standards. Ex: The principle of least astonishment.

Principles:

Principles include the design principles of an organization, team or individual. For example, a designer who uses form follows function to constrain designs.

Integration:
A design that needs to work with other things such as products, services, systems, processes, controls, partners and information.

5.3 Conceptual Design

Conceptual Design Is an early phase of the design process, in which the broad outlines of function and form of something are articulated. It includes the design of interactions, experiences, processes and strategies. It involves an understanding of people's needs - and how to meet them with products, services, & processes. Common artefacts of conceptual design are concept sketches and models.

6 TESTING

6.1 Introduction to Testing

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies, assemblies and or a finished product. It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of tests. Each test type addresses a specific testing requirement.

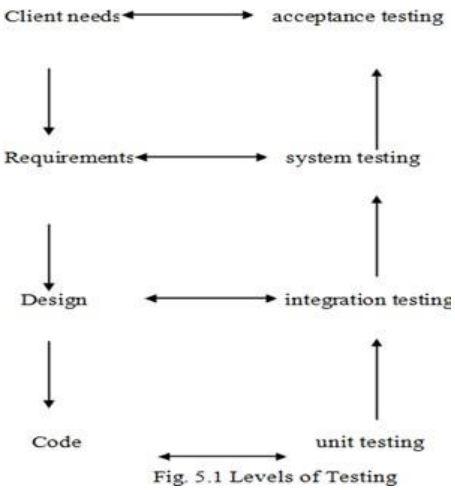

Fig. 5.1 Levels of Testing

4.1 Types of Testing

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Basic levels of testing

Unit testing:
Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application. It is done after the completion of an individual unit before integration. This is a structural testing that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

Integration testing:
Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfied, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.
Functional testing:
Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals. Functional testing is centered on the following items:

valid Input : Identified classes of valid input must be accepted.
Invalid Input : Identified classes of invalid input must be rejected.
Functions : Identified functions must be exercised.
Output : Identified classes of application outputs must be exercised.
Systems/Procedures : Interfacing systems or procedures must be invoked.
Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identifying Business process flows; data fields, predefined processes, and successive System testing ensures that the entire integrated software system meets requirements. processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.
System testing:
It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.
White-box testing:
White Box Testing is a test in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It has a purpose. It is used to test areas that cannot be reached from a black box level.

Black-box testing:
Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a test in which the software under test is treated as a black box. You cannot “see” it. The test provides inputs and responds to outputs without considering how the software works.
Unit Testing:
Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

Test strategy and approach:
Field testing will be performed manually and functional tests will be written in detail.
Test objectives:
- All field entries must work properly.
- Pages must be activated from the identified link.
- The entry screen, messages and responses must not be delayed.

Features to be tested:

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- Verify that the entries are of the correct format
- No duplicate entries should be allowed
- All links should take the user to the correct page.

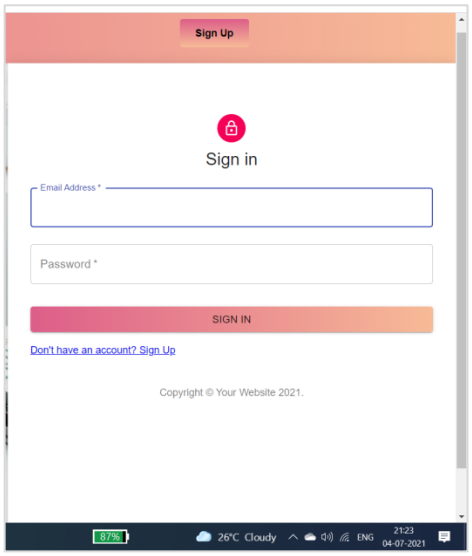
Integration Testing:
Software integration testing is the incremental integration testing of two or more integrated software components on a single platform to produce failures caused by interface defects. The task of the integration test is to check that components or software applications, e.g. components in a software system or – one step up – software applications at the company level – interact without error.

Acceptance Testing:
User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

Algorithmic design

Step-1: Start
Step-2: Open Interface with gmail and then login
Step-3: we will see different types of machines
Step-4: If you want to add a machine then you have to click on add button.
Step-5: then it will shows added machines
Step-6: Machines will be displayed like all posts and my posts
Step-7: If you want to book a particular machine then click on book button with the help of mobile number
Step 8: Stop.

7 SCREENS:



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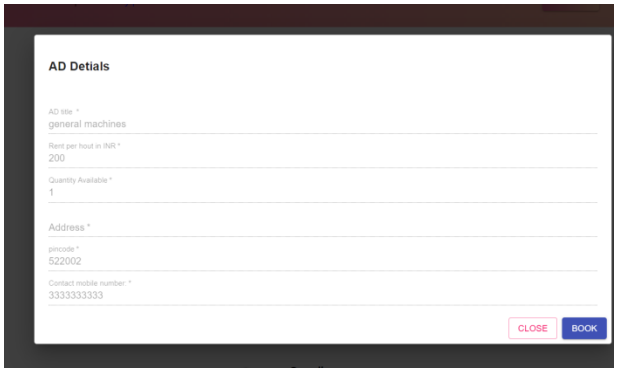

8 CONCLUSION and ENCHANCEMENTS

The present study gives a clear idea on how to sell or buy the unused products in agriculture.in this Agrirevender app we mainly focus on two points one is reselling the agriculture products and the other is to buy the products.in order to sell the product user gives necessary information of the product like price,quantity,item name,etc., and post the product into the website likewise if a user wants to buy the product he searches for the product and buys it .

The conducted experiments showed that a good performance had been achieved with overall accuracy around 70% for both. In Future accuracy of the same can be improved with the help of improved techniques. With the use of the proposed model,we are able to check the nearby products which are available and can sell or buy the product to the one needed .So that it reduces the time for the farmers . This app can help those who are in need. The same system can be implemented with cloud storage of large amounts of data where it can maintain all the details for farmers for future purposes.

9 REFERENCES:

1 Books, Articles, Papers and Websites Referred:
[1] https://bookauthority.org/books/best-agriculture-books.
[2] https://www.agriapp.co.in/
[3] https://farmer.gov.in/stateagridepartments.aspx
[4] https://blog.feedspot.com/agriculture_blogs/
[5] https://www.designrush.com/best-designs/websites/agriculture
[6] https://www.geeksforgeeks.org/ [7]http://agricollegenews.com/