Fertilizer APP

PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

This project report titled **"Fertilizer APP"** is the Bonafide work of **"KAVIYA P [EC2232251010023]"**, who carried out the project work under my supervision along with the company mentor. Certified further, that to the best of my knowledge the work reported herein does not form any other internship report or dissertation based on which a degree or award was conferred on an earlier occasion on this or any other candidate

ACKNOWLEDGEMENTS

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KAVIYA P

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Fertilizer APP

Abstract

"Fertilizer App" is to help the Farmer's to order the Pesticide/Fertilizer from their Smartphone's. By using this application, they can easily order their requirements by sending the image of the diseased plant and we will provide the best suited Pesticide/Fertilizer to the farmer's door step. So that there is no hassle of searching for Pesticide/Fertilizer shops and Current weather Report. Mobile app for agricultural and rural development is one of the emerging fields that focus on the enhancement of agricultural and rural development. As mobiles are part of day-to-day life of everyone, including farmers, so they can be utilized for providing accurate and timely information to farmers, reminding them about farming activities and helping them in improving their productivity. There are many advantages of mobile apps but the most important one is that they are quite easy to use as compared to websites. In order to use websites one must know how to operate a computer which is a quite cumbersome task for a common man like farmer. It produces wheat, paddy, cotton and other important crops. So productivity of crops of India has great impact on the Indian economy. Fertilizer involves number of activities like sowing, irrigation, fertilization, harvesting etc. The main purpose of developing this Fertilizer App is to share a crop, fertilizer and weather reports details those information retrieve from a server using Mobile Application.The fertilizer industry faces a permanent challenge to improve the efficiency of its products. This is done either through improvement of fertilizers alreadyin use or through development of new specific fertilizer types. The trends in the supply of fertilizers in India have been driven by key factors such as government policy(tenders), market information, and infrastructure while on the demand side farmer's capacity to acquire fertilizers, availability of water (rainfall) and farmer's knowledge on fertilizer(via agency) usehave been key drivers .The farming community continued accessing fertilizers from the private sector which was however expensive and in short supply.

In "fertilizer management system" we have done Launching fertilizer, tender quote, and agency requirements and added many more features to facilitate the user with the best to buy. We have given the Manager the facility to enter the Fertilizer's record and see whether the user will see the complete information about Fertilizer's.

PRODUCT SCOPE

Users can access their device information from anywhere, anytime using server services.

PRODUCT FUNCTIONS

The major functionalities of this website will be as follows:

- User credentials.
- Retrieving data from server and displaying weather report data.

All these activities must be performed at appropriate time and also in suitable manner for good productivity and proper utilization of resources.

MODULE DESCRIPTION:

MANAGER MODULE:

This module is about a manager of the Company. By using this module employee of Corporation can view all the complaints from different users on different problems. Operator can maintain solved problems list and pending problems list. By using this moduleagent can lodge any complaint to manager about problems such as not receive product, product damage and quality problem. Agent must be registered with the system. A managercan check the complaint status.

USER/AGENT MODULE:

This module is about an employee of any Company. By using this module employee of company can quote the tender to the particular product(Fertilizer type ,soil type, seeds type and so on) in product launched company..

INTRODUCTION

Moreover, weather conditions also affect the productivity of crops. But most of the farmers do not have proper or up to date information. As a result, farmers do not perform these farming activities on time or in proper manner. They just follow hit or trail method or old traditional methods. This leads to exploitation and wastage of natural resources, also productivity of their crops get affected and so is economy of country. Agricultural experts provide information to farmers about proper timing and proper manner of doing various farming activities by organizing various camps in villages. Weather conditions play very important role in Indian Fertilizer. Productivity will be increased if all these activities are done by considering weather conditions as well. So developed mobile based Fertilizer scheduling system that by taking in account weather conditions, remind the farmers about various farming activities and contribute in increasing the productivity and their economic conditions as well.

FEATURES

The essential features of the mobile app can be summarized as follows:

- Scheduling system to notify registered users about important farming activities.
- Weather is displayed. User interface of app is in regional language.
- Information about type of seeds of wheat and paddy. Displays monthly schedule of wheatand paddy.

OBJECTIVES

The objectives of the proposed system are as follows:

- To study the basic information required for farmers such as varieties of seeds, types of fertilizers and information about various farming activities.
- To develop mobile based Fertilizer scheduling system for farmers in regional language using weather conditions like temperature, humidity.

SYSTEM STUDY

EXISTING SYSTEM

The existing system uses all the manual work, where the farmers should go physically and search for the Agro shop to order pesticides/fertilizers and seeds. In Manual Work the customer will go to a shop and he will share the disease problems with the shopper while explaining the problems he/she may not explain the exact problem so the shopper will understand some other thing and he will provide some different pesticides which is not suited for the diseased crop. So, to solve this problem we came up with a solution that is android application on Fertilizer.

PROPOSED SYSTEM

The application which we are proposing is much easier to understand by user who is familiar with the use of mobile.

The options available for users is ordering of pesticides/fertilizers/seeds, user can learn how to grow crops and user can get suggestion about their crop from experienced person.

The application is with very basic options available, but the application has lots of options that can be enhanced in future.

As mobiles are part of day-to-day life of everyone, including farmers, so they can be utilized for providing accurate and timely information to farmers, reminding them about farming activities and helping them in improving their productivity. There are many advantages of mobile apps butthe most important one is that they are quite easy to use as compared to websites. mobile appsare very user friendly; one can easily operate it and get benefitted from it Fertilizer involves number of activities like sowing, irrigation, fertilization, harvesting etc. All these activities must be performed at appropriate time and also in suitable manner for good productivity and proper utilization of resources. Moreover, weather conditions also affect the productivity of crops. But most of the farmers do not have proper or up to date information. As a result, farmers do not perform these farming activities on time or in proper manner. They just follow hit or trail methodor old traditional methods. This leads to exploitation and wastage of natural resources, also productivity of their crops get affected and so is economy of country.

SYSTEM SPECIFICATION

APPLICATION SPECIFICATION

- Framework (PHP) : Android Studio 2.3.3, Xampp Server, Codiginator
- Database : SQLite, MySQL.
- Operating System : Windows 10

NETWORK SPECIFICATION

- Web Services : PHP, JSON
- Tools : Xampp Server, Codiginator (PHP)
- Operating System : Windows 10

HARDWARE REQUIREMENT

- PROCESSOR : Intel Pentium3
- RAM : 4 GB RAM
- MONITOR : 15” COLOR
- HARD DISK : 500 GB
- KEYBOARD : STANDARD 102 KEYS
- MOUSE : 3 BUTTONS

SOFTWARE REQUIREMENT

- Front end : Java, Android.
- Back end : SQLite, MySQL.
- Web Services : PHP, JSON
- Tools : Android Studio 2.3.3, Xampp Server, Codiginator
- Operating System : Windows 10

SOFTWARE DESCRIPTION

The software requirements document is the specification of the system. It should include both a definition and a specification of requirements. It is a set of what the system should do rather than how it should do it. The software requirements provide a basis for creating the software requirements specification. It is useful in estimating cost, planning team activities, performing tasks and tracking the teams and tracking the team's progress throughout the development activity.

ANDROID

Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android. The first beta version of the Android Software Development Kit (SDK) was released by Google in 2007 where as the first commercial version, Android 1.0, was released in September 2008

On June 27, 2012, at the Google I/O conference, Google announced the next Android version, 4.1 Jelly Bean. Jelly Bean is an incremental update, with the primary aim of improving the user interface, both in terms of functionality and performance. The source code for Android is available under free and open-source software licenses. Google publishes most of the code under the Apache License version 2.0 and the rest, Linux kernel changes, under the GNU General Public License version 2.

ANDROID APPLICATION

Android applications are usually developed in the Java language using the Android Software Development Kit. Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play, Slide ME, Opera Mobile Store, Mobango, F-droid and the Amazon Appstore.

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated worldwide. This tutorial has been written with an aim to teach you how to develop and package Android application. We will start from environment setup for Android application programming and then drill down to look into variousaspects of Android applications.

HISTORY OF ANDROID

The code names of android ranges from A to N currently, such as Aestro, Blender, Cupcake, Donut, Eclair, Froyo, Gingerbread, Honeycomb, Ice Cream Sandwich, Jelly Bean, KitKat, Lollipop and Marshmallow. Let's understand the android history in a sequence.

MySQL

MySQL is the most popular Open-Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming.

DATABASE

A database is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds.

Other kinds of data stores can also be used, such as files on the file system or large hash tables in memory but data fetching and writing would not be so fast and easy with those type of systems.

Nowadays, we use relational database management systems (RDBMS) to store andmanage huge volume of data. This is called relational database because all the data is stored into different tables and relations are established using primary keys or other keys known as Foreign Keys.

A Relational Database Management System (RDBMS) is a software that −

- Enables you to implement a database with tables, columns and indexes.
- Guarantees the Referential Integrity between rows of various tables.
- Updates the indexes automatically.
- Interprets an SQL query and combines information from various tables.

RDBMS TERMINOLOGY

Before we proceed to explain the MySQL database system, let us revise a few definitions related to the database.

- Database − A database is a collection of tables, with related data.
- Table − A table is a matrix with data. A table in a database looks like a simple spreadsheet.
- Column − One column (data element) contains data of one and the same kind, for example the column postcode.
- Row − A row (= tuple, entry or record) is a group of related data, for example the data of one subscription.
- Redundancy − Storing data twice, redundantly to make the system faster.
- Primary Key − A primary key is unique. A key value cannot occur twice in one table. With a key, you can only find one row.
- Foreign Key − A foreign key is the linking pin between two tables.
- Compound Key − A compound key (composite key) is a key that consists of multiple columns, because one column is not sufficiently unique.
- Index − An index in a database resembles an index at the back of a book.
- Referential Integrity − Referential Integrity makes sure that a foreign key value always points to an existing row.

MySQL Database

- MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company.
- MySQL is becoming so popular because of many good reasons −
- MySQL is released under an open-source license. So you have nothing to pay to use it.
- MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
- MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc.
- MySQL works very quickly and works well even with large data sets.
- MySQL is very friendly to PHP, the most appreciated language for web development.
- MySQL supports large databases, up to 50 million rows or more in a table. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB).

SQLite.

- onCreate() This method is called when the provider is started.
- query() This method receives a request from a client. The result is returned as a Cursor object.
- insert()This method inserts a new record into the content provider.
- delete() This method deletes an existing record from the content provider.
- update() This method updates an existing record from the content provider.
- getType() This method returns the MIME type of the data at the given URI.

COST ESTIMATION AND SCHEDULING

Project plans need to be derived from two perspectives. The first is a forward-looking, top-down approach. It starts with an understanding of the general requirements and constraints, derives a macro-level budget and schedule, then decomposes these elements into lower level budgets and intermediate milestones. From this perspective, the following planning sequence would occur:

1. The software project manager (and others) develops a characterization of the overall size, process, environment, people, and quality required for the project.
2. A macro-level estimate of the total effort and schedule is developed using a software cost estimation model.
3. The software project manager partitions the estimate for the effort into a top-level WBS using guidelines. The project manager also partitions the schedule into major milestone dates and partitions the effort into a staffing profile using. Now there is a project-level plan. These sorts of estimates tend to ignore many detailed project-specific parameters.

4. At this point, subproject managers are given the responsibility for decomposing each of the WBS elements into lower levels using their top-level allocation, staffing profile, and major milestone dates as constraints.

The second perspective is a backward-looking, bottom-up approach. You start with the end in mind, analyze the micro-level budgets and schedules, then sum all these elements into the higher-level budgets and intermediate milestones. This approach tends to define and populate the WBS from the lowest levels upward. From this perspective, the following planning sequence would occur:

1. The lowest level WBS elements are elaborated into detailed tasks, for which budgets and schedules are estimated by the responsible WBS element manager. These estimates tend to incorporate the project-specific parameters in an exaggerated way.

2. Estimates are combined and integrated into higher level budgets and milestones. The biases of individual estimators need to be homogenized so that there is a consistent basis of negotiation.

3. Comparisons are made with the top-down budgets and schedule milestones. Gross differences

are assessed and adjustments are made in order to converge on agreement between the top-down and the bottom-up estimates.

Milestone scheduling or budget allocation through top-down estimating tends to exaggerate the project management biases and usually results in an overly optimistic plan. Bottom-up estimates usually exaggerate the performer biases and result in an overly pessimistic plan. Iteration is necessary, using the results of one approach to validate and refine the results of the other approach, thereby evolving the plan through multiple versions. This process instills ownership of the plan in all levels of management.

These two planning approaches should be used together, in balance, throughout the life cycle of the project. During the engineering stage, the top-down perspective will dominate because there is usually not enough depth of understanding nor stability in the detailed task sequences to perform credible bottom-up planning. During the production stage, there should be enough precedent experience and planning fidelity that the bottom-up planning perspective will dominate. By then, the top-down approach should be well tuned to the project-specific parameters, so it should be used more as a global assessment technique.

Controlling Cost and Schedule Performance

- Recognize key activities for cost and schedule control
- Identify effective techniques for managing resource variation
- Identify the activities and results of duration compression techniques
  - Crashing
  - Fast-tracking
- Identify the elements of change control and configuration management
- Apply the change control system step

OUTLINE OF PROPOSED SYSTEM

There are many advantages of mobile apps but the most important one is that they are quite easy to use as compared to websites. As mobiles are part of day-to-day life of everyone, including farmers, so they can be utilized for providing accurate and timely information to farmers, reminding them about farming activities and helping them in improving their productivity. mobile apps are very user friendly; one can easily operate it and get benefitted fromit Fertilizer involves number of activities like sowing, irrigation, fertilization, harvesting etc. Theapplication is with very basic options available, but the application has lots of options that can beenhanced in future.

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Fundamental design concepts

The design concepts provide the software designer with a foundation from which more sophisticated methods can be applied. A set of fundamental design concepts has evolved. They are as follows:

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 detail description of the solution.
- A sequence of instruction that contain a specific and limited function refers in a procedural abstraction.
- A collection of data that describes a data object is a data abstraction.

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.

3.Patterns

A design pattern describes a design structure and that structure solves a particular design

4. Modularity

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

5.Informationhiding

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.

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.

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 statement are reached.

8. Refactoring

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

9. Design classes

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

DESIGN PROCESS

DATA FLOW DIAGRAM

Data Flow Diagram (DFD) is a two-dimensional diagram that describes how data is processed and transmitted in a system. The graphical depiction recognizes each source of data and how it interacts with other data sources to reach a mutual output. In order to draft a data flow diagram, one must

- Identify external inputs and outputs
- Determine how the inputs and outputs relate to each other
- Explain with graphics how these connections relate and what they result in.

Role of DFD:

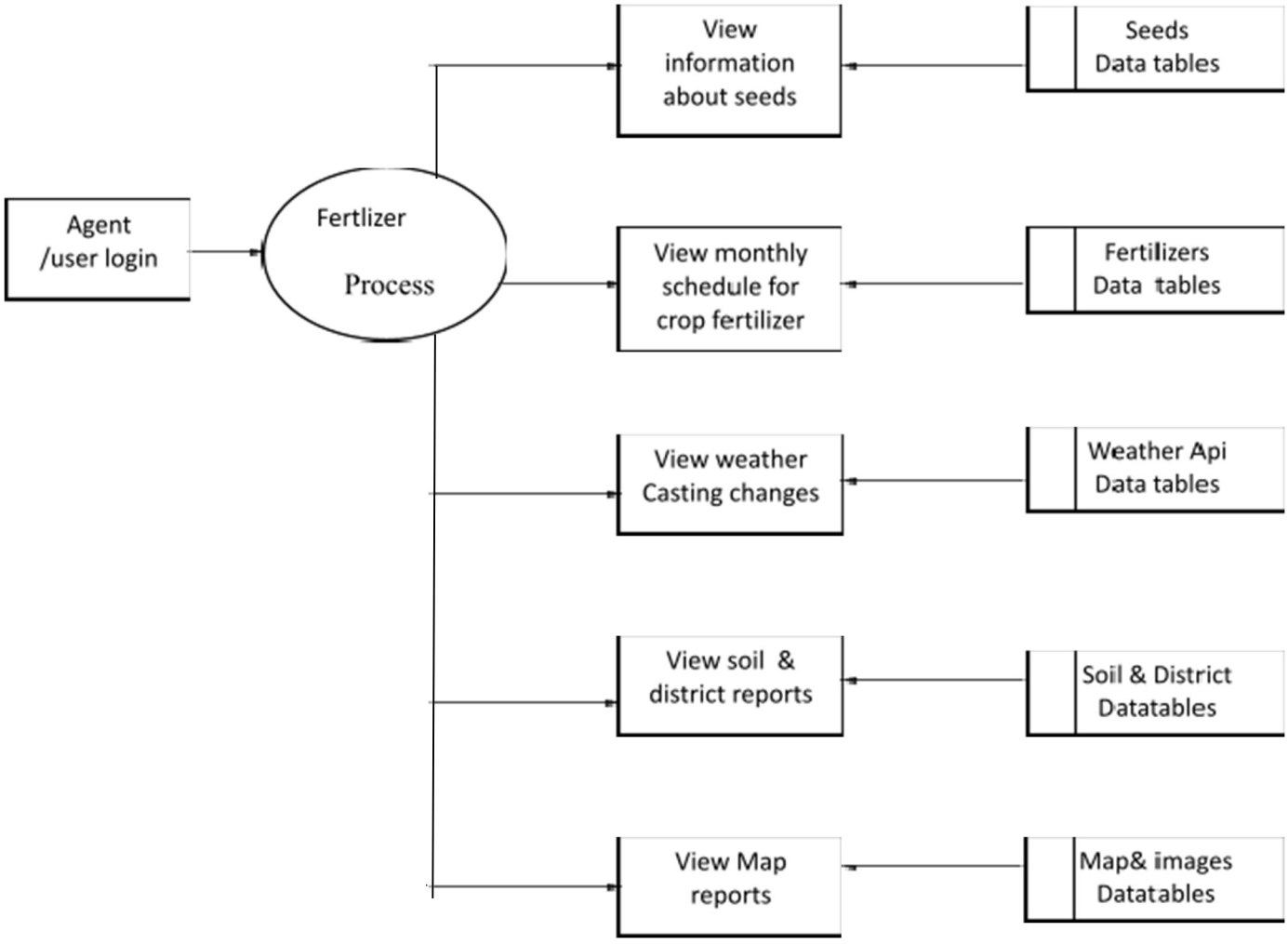
- It is a documentation support which is understood by both programmers and non-programmers. As DFD postulates only what processes are accomplished not how they are performed.
- A physical DFD postulates where the data flows and who processes the data.
- It permits analyst to isolate areas of interest in the organization and study them by examining the data that enter the process and viewing how they are altered when they leave.

DFD for users

The thorough proposed DFD for users. This DFD postulates those functions which the user can perform and these functions are:

1. Registration for a new account.
2. Login into app through registered account.
3. View weather information.

DFD for Users/Agent:



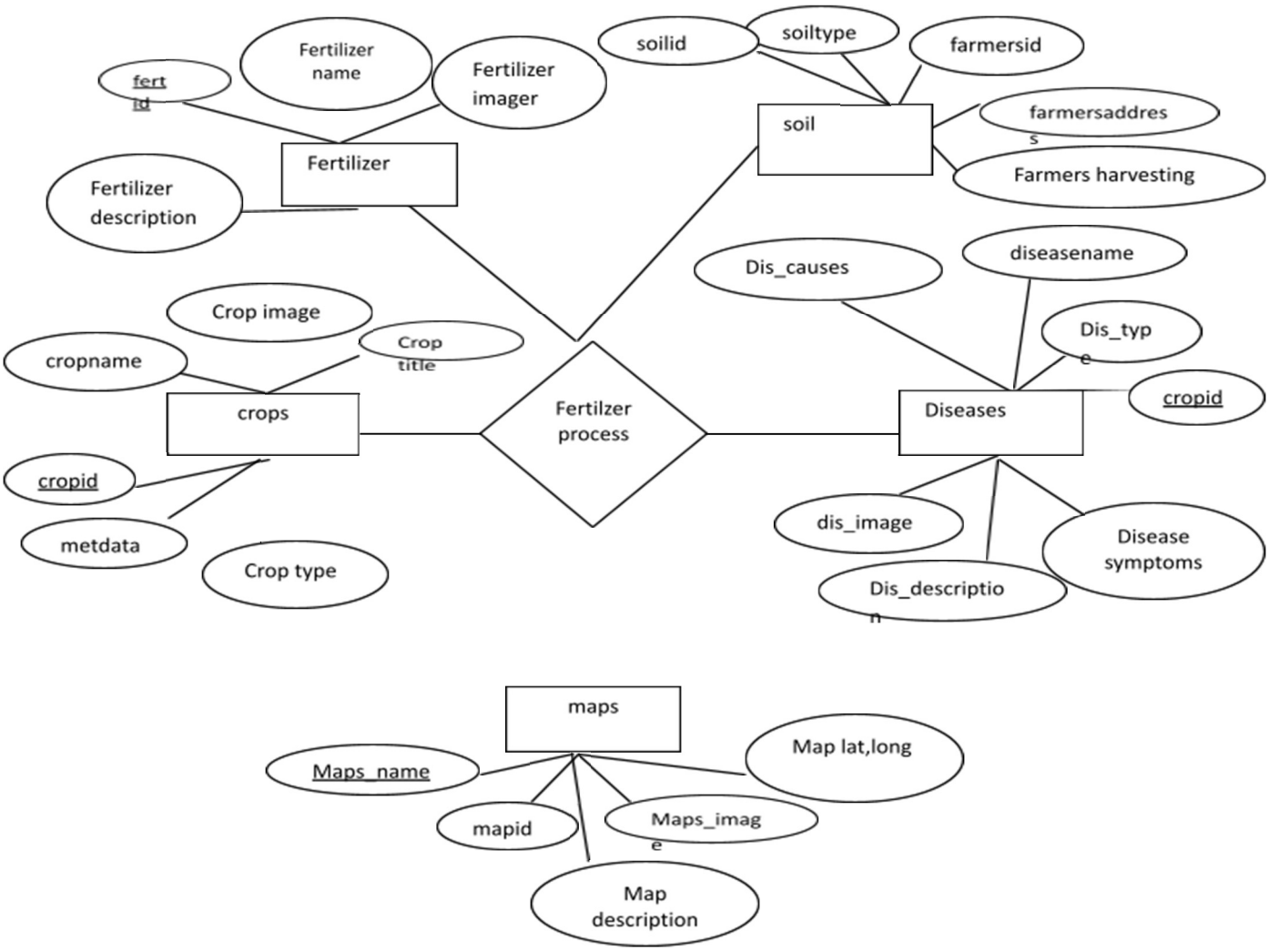
DESIGN PROCESS

MODULE DESIGN

Welcome Page which comes when opens the application.

- **Registration or sign up** for new customer.
- **Login & Profile Page** user has to log in for further process. Forgot Password page for the user who lost or forgot his login password. Farmers can update personal data like crop details, land details, animal details apart from personal information.
- **Home Page** it is the Main page where user can select the required menu or options.
- **Learn How to Grow Crops page** user can order the required pesticides/fertilizer/seed. best practices, farming technology, agricultural information is uploaded into the app from reliable sources. The videos are carefully examined for their correct information and quality. Some of the videos are on, feedings for livestock, manure production, treatment for particular disease and many more
- **Seeds type page:** in seed production, a biennial plant grown for its seed. Various root crops (including sugar beets), onions, and cabbage are grown from seed produced by seedcrops. Seeds are the method of reproduction for flowering plants, including everything from trees to grasses to bushes. Each seed is capable of growing into a new plant, given the right conditions, and the vast majority of plants have seeds. There are two overarching categories of seeds: dicotyledonous and monocotyledonous.
- **Fertilizer information & Order Page** user can get the required knowledge to grow the crops. Farmers will get to view most popular categories like NPK Fertilizer, Bio Fertilizer, Organic Fertilizer, Crop Tonics, Specialty Fertilizers, Insecticides, Fungicides, Weedicides, Seeds, and Equipment's.
- **Weather Report-**Based on Weather condition the crop can fertilized and grow**.** This section provides instant access to weather forecast for next 5 days with temp, RH, rainfall possibility, expected wind speed & its direction in the set preferred location. Farmers may add and remove preferred locations for weather forecast. It will help farmers to plan and take corrective action for agricultural & farming related activities. At a time, 2 districts can be selected as preferences for weather data access.
- **Ask Questions** in this page user who all are having doubts can be clarified by experts.

ER Diagram


Fertilizer name
Fertilizer imager
fert id
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Fertilizer description
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Dis_causes
diseasename
Dis_type
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Crop type
Fertilzer process
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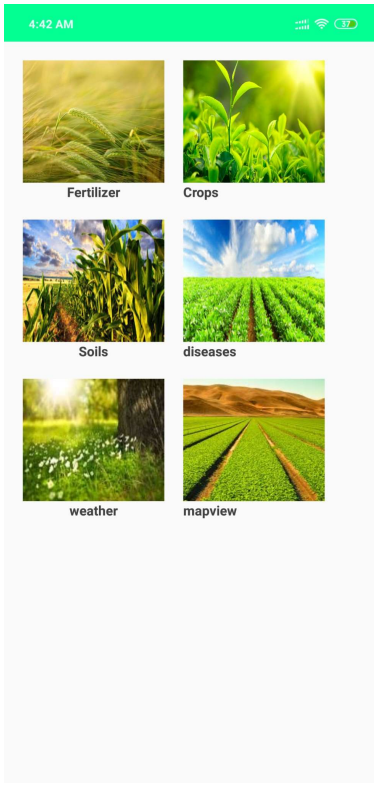
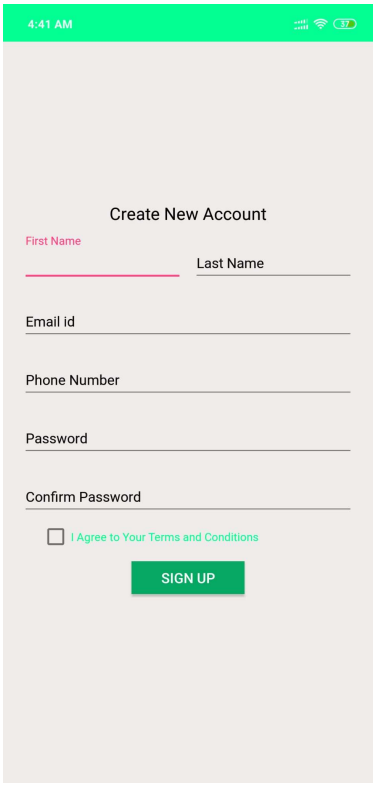
Map lat,long
mapid
Maps_image
Map description

INPUT DESIGN

Input design encompasses internal and external program interfaces and the design of user interfaces. Internal and external interface designs are guided by information obtained from the analysis model. This defines

It is a process of converting user-oriented to a computer-based format of the input design and to make the data entry easier, logical, and free of error. Error in the input data is controlled by the input design. The quality of the system input determines the quality of system output in the system processing. Input design features can ensure the reliability of the system and produce result from accurate data or they can result in Production of erroneous information as result in feeding the faulty data.

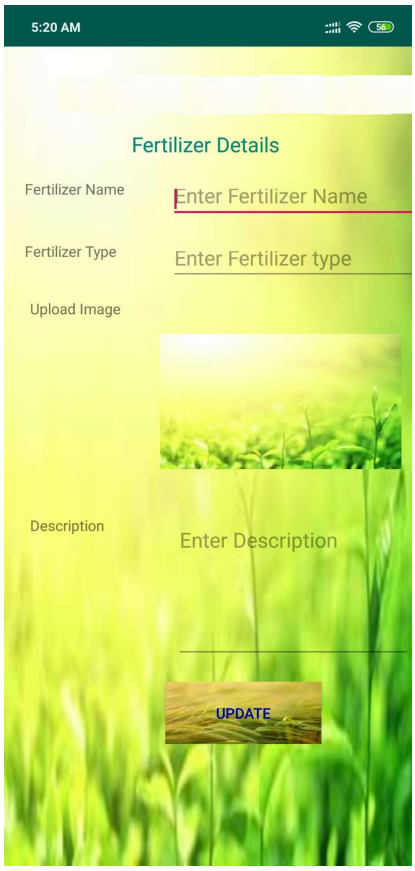


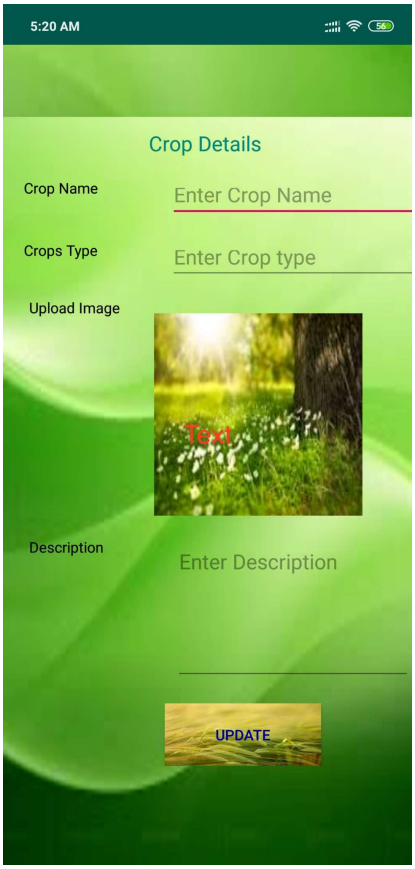


OUTPUT DESIGN

An application is successful only when it provides effective and efficient reports. Reports are actually presentable form of data; the reports are the main source of information for useroperated and managements. After any valid processing, the reports are commenced and generated filed for future use. The reports are generated with great care because it places an important design making. With the quality output the entire system may appear to be unnecessary that user will avoid using it.

Reports are generated with the up-to-date details according to user requirement. The report produced should be only concise with only necessary information. No unnecessary information should be produced in the output reports. The systems objectives outlined during the feasibility study serve as the basic from which the work of system design is initiated. Much of the activities involved at this stage is of technical nature requiring a certain degree of experience in designing systems, sound knowledge of computer related technology and through understanding of computers available in the market and the various facilities provided by the vendors.





SYSTEM DESIGN

The system design process is not a step-by-step adherence of clear procedures and guidelines. Though, certain clear procedures and guidelines have emerged in recent days, but still much of design work depends on knowledge and experience of the designer. When designer starts working on system design, he will face different type of problems. Many of these will be due to constraints imposed by the user or limitations of the hardware and software available in the market. Sometimes, it is difficult to enumerate the complexity of the problems and solutions thereof since the variety of likely problems is so great and no solutions are exactly similar. However, following considerations should be kept in mind during the system designing phase:

DATABASE DESIGN

This activity deals with the design of the physical database. A key is to determine how the access paths art to be implemented. Program design: In conjunction with database design is a decision on the programming language to be used and the flowcharting, coding, and debugging procedure prior to conversion. The operating system limits the programming languages that will run of the system. System and program test preparation. Each aspect of the system has a separate test requirement. System testing is done after all programming and testing completed the test on system and program test requirements become a part of design specifications a prerequisite to implementation.

In contrast to the system testing is acceptance testing, which puts the system through a procedure design to convince the user that the proposed system will meet the stated requirements. Acceptance testing is technically similar to system testing but politically it is different.

TABLE Design:

Once the input data is captured in the system, these may to be preserved either for a short or long period. These data will generally be stored in files in a logical manner. The designer will have to devise the techniques of storing and retrieving data from these files.

B. Database Table Design:

1. **User information Primary Key: userid**

Field	**Datatype**	**Description**
Userid	Int	User id
Dateofbirth	date	Date of birth of the user
Age	Int	Age of the user
Address	Varchar (150)	Address of the user
Pin code	Varchar (20)	Pin code of the user
Email	Varchar (20)	Email id of the user
Gender	Varchar (20)	Gender of the user
Image	Varchar (200)	Image of the user
Nationality	Varchar (20)	Nationality of the user

2. Fertilitzer details

Primary Key: Fetid

Foreign key: userid

Field	**Datatype**	**Description**
Fetid	Int	Id of the Fertilizer
Userid	Int	Id of the User
Fertilizername	Varchar (20)	Name of the Fertilizer
Fertilizertype	Varchar (120)	Type of the Fertilizer
Fertilizerimage	Varchar (20)	Image of the fertilizer
Fertilizerdescription	Varchar (20)	Description of the fertilizer
Createdate	date	Date of creation

3. Crops details Primary Key: cropid

Field	Datatype	Description
Cropid	Int	Id of the crop
Cropname	Varchar (20)	Name of the crop
Croptype	Varchar (120)	Type of the crop
Cropimage	Varchar (20)	Image of the crop
Cropdescription	Varchar (20)	Description of the crop
Createdate	date	Crop created date

4. Soil details

Primary Key: soilid

Field	Datatype	Description
Soilid	Int	Id of the soil
Farmersname	Varchar (20)	Name of the farmer
Soiltype	Varchar (120)	Type of the soil
Soil image	Varchar (20)	Image of the soil
Farmers address	Varchar (20)	Address of the farmer
Farmers harvesting	Varchar (20)	Harvesting details by farmer
Createdate	date	Date of creation

5. disease tables Primary key: diseaseid

Field	DataType	Description
disease _id	Int	Id of the disease
disease _name	Varchar (20)	Name of the disease
disease _symptoms	Varchar (20)	Symptom of the disease
disease_antidescription	Varchar (20)	Ant description of the disease
Createdate	date	Date of creation

6.Map view tables

Primary key: mapid

Field	**Datatype**	**Description**
Mapid	Int	Id of the place
Mapname	Varchar (20)	Name of the place
Maplatlong	Varchar (120)	longitude
Mapsimage	Varchar (20)	Image of the place
Mapdescription	Varchar (20)	Description of the place
Createdate	date	Date of creation

SYSTEM TESTING

Testing is the process of detecting errors for which the required open web application secure employment portal specifications stated. Testing performs a very critical role for quality assurance and for ensuring the reliability of software. The results of testing are used later on during the software maintenance. The aim of testing is often used to demonstrate that a program works by showing that it has no errors. The basic purpose of testing phase is to detect the errors that may be present in the program. Hence one should not start testing with the intent of showingthat a program works, but the intent should be to show that a program doesn't work. The main objective of testing is to uncover an error in systematic way with minimum effort and time.

TESTING OBJECTIVES

- Testing is process of executing a program with the intent of finding an error.
- A good test case is one that has high probability of finding an undiscovered error.
- A successful test is one that uncovers an as yet undiscovered error.

TESTING TYPES

- Unit testing
- Integration testing
- System testing
- Acceptance testing

UNIT TESTING

This test focuses on verification effort on the smallest unit of software module. Using the detailed design and the process specifications testing is done to uncover errors within the boundary of the module. All the modules must be successful in the unit test before the start of the integration testing begins. In this project each service is a module like Login, Forms etc. Eachmodule has to be tested by giving different sets of inputs. The inputs are validated when accepting from user.

INTEGRATION TESTING

After the unit testing the integration of modules has to be done and then integration testing can be done. The goal here is to see if modules can be integrated properly, the emphasis being on testing interfaces between different modules.

SYSTEM TESTING

In the system testing the entire web portal is tested according the software requirement specifications document.

ACCEPTANCE TESTING

The acceptance testing is performed with realistic data of the client, which focus on the external behavior of the system; the internal logic of the program is emphasized. Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. Testing is the exposure of the system to trial input to see whether it produces correct output.

TESTING PHASES

Software testing phases include the following:

- Test activities are determined and test data selected.
- The test is conducted and test results are compared with the expected results.

TESTING METHODS

Testing is a process of executing a program to find out errors. If testing is conducted successfully, it will uncover all the errors in the software.

Any testing can be done basing on two ways:

- White Box Testing
- Black Box Testing

WHITE BOX TESTING

It is a test case design method that uses the control structures of the procedural design to derive test cases.

Using this testing a software Engineer can derive the following test cases:

- Exercise all the logical decisions on either true or false sides.
- Execute all loops at their boundaries and within their operational boundaries.
- Exercise the internal data structures to assure their validity.

BLACK BOX TESTING

It is a test case design method used on the functional requirements of the software. It will help a software engineer to derive sets of input conditions that will exercise all the functional requirements of the program.

Black Box testing attempts to find errors in the following categories:

- Incorrect or missing functions
- Interface errors
- Errors in data structures
- Performance errors
- Initialization and termination errors

By black box testing we derive a set of test cases that satisfy the following criteria:

- Test cases that reduce by a count that is greater than one
- The number of additional test cases that must be designed to achieve reasonable testing.

TESTING PLANS

Testing can be done in two ways:

- Bottom-up approach
- Top-down approach

TEST CASE

S. No	Description	Testdata	Actual result	Expected Result	Result
1	To check the Full name textbox	1. Entering the value as "987" and clicking on the "Next" Push button 2. Entering the value as "/*--+-" and clicking on the "Next" Push button 3. Entering the value as Null Characters and clicking on the "Next" Pushbutton	Displaying red color in other text box and not moving next page	Not enter to next page and showing toast as enter 10-digit number	Pass
2	To check theContact number textbox	1. Entering the value as "abcd" and clicking on the "Next" Push button. 2. Entering the value as "0 to 9" and clicking on the "Next" Push button	Entered data taaccepted	Accept the entered data, should not show any error	Pass

3	To check thefarmer's number	Entering the value as "abcd1235" and clicking on the "Next" Push button	Entered dat aaccepted	Accept the entered data, should not show any error	Fail

SYSTEM IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned in to a working system. The most crucial stage is achieving a successful new system and is giving the user's confidence is that the new system will work and be effective in the implementation stage. This stage consists of,

- Testing the developed program with sample data
- Detection and correction of errors
- Testing whether the system meets user requirements
- Creating filters of the system with actual data
- Making necessary changes as desired by the user
- Training user personnel

It involves careful maintaining, investigation of the current system and it's constrains and implementation, design of methods to achieve the change over, and evaluation of change over methods. Apart from maintenance, there are two major tasks of preparing for implementations are education and training of users and system testing.

The system has been tested with sample data and adequate corrections were made as per user requirements. The user has very little chances of making data entry errors since enough

validation checks and validation error message are provided in the system. The end user with minimum amount of computer knowledge will able to key in the data and understand the error messages. All reports have been found to satisfy their requirements.

QUALITY ASSURANCE

Quality assurance (QA) is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customers; which ISO 9000 defines as "part of quality management focused on providing confidence that quality requirements will be fulfilled". This defect prevention in quality assurance differs subtly from defect detection and rejection in quality control, and has been referred to as a shift left as it focuses on quality earlier in the process.

The terms "quality assurance" and "quality control" are often used interchangeably to refer to ways of ensuring the quality of a service or product. For instance, the term "assurance" isoften used as follows: Implementation of inspection and structured testing as a measure of quality assurance in a television set software project at Philips Semiconductors is described. The term "control", however, is used to describe the fifth phase of the DMAIC model. DMAIC is a data-driven quality strategy used to improve processes.

Quality assurance comprises administrative and procedural activities implemented in a quality system so that requirements and goals for a product, service or activity will be fulfilled. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention Two principles included in quality assurance are: "Fit for purpose" (the product should be suitable for the intended purpose); and "right first time" (mistakes should be eliminated). QA includes management of the quality of raw materials, assemblies, products and components, services related to production, and management, production and inspection processes. Suitable quality is determined by product users, clients or customers, not by society in general. It is not related to cost, and adjectives or descriptors such as "high" and "poor" are not applicable. For example, a low-priced product may be viewed as having high quality because it is disposable, whereas another may be viewed as having poor quality because it is not disposable

SYSTEM MAINTANENCE

The process of monitoring, evaluating, and modifying of existing information systems to make required or desirable improvements may be termed as System Maintenance. Maintenance is an ongoing activity, which covers a wide variety of activities, including removing program and design errors, updating documentation and test data and updating user support. For the purpose of convenience, maintenance may be categorized into three classes, namely:

i)Corrective

ii) Adaptive

iii)

Perfective

i) **Corrective Maintenance**: - This type of maintenance implies removing errors in a program, which might have crept in the system due to faulty design or wrong assumptions. Thus, in corrective maintenance, processing or performance failures are repaired.

ii) **Adaptive Maintenance**: - In adaptive maintenance, program functions are changed to enable the information system to satisfy the information needs of the user.

iii) **Perfective Maintenance**: - Perfective maintenance means adding new programs or modifying the existing programs to enhance the performance of the information system. This type of maintenance undertaken to respond to user's additional needs which may be due to the changes within or outside of the organization. Outside changes are primarily environmental changes, which may in the absence of system maintenance; render the information system ineffective and inefficient.

CONCLUSION

This application is successfully designed and developed to fulfill the necessary requirements, as identified in the requirements analysis phase, such as the system is very much user friendly, form level validation and field level validation are performing very good. The old manual system was suffering from a series of drawbacks. The present project has been developed to meet the aspirations indicated in the modern age. Through the developed project, anyone can visualize the effectiveness and efficiency in the real life. It is very helpful for computerization or doing automation of a personal information management system. This program helps reduce the manual method and stress which is done by a person and that is time consuming and lengthy process. With this application user's information are stored very efficiently in a secured database. Trend of information improvement in the generation has improved the quality and services of human operation just as the case of this application for job services has reduce the mobility rate of human and improve their standard of database storage. Agri app application will be useful in Fertilizer System to suggest Farmers to select a crop for cultivation mapping using different ground parameters crop production, methods, fertilizer, technology, tools. As this system more helpful to increase productivity of crops and indirectly to increase GDP of India reduce poverty. As farmers adopt new techniques and differences in productivity arise, the more productive farmers benefit from an increase in their welfare. This project is an initial proposal to show that this kind of information system is forcible. When it became operational as planters, importers, exporters, researchers, will have access to up to date information.

SCOPE FOR FUTURE ENHANCEMENT

- Through AEI machine learning the crops details and the quality of the crops can be estimated. By clicking on the image all the details can be produced.
- In this application we query posting for farmers to enquire about the problem and tofind a solution on it, in future we can request our queries through personal chatting and video conferencing can also be added in additional.

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