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Analysis and Implementation of Region Based on Demand to Supply Chain Framework

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ABSTRACT

Marketing is focused on the task of conveying related information of pertinent producers and products to specific customers. The goal of marketing is to build and maintain a preference for producers and its products within the target markets. Any business has to build mutually profitable and sustainable relationships with its customers. Agricultural Marketing in India is undergoing a significant metamorphosis in view of globalization and economic liberalization process. This paper focuses on the Taluk. Every Taluk has storage centre. Various studies reveal that farmers, on an average, get a reasonably higher price by selling their produce in the regulated markets (Agricultural Produce Market Committees - APMCs) compared to rural, village and unregulated wholesale markets. But there is no mechanism to say about which Taluk produces excess crops, which is calculated by population ratio and consumption rate.

Keywords :- Producers, Products, APMC, Excess Crops, Wholesale Market

I.   INTRODUCTION

India is an agricultural country and one third population depends on the agricultural sector directly or indirectly. Agriculture remains as the main stray of the Indian economy since times immemorial. Indian agriculture contribution to the national gross domestic product (GDP) is about 25 per cent. With food being the crowning need of mankind, much emphasis has been on commercializing agricultural production. For this reason, adequate production and even distribution of food has of late become a high priority global concern. Agricultural marketing is mainly the buying and selling of agricultural products. In earlier days when the village economy was more or less self-sufficient the marketing of agricultural products presented no difficulty as the farmer sold his produce to the consumer on a cash or barter basis.

New technologies if used innovatively can help in bridging technological, knowledge and income divides. Advances in technologies have driven the last decade's economic boom and the integration of markets around the planet. The internet has further accelerated the speed of development and led to the creation of knowledge societies and need of more innovative websites. Our project is website named 'AgriBuddy' which helps agriculturists to determine the agri-market's status.

Today's agricultural marketing has to undergo a series of exchanges or transfers from one region to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Selling on any agricultural produce depends on some couple of factors like the demand of the product at that time, availability of storage etc. The products may be sold directly in the market or it may be stored locally for the time being. Moreover, it may be sold as it is gathered from the field or it may be cleaned, graded and processed by the farmer or the merchant of the village. Sometime processing is done because consumers want it, or sometimes to conserve the quality of that product. The task of distribution system is to match the supply with the existing demand by whole selling and retailing in various points of different markets like primary, secondary terminal markets.

Most of the agricultural products in India are sold by farmers in the private sector to moneylenders (to whom the farmer may be indebted) or to village traders. Products are sold in various ways. For example, it might be sold at a weekly village market in the farmer's village or in a neighboring village. If these outlets are not available, then produce might be sold at irregularly held markets in a nearby village or town, or in the mandi.

Marketing is focused on the task of conveying related information of pertinent producers and products to specific customers. The goal of marketing is to build and maintain a preference for producers and its products within the target markets. Any business has to build mutually profitable and sustainable relationships with its customers. Agricultural Marketing in India is undergoing a significant metamorphosis in view of globalisation and economic liberalization process.

II. AIM OF THE PROJECT

Our project focuses on the Taluk . Every Taluk has storage centre. Various studies reveal that farmers, on an average, get a reasonably higher price by selling their produce in the regulated markets (Agricultural Produce Market Committees APMCs) compared to rural, village and unregulated wholesale markets. But there is no mechanism to say about which Taluk produces excess crops, which is calculated by population ratio and consumption rate.

Our motivation is the Mandi Project. It has two vital components: the front-end User Interface (UI) and the back-end ASR engine that work in tandem. The brain of the system is the ASR, which understands what the farmer is communicating by converting the speech to text. The UI an interactive voice response (IVR) system designed to work as an interface between the farmer, the ASR system and the database of the latest prices.

III. SYSTEM ANALYSIS AND DESIGN

The design document provides an overview of the Analysis and Implementation of region based demand to supply chain framework project. It provides a general as well as a detailed description of designed our website. During the design phase, the system is designed to satisfy the requirements identified in the previous phases. Requirement identified in the requirement analysis phase are transformed into a system design document that accurately describes the design of the system.

The purpose of the design phase is to transform the requirements into complete and detailed system design specifications. Once the design is approved, the development team begins the development phase. The purpose is to define and document the site design for the target site. To transform the data model into logical and physical information structure, various methods for data representation exist such as entity relationship model, use case diagram, data flow diagram, sequence diagram and class diagram.

The data model created in an analysis phase needs to be first transformed into logical information structure for the website. The information content is structured into smallest logical elements to avoid the duplication of information. The information structure can be presented in a detailed hierarchy diagram. After the logical information structure is complete, it needs to be transferred into physical structure in which it is stored in the application. The manual system of collecting details of the employees is tedious. To retrieve information of an employee is much more of a headache when done manually. Even there is a chance of data loss. The manual writing of

letters, preparing resumes is time consuming. Since the team members don't have sufficient time to meet face to face, there won't be any clear communication. Get Connected is created to overcome the above drawbacks. It is used to maintain the database and provide online secured access. Retrieval of employee information becomes easy through querying. Get Connected also provides template system that reduces the time consumption to prepare the documents. Unlike physical meeting, team members can contribute online communication as their schedule allows.

Basically we have 2 users of the system. One is the administrator who is an HR member, responsible for editing and modifying employee details. The other user is the employee of the company, who can use the basic features of Get Connected software
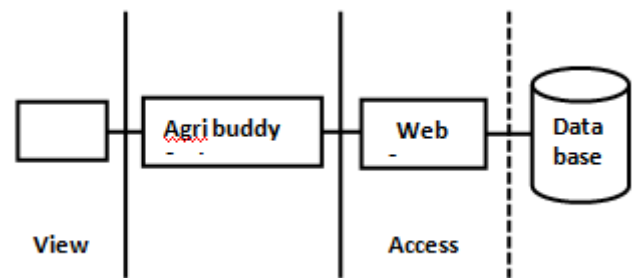

Fig: Architectural Design for system

There are three layers namely

• View layer: This layer includes the users who directly access the system with their user credentials.

• Business layer: It involves the agribuddy and performs the required operations using the database.

• Access layer: It collects and stores all the information in the database after the computations are done
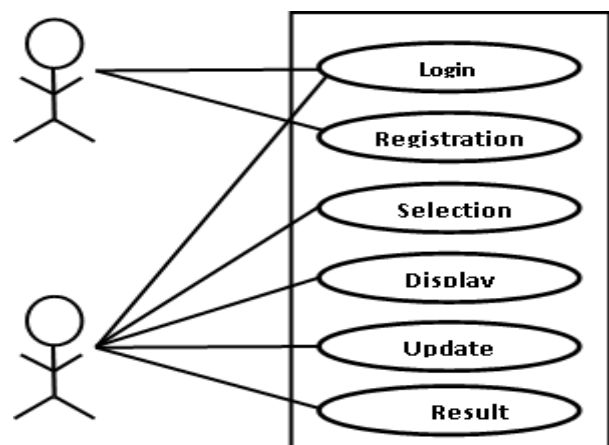

Fig: Use case Diagram

IV. IMPLEMENTATION

The implementation is an important phase in software development. Implementation refers to conversion of system design to an operation. An implementation is a realization of technical specification or algorithm as a program, software component or other computer system through programming or deployment. Many implementations exist for a given specification. The implementation phase deals with issues of quality, performance, baselines, libraries and debugging.

The implementation stage involves:

1. Careful planning: Once the design phase is complete, most of the major decisions about the system have been made. The goal of coding phase is to translate the design of the system into code in given programming language. Since the testing and maintenance cost of software are much higher than the coding, it has to be well written to reduce the testing and maintaining efforts. An important concept that helps the understandability of program is structured programming.

2. Verification: Verification of the output of the coding phase is mainly to detect the errors introduced during compiling. The goal of verification is to show that the code is consistent with the design it is suppose to implement. The verification of the code doesn't mean the coding of the program is correct, while correctness mean the output should be correct according to the design of the system.

3.Static:The static technique doesn't involve actual program execution and actual numeric data, though it may involve some form of conceptual execution. In static techniques, the program is not compiled and executed.

The Internet is a collection of computers and other devices connected by equipment that allows them to communicate with each other. he Web is a collection of software and protocols that has been installed on most, if not all, of the computers on the Internet. Web servers are programs that provide documents to requesting browsers. Example: Apache. Here we used javascript and html to display the format of website and php to link to database by using queries to extract data or to modify.It works as follows:

Step1:As we start Apache, it starts PHP interpreter. PHP calls MINIT method of each extension which is being enabled. View of your php.ini file to see the modules which are being enabled by default. MINIT refers to Module Initialization. Each Module Initialization method initializes and define a set of functions, classes which will be used by future page requests.

Step2: A typical MINIT method looks like

```
PHP_MINIT_FUNCTION (extension_name){
/* initialize functions, classes etc */
}
```

When a page request is being made, SAPI layer gives control to PHP layer. PHP then set up an environment to execute the PHP page requested. In turn it also creates a symbol table which will store various variables being used while executing this page. PHP then calls RINIT method of each module. RINIT refers to Request Initialization Module. Classic example of RINIT module implementation is the session's module. If enabled in php.ini, the RINIT method of sessions module will pre-populate the $_SESSION variable and save in the symbol table. RINIT method can be thought as an auto_prepend_file directive, which is pre-appended to every PHP script before execution. A typical RINIT method looks like

```
PHP_RINIT_FUNCTION (extension_name){
/*initialize session variables, pre-populate variables,
redefine global variables etc*/
}
```

PHP shutdown:After the page execution is complete either by reaching the end of the script or by call of any exit() or die() function, PHP starts the cleanup process. In turn it calls RSHUTDOWN method of every extension. RSHUTDOWN can be thought as auto_append_file directive to every PHP script, which no matter what happens, is always executed. RSHUTDOWN method, destroys the symbols table (memory management) by calling unset() on all variables in the symbols table. A typical RSHUTDOWN method looks like

```
PHP_RSHUTDOWN_FUNCTION (extension_name) {
/* do memory management, unset all variables used in the
last PHP call etc*/
}
```

Finally when all requests have been made and SAPI is ready to shutdown, PHP calls its 2nd step of shutdown process. PHP calls the MSHUTDOWN method of every extension, which is basically the last chance for every extension to unregister handlers and free any persistent memory allocated during the MINIT cycle.This project mainly consists of 5 modules. Each of these modules supports responsive design. Modules are:

- Home page
- Registration Form for new user
- Select options for district and crops
- Result in the form of graph
- Admin controls like update, delete and insert data.

All these modules coordinate with each other to support each other. 1.Home pages:There is a common login page for a registered user. All users have to register first and then use these pages to get the access to the system.

2.Registration Form for new user:This module gives a full detailed view on the user's general details as well as their qualification details, skill, and expert ices.

3.Select options for districts and crops:This module helps the users to increase their knowledge with the study materials, which are in the form of pdf or videos.

4.Result in the form of graph:With this module we can send general notices which can be accessed by all the users of the system. It also removes the notice after the event or expire day of the notice is over.

5. Admin control :like update,delete and insert data,only Admin can access this module. This module is the supreme controller which controls the user's roles and rights on the site. Here admin can insert data to table, update the data or delete.

V. PSEUDO CODE

Pseudo code for administrator login
Step1:start
Step2:Enter admin name and password
Step3:if admin
          Then selection form
       Else not an admin
Step4:select district
Step5:display selected district details
Step6:if update
          Then update successfully
       Else unsuccess
Step7: if insert
          Then insert successfully
       Else unsuccess

Step8: if delete
          Then delete successfully
       Else unsuccess
Step9: stop
Pseudo code for user login
Step1:start
Step2:Enter user email and password
Step3:if true
          Then selection form
       Else not a valid entry
Step4:select district and crop
Step5:display graph
Step6:stop

USER MANUAL

The administrator, and the employee will use the website www.agribuddy.com. As soon they enter the site they can login through their credentials that is username and password.
    Username,password,login

For administrator: Insert a new crop detail,delete a crop detail and update crop detail.
For employee:Select District,Select crop,View result
Administrator:Once he/she logs in, he/she gets the option for selecting the district. After which the details of the district and the option for updating, inserting and deleting the crop details
User:Once he/she logs in, he/she gets a selection form which provides option for selecting the district and the crop he wants to know information about. On submit he/she gets the result ie the graph which displays the usage and production details. At last the user can log out from the site.

VI. CONCLUSIONS

Our project is aimed at production details in taluks. The self-explanatory graph helps us to conclude excess and shortage details in various region. These details help the user to find suitable region to import and/or export. Hence through the graph the user will know which region have excess and shortage. If given the authority of handling the database and updating to each district offices real time data extraction is possible, as the whole statistical data related to a particular district is collected and maintained in the DC office. As initial step we have just considered few food crops.In future our project can be improved to a wider system with different crops like oil seeds ,commercial crops etc. Also it may be used for different fields like sericulture,wholesale marketing etc.Main aim of satisfying consumer need as well as considering producer capabilities. Seasonal update of crop details which is not included here can be added to the system with the help of climate information and make the website even more efficient. Authentication of user can be made more secure.

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