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Supply chain management application for home cooking consumers

R.Gokulakannan[1], U. Madhankumar[2], A.Ashokraja[2], S. Sasirekha[2]

[1]UG Students, Department of Computer Science and Engineering, Nandha Engineering College (Autonomous), Erode, Tamilnadu, India

[2]Professor Department of Computer Science and Engineering, Nandha Engineering College (Autonomous), Erode, Tamilnadu, India

ABSTRACT

This project entitled "Supply Chain Management Application for Home Cooking Consumers" is a web based android application that provides weekly meal plan for household home cooking consumers according to the users eating style, region and the ethnicity with the platform to buy ingredients for that meal plan.With this app, meal planning is no more a daunting task. All have to do is enter your kitchen and Just Cook, because everything else is taken care by this application. Jus Cook makes your cooking choices easy, smart and hassle-free. This customises your home food menu according to your eating style ,the region style and the ethnicity The user need to do is key in a few details like your food preference, the meals that users cook (breakfast/lunch/dinner) and how often that the user cook. Once the details are fed in, the app dishes out a variety of healthy meals that user can make at home based on the number of people in your family, the cooking time and the ingredients required. Now, the app gathers all the ingredients needed across all the dishes and tells you exactly how much you need to buy and redirected to Amazon to buy those ingredients. The app is designed in such a way that the dishes are not repeated. It gives you a range of options across Indian cuisines (Vegetarian and non-vegetarian). The recipes suggested by the app are easy to make and can be cooked in good time.

INTRODUCTION

This mobile Application provides meal planning, customizing home food menu according to the users eating style, region and the ethnicity. The App also have features to gather all the ingredients need across all the dishes and tell the users and also with the permission of the user, the ingredients will be Ordered from any online stores like Amazon. With this app, meal planning is no more a daunting task. All have to do is enter the kitchen and Just Cook, because everything else is taken care of!

The app makes your cooking choices easy, smart and hassle-free. This customises your home food menu according to your eating style, the region and ethnicity you belong to.

All you need to do is key in a few details like the user's food preference, the meals that user cook (breakfast/lunch/dinner) and how often they cook.

The meal plan for the week is ready! Once the details are fed in, the app dishes out a variety of healthy meals that the user can make at home based on the number of people in your family, the cooking time and the ingredients required. Now, the app gathers all the ingredients needed across all the dishes and tells you exactly how much you need to buy and redirected to amazon to buy those ingredients Guaranteeing privacy and honesty of the redistributed information is essential since information are put away on shared servers at remote site. As data are dealt with by certain untouchables, the data owner has nonattendance of full specialist over the redistributed data.

Author for correspondence:
Department of Computer Science and Engineering, Nandha Engineering College (Autonomous), Erode,

The terms Logistics and Supply Chain Management are used interchangeably these days, but there is a subtle difference that exists between the two. 'Logistics' has a military origin, and used to be associated with the movement of troops and their supplies in the battlefield. But like so many other technologies and terminologies, it entered into the business lexicon gradually and has now become synonymous with the set of activities ranging from procurement of raw materials, to the delivery of the final polished good to the end consumer. In a typical business scenario, many organizations work in tandem (knowingly or unknowingly) to get the final product in hand of the end consumer. The supply chain is a network of these organizations that coalesce with each other (downstream or upstream) to make the final shipment successful. A group of farmers, a cotton mill, a designer and a tailor is the least number of stakeholders you can expect from a regular shirt you wear every day. Many top global schools (MIT, Purdue, Rotterdam etc.) have dedicated courses running from a long stretch of time. Certifications like APICS, ISM and IOSM can also prove beneficial if one is constrained by time and/or money. In India, IIM Bangalore offers specialized courses for theoretical and applied research in the field. Institutes like IIM C, XLRI, NITIE and IIMM (Indian Institute of Materials Management) also offer relevant courses for folks geared towards SCM. According to PayScale, the median salary of a Supply Chain Manager in India is around 8.3 LPA.

SCM as a career choice gives you ample opportunities to tackle challenging problems while also giving you insights about the business that very few roles can afford to (case in point: Tim Cook, the CEO of Apple, is a supply chain specialist).If you aspire to be a global citizen in a world that is becoming increasingly smaller, it can give your Career big boost.

Supply-chain management is a cross-functional approach that includes managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end consumer. As organizations strive to focus on core competencies and become more flexible, they reduce their ownership of raw materials sources and distribution channels. These functions are increasingly being outsourced to other firms that can perform the activities better or more cost effectively. The effect is to increase the number of organizations involved in satisfying customer demand, while reducing managerial control of daily logistics operations. Less control and more supply-chain partners lead to the creation of the concept of supply-chain management. The purpose of supply-chain management is to improve trust and collaboration among supply-chain partners thus improving inventory visibility and the velocity of inventory movement.

In the 21st century, changes in the business environment have contributed to the development of supply-chain networks. First, as an outcome of globalization and the proliferation of multinational companies, joint ventures, strategic alliances, and business partnerships, significant success factors were identified, complementing the earlier "just-in-time", lean manufacturing, and agile manufacturing practices. Second, technological changes, particularly the dramatic fall in communication costs (a significant component of transaction costs), have led to changes in coordination among the members of the supply chain network. Many researchers have recognized supply network structures as a new organisational form, using terms such as "Keiretsu", "Extended Enterprise", "Virtual Corporation", "Global Production Network", and "Next Generation Manufacturing System". In general, such a structure can be defined as "a group of semi-independent organisations, each with their capabilities, which collaborate in ever-changing constellations to serve one or more markets in order to achieve some business goal specific to that collaboration". Supply-chain management is also important for organizational learning. Firms with geographically more extensive supply chains connecting diverse trading cliques tend to become more innovative and productive.

SYSTEM DESIGN

Module description

The main modules exist in this project are listed below

- Meal details
- Meal plan preparation
- Buy List
- Suggestion platform

Meal details

The meal details module consists of the phase where the admin add the details of the meal like ingredients, recipes, nutritional info and the cooking time to the database.

The admin can also have made any changes to the recipes and ingredients through Add/Manage section in the admin login page.

Meal plan preparation

The new users have to register through face book or google++ and then have to login to the application. For the first time the customize section will open and then the auto generation of meal plan for a week will be displayed. The user can change the meal plan according to their wish.

Buy List

In this module the ingredients used for those weekly generated cooking recipes are listed. The user needs to manage those ingredients, add it to cart and then checkout. This will redirect the user to third party site (Amazon).

Suggestion Platform

In suggestion platform module, the user can suggest a meal and can give feedback for the preloaded meal to the admin. This will sent as a mail to the admin and then the admin can respond for that.

DATABASE DESIGN

Database design is the process of producing a detailed data model of database. This data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can then be used to create a database. A fully attributed data model contains detailed attributes for each entity. The main objectives of designing a database are,

Data Integration

Data integration involves combining data residing in different sources and providing users with a unified view of them. This process becomes significant in a variety of situations, which include both commercial (such as when two similar companies need to merge their databases) and scientific (combining research results from different bioinformatics repositories, for example) domains. The details stored in the individual servers of the recipes and ingredients are integrated to present as a single data provider. It provides an efficient data integration.

Data Integrity

Data integration involves combining data residing in different sources and providing users with a unified view of them. This process becomes significant in a variety of situations, which include both commercial (such as when two similar companies need to merge their databases) and scientific (combining research results from different bioinformatics repositories, for example) domains. Data integration appears with increasing frequency as the volume and the need to share existing data explodes. This leads to less data redundancy. Data items need not be duplicated. There will be reduction in the direct access storage requirement

Data Independence

A database system normally contains a lot of data in addition to users' data. For example, it stores data about data, known as metadata, to locate and retrieve data easily. It is rather difficult to modify or update a set of metadata once it is stored in the database. But as a DBMS expands, it needs to change over time to satisfy the requirements of the users. If the entire data is dependent, it would become a tedious and highly complex job.

INPUT DESIGN

Input Design is the process of converting a user-oriented description of the input into a computer-based system. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. Input Design is the first phase in the system design. Input designing is to converting the user oriented information to the computer oriented form. The input data items are grouped and analyzed to find out whether the proposed system can be developed from the user input. The system is developed using various processes screens formats.

Login Form

The roles of the system user and admin should login in to the application by using their credentials to access their resources.

Customize Form

This form is used to customize the auto generation of meal plan according to their cooking styles like cooking days, meals prepare for, ingredients that users like, ingredients that users dislike, ethnicity, number of people cooking for and vegetarian or non-vegetarian.

Suggest meal

This form is used to suggest a meal to the application admin to add into the application with name and description of that meal.

Feedback

This form is used to write feedback about the application and also for the meal to the admin by giving name of the user, email Id, phone number and message.

OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system for many end-users: it should be understandable with the enhanced format.

The computerized output is the most important and the direct source of information to the user. The purpose is to produce the requirement output for the system to reach its success. The outputs are the most important sources of information to the users. Better design should improve the system's relationship with user and also will help in decision making.

Weekly meal plan

The automatic generation of meal plan is fetch from the stored database and given as a output for the user.

Buy List

In this section, the ingredients for the generated meal are listed and the user can buy those ingredients with their permission through the third party site.

Favourite

In this section, the user can add favourite dishes to access those dishes quickly.

SYSTEM TESTING

Testing is the process of executing program with the intention of finding errors and meets the requirements that guided its design and development. A good test case is one that has a high probability of finding an undiscovered error. The system should responds correctly to all kinds of inputs and performs its functions within an acceptable time.

The following are the various types of testing strategies applied in “SUPPLY CHAIN MANAGEMENT APPLICATION FOR HOME COOKING CONSUMERS”.

- Validation Testing
- Unit Testing
- Integration Testing
- User Acceptance Testing

VALIDATION TESTING

Validation testing is done in order to avoid wrong data input data from the user. Since all the fields in the form are validated. It throws error to the user. While saving the current details of the form the form automatically validated. It focuses to the control where the user has to give the correct data.

- Every form in the system are validated and tested

for validation by giving different test cases.

- All the users of the system have unique Id.

UNIT TESTING

Unit testing means that the software consists of "units" which are separate testable parts of the product. An individual program, class, method, function can be such unit. Developers typically do the unit testing in order to trace out the bugs in each module of the code. Unit testing is done in parallel with coding. They were also tested for specification to see if they were working as per what the program should do and how it should perform under various conditions. In login form, the user name and password should be verified. If it is valid, then it will redirect to next page, otherwise it will remains in the same page.

The personal information of particular users is displayed on the page profile. If the user want to update any of his field then he must click update button. If the values are updated it will display new values or else it will display old values.

In this project the user details, meal plan details, meal preparation details and buy list details are tested individually.

INTEGRATION TESTING

The purpose of integration testing is to verify the functional, performance, and reliability between the modules that are integrated.

All modules that have been coded are tested as an integrated unit. In “SUPPLY CHAIN MANAGEMENT APPLICATION FOR HOME COOKING CONSUMERS”, all the modules are tested individually. Each module like meal details, meal plan preparation, buy list, suggestion platform are all tested as a unit and almost all possible errors are rectified. After integrating these modules, all the fields in the system are tested.

The test cases are developed to verify whether the system working is correctly or abnormally. The updation of records has been checked in the database to avoid data duplication and back end data validation.

USER ACCEPTANCE TESTING

Acceptance Testing is a level of the software testing where a system is tested for acceptability. The purpose of this test is to evaluate the system's compliance with the business requirements and assess whether it is acceptable for delivery.

- The sample input are given and verified by the user to the system through test case.
- The components at highest level are tested first.
- Our client participated in acceptance testing the product development.

SYSTEM IMPLEMENTATION

When the initial design was done for the system, the customers were consulted for the acceptance of the design so that further proceedings of the system development can be carried on. After the development of the system a trail run of the system was carried on. The aim of the trail run was to identify any malfunction of the system.

Different types of data are given as input to the system and the output of the given input is checked. Live data are provided. The inputs for the adding of details for the hotels and restaurants are provided.

Each operation is tested individually at the time of development using the data and has verified that this program linked together in the way specified in the program specifications, the computer system and its environment is tested to the satisfaction of the user.

System implementation is made up of many activities. The major activities used in project development are as follows.

Coding

Coding is the process, whereby the physical design specifications turned into working computer code. In this application Android studio is an IDE used for coding. This is a stable IDE and has a large user community. The controllers, models and views are coded and designed as such the customer experience a smooth working.

Testing

Once the coding process begins, testing for each program module is done in parallel. In this application all

the modules are tested in parallel to the development of each module which helps to make the system error free.

Installation

Installation is the process during which the current system is replaced by the new system.

This conversion of existing data, software, and documentation and work procedures to those consistent with the new system.

Documentation

It is result from the installation process user guide provides the information of how the system works and its flow.

CONCLUSION

"Supply chain management application for home cooking consumers" is completed successfully and submitted to ATOM Systems Pvt Ltd. This system suggests the users to cook food for the day to day cooking with recipes and ingredients. It also used as a supply chain management application to buy ingredients according to weekly recipes.

All the details of the recipes, ingredient, nutritional info and cooking method are stored in a secured database. The system is tested with various sample inputs and is made to provide an error free and smooth experience to the users.

Future enhancement

- Amazon is used to order ingredients till now, other third party site will be include in future.
- The video tutorial feature can be integrated for easy convenience to cook.

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