**COMPUTER ASSISTED RESEARCH INSTITUTE FOR NUTRITION FOOD PRODUCTS**

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**INTRODUCTION**

**Computer Assisted Research Institute (CARI). It is cost effective technique to accomplish accurate, fast and objective quality determination. The various stages of CARI system consist of pre –processing, enhancement, segmentation, feature extraction and classification.**

**Now a day increased awareness of consumer created to improve quality in food products. It uses machine vision with the help of computer, camera and sensors.**

**PROBLEM DEFINITION**

**As the productivity of glass products are increasing day by day. It is very difficult to manage the product quality by means of Human Inspection. Because the identification of different defects by means of naked eye is not possible.**

**The steps that Involved in machine vision technology are Image acquisition, Imager-Processing, Image segmentation, Image feature extraction and Defect classification.**

**SYSTEM ANALYSIS METHODOLOGY**

**System Analysis can be defined as a part of a Structure of module,**

1. **The development of feasibility study, Involving determining whether a project is economically, socially, technologically and organizationally feasible.**
2. **Conducting fact-finding measures, designed to ascertain the requirements of the system’s end-users. These typically span interviews, questionnaires, or visual observation of work on the existing system.**
3. **Evaluating how the end-users would operate the system, what the system would be used. System analysis is the process of observing system for troubleshooting or development purposes and to discover operation and procedures.**

**EXISTING SYSTEM**

**A Backed product is an important quality attribute, with product flavor and influencing the visual perceptions of consumers and its characteristics have been evaluated by computer vision.**

**The internal structure of bread and cake was examined by machine vision. To estimate physical features such as size, shape, backed dough color and fraction of top surface area that was chocolate chip.**

**PROPOSED SYSTEM**

**In food industry, manufacturers need to take extreme care of the finished goods as these products are directly feed from farm to fork, most of the products are consumed directly or indirectly at the end user either human beings / animals.**

**Machine vision has also been used for the detection of wrinkles, dents or other damage to aluminum cans that may cause leakage of contents.**

**SYSTEM STUDY**

**The primary objective of the system is done which helps in identifying the scope of system. The identification of user‘s requirement and limitations and problems of present system are studied.**

**It involves studying a procedure or business in order to identify its goals and purposes and create systems and procedures that will achieve them in efficient way.**

**FEASIBILITY STUDY**

**TECHNICAL FEASIBILITY:**

**All code is written in PHP programming language. The software requirement for the project are minimal .It also requires only less number of processor cycle. The software PHP is easily available in online.**

**ECONOMIC FEASIBILITY:**

**Since the PHP and MYSQL server are already in use at the organization, no cast were to be incurred towards the purchase of the software. This system reduces the cost effort and the time of project has been carried out in the organization.**

**OPERATION FEASIBILITY:**

**If the Processor speed of the machine on which it is run, is as high as the order of 2.80GHz, faster execution rates can be achieved for even high value of bit size.**

**BEHAVIOUR FEASIBILITY:**

**It aims at estimating whether the user is able to cope with the new system. The project has got sufficient support from the management and from the users.**

**SOCIAL FEASIBILITY:**

**The aspect of study is to check the levels of acceptance of the system by user. This includes the process of training the user to use the system efficiently.**

**LEGAL AND CONTRACTUAL FEASIBILITY:**

**This Organization also may work with some experts from computer law association to make sure this analysis is strictly enforced.**

**SYSTEM REQUIREMENT**

**HARDWARE SPECIFICATION**

 **Processor: Intel Pentium Dual Core 2.8 GHz**

**Hard disk: 160 GB**

**Monitor: LG 17’’ Color Monitor**

**RAM: 1GB**

**Keyboard: 104 Keys Multimedia Keyboard**

**Mouse: Logitech Optical Mouse**

**CD-ROM: 52 CD-ROM**

**SYSTEM SPECIFICATION**

**Programming Language: PHP 8.0**

**Database: MYSQL, Workbench 8.0**

**Client script: Java Script, J Query**

**Web design: HTML5, CSS, Bootstrap**

**Web server: Apache XAMPP Control Panel v3.2.5**

**Operating System: Windows 10**

**ABOUT SOFTWARE**

**OVERVIEW OF PHP**

**PHP is a server side scripting language designed for web development but also used as general purpose programming language.**

* **PHP is a recursive acronym for “PHP: Hypertext Preprocessor “.**
* **PHP supports a large number major protocol such as POP3, IMAP, and LADP.**
* **PHP is forgiving: PHP language tries to be as forgiving as possible.**
* **PHP syntax is C-like.**
* **It including MYSQL , Postgre SQL, oracle, Sybase, Informix and MS SQL Server.**

**ENVIRONMENTAL SETUP**

**The first form of delimiter, <?php and ?>, in XHTML and other XML document , creates correctly formed XML processing instructions. This means that the resulting the mixture of PHP code and other mark up in the server –side file is itself well-formed XML.**

**PHP is similar to the C Style Syntax. If conditions, for and While Loop, and the function returns are similar in syntax to languages such as C, C++, C#, Java and perl.**

**DATA TYPES**

**PHP stores whole numbers in a platform-dependent range, either a 64-bit or 32-bit signed integer equivalent to the C- language long type. using the Boolean type conversion rules, non-zero values are interpreted as true and zero as false , as in Perl and C++.The null data type represents a variable that has no values; NULL is the only allowed value for this data type.**

**FUNCTIONS**

**PHP defines a large array of function in the core language and many are also available in various extension; these function are well documented in the online PHP documentation.**

**OBJECTS**

**Object using the reversed words clon , the zend engine will check whether a\_clone() method has been defined. If not, it will call a default\_ clone() which will copy the object’s properties. If a clone() method is defined, then it will responsible for setting the necessary properties to create object.**

* **WEB DESIGN**
* **STATIC WEBSITE**
* **DYNAMIC WEBSITE**
* **HTML**
* **CSS-CASCADING STYLE SHEETS**
* **JAVA SCRIPT**
* **JQUERY**
* **BOOSTRAP**
* **XAMPP**
* **APACHE**
* **MYSQL**
* **DATATYPES**
* **MYSQL Extension**
* **PHP DATA OBJECTS(POD)**
* **My sqli connect()**

**MODULES**

1. **Registration,Login**
2. **Food products**
3. **Customer**
4. **Food Inspections**
5. **Grading and sorting**
6. **Computer vision QC**

 **New User**

 Login

 DB

 Registration

Logout

 DB

Grading and Sorting

Customers

Computer Vision QC

Food Inspections

Food Products

 Authentication

INPUT DESIGN AND OUTPUT DESIGN

 INPUT DESIGN:

 The input design is the link between the information system and the user. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple.

The input design considered the following things:

* What data should be given as input?
* How the data should be arranged or coded?
* The dialogue to guide the operating personnel in providing input.
* Methods for preparing input validations and steps to follow when error occur.

OBJECTIVES

 Input design is the process of converting a user – oriented description of the input into a computer based system. It is achieved by creating user friendly screen for the data entry to handle large volume of data .when the data is entered it will check for its validity.

OUTPUT DESIGN

 It is the most important and direct source information to the user.

* Designing computer output should proceed in an organized, well thought out manner.
* Select methods for presenting information.
* Create document, report or other formats that contain information produced by the system.

OBJECTIVES

 It conveys information about past activities, current status or projection of the future. It signals important events, opportunities, problems or warnings. Triggers an action and confirm an action.

SYSTEM IMPLEMENTATION

LOGIN



QUERY

 Create database DatabaseName

 UseDatabaseName

 Dropdatabase project1

 Create Table Table \_Name(column1 datatype, column2 datatype…)

 Insert into Table\_Name(column1,column2) Values(Value1,Value2);

 Update Table\_NameSet column1=value, column2=value, where condition;

 Delete From Table\_Name where condition;

 Trucatetable TableName

 Droptable TableName

 Altertable TableName add Line1 varchar(50)

 AltertableTablename dropcolumn columnName

 Selectmin(Id)as ”min” from TableName

 Selectmax(Id)as “max” from TableName

 Selectsum(Id)as ”sum” from TableName

 Selectavg(Id)as ” avg” from TableName

 Selectcount(\*)as “total count” from TableName

MYSQL Query

 Create Datebase project1;

 Use project1;

 drop Database Project1;

 Create Table Student

(

Id int,

Reg\_No varchar(50) primary key,

Student\_Name varchar(50) not null,

Dob Date,

Gender CHAR (1),

Score Double,

Mobile Bigint unique,

Constraint Gen CHECK(Gender=’M’ OR Gender=’F’)

);

Drop table Student;

TESTING

Testing is a process of executing a program with the aim of finding error.

TESTING METHOD

* Black Box Testing
* White Box testing

FUNCTIONAL TESTING

 Function tests provide a systematic demonstration that functions tested are available as specified by the business and technical requirements.

 Valid input: Identified classes of valid input must be accepted.

 Invalid input: Identified classes of valid input must be rejected.

 Functions: Identified function must be exercised.

 Output: Identified classes of application output must be exercised.

 System/Procedures: Interfacing system or procedures must be invoked.

TYPES OF TESTINS

* Unit Testing
* Integrated Testing
* System Testing
* Acceptance Testing
* Beta Testing
* Alpha Testing
* Regression Testing
* Performance Testing

CONCLUSION

 Computer Assisted Research Institute (CARI) For Nutrition Food Products is developed by using PHP. It has been developed. Computer vision has the potential to became a vital component of automated food processing operations as increased. Thus development of computer vision techniques such as x-ray, 3-D and color vision will be implementing.