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Abstract

E - Space

"E - Space" deals with the Web Server based Information and Maintenance of the Web Server. Web Service can identify the consumer whether the consumer is an individual, a business entity or another Web Service. The Physical location of the consumer is traceable by the Web Service. The Security and Privacy policies related to the consumer are known to a Web Service. Service level Agreements that exist between the consumer and the service provider are open to the web services. URL names and URL Authorities are identified and maintains the relationship between the consumers and Web Services.

Today in fast moving world of E-Commerce, Companies realize to stay competitive in making their products available over the Internet. These services also need to talk to the partner applications to make the business to business communication work. Services may also be provided to the customer to get the interactivity in the website and get the customer closer to the organization. The inherent complexities of automating such services are the interoperability between platforms. Web Services is emerging as the most promising solution to this need.

1.1.Company Profile

Hindustan Software Limited

Hindustan Software Limited is one of the leading Software Development Companies in Chennai. This organization is collaborated with Lastech Software, it is enterprises in designing and hosting of web pages of various companies, advertising the product profiles of the same. It has also developed a package, Indoweb, an Indian Language Software for Internet, using this the company is able to design the web pages in any Indian Language and host it through the service provider located in North America. It has also recently launched the first website in the world to send mail in Tamil language, the user need not download any Tamil Font in their system to run the package.

Hindustan Software(P) Ltd., has designed the website for TamilNadu and Digital slides for Telugu website. This product was launched in the month of Aug.1996.

Setup in 1989, started the business of developing Regional Software in DTP, Presentation Graphics and Image Processing Software. Recently the company has launched Identification Card Software for printing of ID card for the Citizens of India. The company's Annual turnover averages Rs.1.2 Million. It operates in four state capitals with resellers all over India.

The company maintains a news Magazine called TamilNadu Online on web, which incidentally is the first ever Indian website Magazine on the web. The company

has so far trained more than 400 Professionals in JAVA, in a short span of 16 months. Recently the company has opened an Office in Madurai and another one in Coimbatore.

1.2 ABOUT THE PROJECT

The Project **"E - SPACE"** deals with the Server maintenance for a company. Reports are generated as the output.

The project consist of the main screen as

- Server Information
- Customer Information
- URL Memory Allocation
- URL Information
- Payment Details
- Sales Information
- Product Delivery Information

- URL Renewal Details

- Reports

Server Information:

Select on the Server Information page, goes to the Dnr which consists of general information and evaluation. Selecting on the Server Information, the person has enter the details about scode, sname, stype, ssize, samt .

If the scode already exists then error message is displayed. If it does not exists then the values are inserted into the Dnr Table. After Insertion the values are displayed in the screen.

Customer Information:

Choose on the Customer Information page, goes to the customer table which consists of general information and Evaluation. Select on the customer table, the person has enter the details about cno, cname, company, addr, phone, cmid, password.

If the cno already exists then error message is displayed. If it does not exists then the values are inserted into the customer table. After insertion the values are displayed in the screen.

Product Information:

When Product information is selected a form requesting Product name, Product code, Price will be displayed. After giving the values when insert button is selected the above information will be inserted in a table Product.

Sales Entry:

When sales entry is selected a form will be displayed having hyperlinks new customer. If he/she is new customer a form asking for his information such as name, company, address etc, will be asked for and the details collected will be maintained in customer table. The customer will be provided with a username and password in the previous form itself. Then, a signup page will be displayed asking for username and password. In the case of old customer he will directly reach this signup page. The customer has to fill it up and when submit button is selected if the username and Password given are ok, a list showing the item name is displayed along with its price and hyperlink is given to each item, at that time itself the ordercode and customercode will generate for specification purpose. The customer can click the item he wants and when clicked next page asking for quantity required is obtained. The customer has to provide the quantity required. When insert button is selected, the ocode, ccode, pname, qtyorder, price, amt, dat will be inserted in sales table. In the following screen whenbill is selected sales bill will be displayed. The information such as Customer, Invoice no, request, status will be maintained in bill table.

URL Memory Allocation

The URL Memory Allocation contains customer number, size of purchase, server code, duration, date, URL name, username, password, urltype. The amount for url memory allocation has got from Dnr database in accordance with given size and urltype. Above Information are stored in the dnrform DataBase.

Payment Details:

Payment Details contains preparation of bill and payment entry. The Preparation of bill is done by getting customer number, Invoice number, Request and status from the customer and the bill is prepared from the information available in pdtrequest Database. In the Payment Entry, the customer can make the payment for the

url memory allocation given to him and he can pay in terms of dd, cheque and cash. If the customer is made a part payment of the Total Purchase Amount, then balance amount is calculated and stored in Transaction Database.

Product Delivery Information:

Selecting on the Product Delivery Information, goes to the cusorder database which consists of Product order information. It will display the ordercode and product code and the person has enter the serial number and it will display alone with the orderdate and delivery code in the screen.

Renewal Details:

Renewal Details is given by calculating the renewal date, renewal amount for every customer using the customer number and url_name. And when the renewal amount is paid by the customer, the renewal receipt is given and the information is stored in the renewal Database.

Reports:

When reports is choosed as sign in page will appear in order to verify the authentication of the Managing Director, as every one cannot view the reports. Only authorized persons are allowed to do that. He has give his/her name and password as input and on selecting the buttonsign in if the above given details are correct a page giving hyper link to the next page will be obtained and if not again the sign in page will appear. As the Managing Directors are liable to retire by rotation for the convenience of the newly appointed Managing Director an option new md is given and when it is selected a form for setting the name and password will appear. On selecting the button sign in it will go to the page reports which has the following options

- ✔ Customer Information Reports

✔ Product Information Reports

CUSTOMER INFORMATION REPORTS

- **Single Customer**: When Customer Name is Entered Corresponding Customer Information is displayed.
- **Entire Customer**: All the Customer Information Records are Displayed.

PRODUCT INFORMATION REPORTS

- **Single Product**: When Product Name is Entered Corresponding Product Information is displayed.
- **Entire Product**: All the Product Information Records are Displayed.

Date Wise Report

On selecting the date wise report, a form requesting the productname and date will appear. The text field requesting the name(orderinfo,sales,payment) is designed as listdown box and with the help of which we can select the name, which we want. The date for which we want the report should be given. On selecting the button ok the corresponding date will be checked with the date in the product table and a report will be generated as output.

Month Wise Report:

On selecting the Month Wise Report a form requesting the name and date will appear. The text field requesting the name (orderinfo,sales,payment) is designed as list down box and with the help of which we can select the name, which we want. The month and the year should be given as input. On selecting the button the corresponding month will be checked with the month in the transaction table and a report will be generated as output. Here we are giving the year also as input along with month as in each year we are having the same months and so we should know that for which corresponding years month wise report we want.

Year Wise Report:

On clicking the Year Wise Report a form requesting the name and Year will appear. The text field requesting the name (orderinfo,sales,payment) is designed as list down box and with the help of which we can select the name, which we want. The year for which we want the report should be given. On selecting the button the corresponding year will be checked with the year in the Transaction table and a report will be generated as output.

Payment Details Report:

- Payment Details Report: When a customer code is given, the corresponding Purchase date, Purchase Amount, Amount paid and Balance is displayed.
- Single Customer Balance Payable Report: when customer code is given, the

corresponding customer's balance amount to be paid is displayed for entire purchases.

- ❖ Entire Customer Balance Payable Report:

  Entire customer's balance amount to be paid is displayed along with total balance amount.

Product Detail Reports:

- ❖ Month Wise Product Delivery Report:

  When month and year is entered, the entire Product delivery Information along with the delivery code and product code is displayed for the respective month and year.

Net Profit Information Reports:

- ❖ Month Wise Net Profit Information Report

  When month and year is entered, the entire TotalSales, Total Collections, Total Outstanding Balance of the company is displayed for the respective month and year.

- Year Wise Net Profit Information Report:

  When year is entered, the entire TotalSales, Total Collections, Total Outstanding Balance of the company is displayed for the respective year.

In this way **" E - SPACE "** is processing in an effective manner in utilizing, servicing and maintaining the memory allocation of company server.

2. System Analysis

2.1.Existing System

The existing system at present in LASTECH SYSTEM is manual. They are maintaining all the information like recruitment details, employee details, project details, upgradation and service details etc., in paper form (master and transaction files). At present all the validations and checkings are done manually. All the information are maintained in the registers. The manual processing, which consumes a lot of time while making the report of data a tedious process.

Problems associated with the Existing System

- Possibility of data getting lost.
- Unnecessary pilling of records and difficulty in storage.
- Laborious to retrieve the data from the stacks.
- Process of generating reports becomes difficult.

Reusable software component

- Off-the shelf components
- Full-experience components
- Partial-experience components
- New components

Since this existing system of this project is done manually, so it does not have any software that can be reused. Hence this project falls under the type new components.

2.2 Proposed System

The huge amount of data to be operated and the complexity of the interrelationships between the fields of the various files have necessitated for the new system. Since table handling using SQL Server 2000 would increase the ease in handling data, quicker and timely retrieval of data is possible with flexibility and portability. Keeping in view all these points and problems of the existing system, the new system has been developed using Java Server Page and SQL Server.

Advantage of Proposed System

- Increases the system Reliability
- Centralized access
- Random access
- Easy report generation
- Better Visualization and easy Interpolation

3. FEASIBILITY STUDY

It is both necessary and prudent to evaluate the feasibility of a project at the earliest possible time. Months or years of effort, thousands and millions of dollars, and untold professional embarrassment can be averted if an ill-conceived system is recognized early in the definition phase.

Feasibility and risk analysis are related in many ways. If project risk is great, the feasibility of producing quality software is reduced. During product engineering, however, we concentrate our attention on four primary areas of interest.

3.1. Technical Feasibility

Technical feasibility is the need of hardware and software, which are needed to implement the proposed system in the organiation. Technical requirements is to be fulfilled to make the proposed system work. This should be necessarily predetermined so as to make the system more competent.

3.2. Economical Feasibility

The Economical feasibility must satisfy the needs of the technical feasibility and the operational feasibility. It involves the economic feasibility of developing and implementing the proposed system.

3.3. Operational Feasibility

The proposed system should used the internet level then the different types of end users are involved in the system, so it solves the user's needs and the organization needs. And it supports the all users environment.

4. System Specification

4.1 Hardware Specification

Processor	**:celeron**
Speed	**: 667 MHz**
Hard Disk	**: 4 GB**
RAM	**: 64 MB**
Display Card	**: Super Video Adapter(SVGA)**
Keyboard	**: Standard 102 Enhanced Keyboard**
Mouse	**: Logitech Serial Mouse**

4.2 Software Specification

Operating System	**:Windows 98/2000/XP**
Web Server	**: Apache Tomcat 4.1.7**
Web Browser	**: Internet Explorer**
Front End Tool	**: HTML**
Back End Tool	**: SQL Server 2000**
Client side Script Languages	**: JavaScript**
Server side Technology	**: Java Server Page(JSP)**

4.2.1. About the Software

HTML(Hyper Text Markup Language)

HTML came to existence in 1970. The development of HTML was initiated by Tim Burners Lee was later taken over by Dan Cannolly, Dave Ragett. The ancestor of HTML is SGML(Standard Generalized Markup Language). SGML was developed by ISO(International Standard Organization) and was first used by the US DOD(Department Of Defense).

SGML and HTML have a parent-child relationship. HTML can be referred to as subset of SGML HTTP protocol used to transfer HTML pages.

JavaScript

Java script is a compact; object based scripting language for developing client and server Internet applications.

Netscape Navigator 2.0 interprets JavaScript statements embedded directly in an HTML page, and live wire enable you to create server-based applications similar to common gateway interface(CGI) programs.

Using JavaScript in HTML

JavaScript can be embedded in an HTML document in two ways:

- As statements and functions using the script tag
- As events handlers using HTML tags

JavaScript supports functions, again without any special declarative requirements, functions can be properties of objects, executing as loosely typed methods, JavaScript statements can get and set exposed properties to query the state or alter the performance of an applet or plug in.

JAVA SERVER PAGES(JSP)

The best way to understand Java Server Pages work is by contrasting a Web server that supports Java Server Pages with Web server that doesn't. JSP is easy to learn, robust, scalable, and cross-platform.

Prior to the introduction of Java server Pages, the main function of Tomcat Server was to serve static HTML pages. When someone requested a web page from a web site using Tomcat server, the server would fetch a static HTML file form disk or memory and send it out to the person's browsers. The primary responsibility of Tomcat Server was to act as an efficient interface between browser and a bunch of files sitting on the Web server's hard drive.

Apache Tomcat Server was not different from other Web servers in this respect .The main function of any Web server is to server HTML files. It's important to understand how this process of serving an HTML file is carried out, so here are the steps.

1. A user enters the Internet address of an HTML file into the address bat of Web browsers and passes enter to request a Web page.

22743056. The browser sends a request for the Web page to a Web server such as Tomcat server, Personal web server.

22743008. HTML file because the requested file has the extension.htm or html.

4. The Web server retrieves the proper HTML file from disk or memory and sends the files back to the browser.

22742960. The person’s web browser interprets the HTML file and the results are displayed in the browser window.

What are Java Server Pages?

Java Server Pages (JSPs) are Web pages that contain server-side scripts in addition to the usual mixture of text and HTML (Hypertext Markup Language) tags. Server-side scripts are special commands you put in Web pages that are processed before the pages are sent from your Personal Web Server to the Web browser of someone who's visiting your Web site. . When you type a URL in the Address box or click a link on a Web page, you're asking a Web server on a computer somewhere to send a file to the Web browser (sometimes called a "client") on your computer. If that file is a normal HTML file, it looks exactly the same when your Web browser receives it as it did before the Web server sent it. After receiving the file, your Web browser displays its contents as a combination of text, images, and sounds.

In the case of an Java Server Page, the process is similar, except there's an extra processing step that takes place just before the Web server sends the file. Before the Web server sends the Java Server Page to the Web browser, it runs all server-side scripts contained in the page. Some of these scripts display the current date, time, and other information. Others process information the user has just typed into a form, such as a page in the Web site's guest book.

The Web server retrieves the proper HTML file from disk or memory and sends the files back to the browser.

HOW DO JAVA SERVER PAGES WORK?

A JSP page is just like any other HTML file. Java statements must be placed within <% and %> tag delimiters. Only one placed within these delimiters will be executed as Java code.

Browser Reqt a Jsp Page → reqt t → Server sends a the JSP engine

Server sends HTML back to the server ← JSP Engine sends Servlet HTML output back to server.

What Do Java Server Pages Look Like?

The appearance of an Java Server Page depends on who or what is viewing it. To the Web browser that receives it, an Java Server Page looks just like a normal HTML page. If a visitor to your Web site views the source code of an Java Server Page, that's what they see: a normal HTML page. However, the file located in the server looks very different. In addition to text and HTML tags, you also see server-side scripts. This is what the Java Server Page looks like to the Web server before it is processed and sent in response to a request.

INTEGRATING SCRIPTS INTO JAVA SERVER PAGES

An Java Server Page is primarily a scripting environment; we can integrate scripts created with both JScript and VBscript into our Java Server Pages. It can

be used other scripting languages with Java Server Pages as well. Any scripting language that has a scripting engine can be used in an Java Server Page.

The easiest way to add a script to an Java server Page is by using the script delimiters <% and %>. Any text enclosed within these delimiters will be processed as a script.

What Do Server-Side Scripts Look Like?

Server-side scripts look a lot like HTML tags. However, instead of starting and ending with lesser-than (<) and greater-than (>) brackets, they typically start with <% and end with %>. The <% is called an opening tag, and the %> is called a closing tag. In between these tags are the server-side scripts. You can insert server-side scripts anywhere in your Web page--even inside HTML tags.

Using Variables, and Forms in Java Server Pages

Forms are a convenient way to communicate with visitors to your Web site. Using forms, you can create a survey form and ask visitors to fill it out. When they fill out the form, you can process the results automatically.

With forms, there are two steps: first you create the form, and then you process it. To create a form for an Java Server Page, just create a standard HTML form.

Java Server Pages provide a mechanism for processing forms that, unlike CGI scripting, doesn't involve serious programming: the Request.Form.
Considering the form above, we may create the file bellow and get a response.

Creating a Variable

You'll probably want to do more with your forms than display their

contents in a Web page. For example, based on the contents of the form, you may want to create a variable and insert that variable in different places of your response page. You may need to create a variable. To do that, just make up a name and set it equal to the contents of the field.

Implicit Objects

- ✔ request
- ✔ response
- ✔ pageContext
- ✔ session
- ✔ application

request:

It defines an object that provides access to HTTP-protocol-specific header information sent by the client.

Response:

It defines an object that provides the JSP with the capability to manipulate HTTP-protocol-specific header information and return data to the client.

PageContext:

It provides access to the namespaces associated with a JSP page. It also provides accessors to several other JSP implicit objects.

Session:

It is used to store objects in between client requests. It provides an almost state-full HTTP interactivity.

Application:

It is most often used to access environment information. One of the more common pieces of information accessed by the application object is objects that are stoed in the ServletContext. These objects are stored there so that they will be available the whole time the servlet engine is running.

Features of JSP

- **Platform independence:**

  The use of JSP adds versatility to a Web application by enabling its execution on any computer.

- **Enhanced performance:**

  The compilation process in JSP produces faster results or output.

- **Separation of logic from display:**

  The use of JSP permits the HTML specific static content and a mixture of HTML, Java, and JSP specific dynamic content to be placed in separate files.

- **Ease of administration:**

The use of JSP eliminates the need for high-level technical expertise, thereby helping Web developers, designers, content creators, and content managers to work together and develop Java-based
applications in less time and with less effort.

- **Ease of use:**

  All JSP applications run on major Web servers and operating systems, including Microsoft IIS, Netscape Enterprise Server, iPlanet Web Server, and Apache Web Server. These applications are also available on Windows NT, Windows 2000, and Solaris 7.

About SQL Server2000:

Relational Database Components:

The database component of Microsoft SQL Server2000 is a Structured Query Language (SQL) based, scalable, relational database with integrated Extensible Markup Language(XML) support for Internet applications. Each of the following terms describes a fundamental part of the architecture of the SQL Server 2000 database component.

Database

A database is similar to a data file in that it is a storage place for data. Like a data file, a database does not present information directly to a user; the user runs an

application that accesses data from the database and presents it to the user in an understandable format.

Database systems are more powerful than data files in that data is more highly organized. In a well-designed database, there are no duplicate pieces of data are grouped together in a single structure or record, and relationships can be defined between these structures, and records.

E - Space System specification

When working with data files, an application must be coded to work with the specific structure of each data file. In contrast, a database contains a catalog that applications use to determine how data is organized. Generic database applications can use the catalog to present users with data from different databases dynamically, without being tied to a specific data format.

A database typically has two main parts: first, the files holding the physical database and second, the database management system(DBMS) software that applications use to access data. The DBMS is responsible for enforcing the database structure, including:

- Maintaining relationships between data in the database.
- Ensuring that data is stored correctly, and that the rules defining data relationships are not violated.

Recovering all data to a point of known consistency in case of system failures.

5. System Design

Introduction:

Based on the user requirements and the detailed analysis of a new system, the new system must be designed. This is the phase of system designing. It is a most crucial phase in the development of a system.

Normally, the design proceeds in two stages:

1. Preliminary or general design
2. Structure or detailed design

Preliminary or general design:

In the preliminary or general design, the features of the new system are specified. The costs of implementing these features and the benefits to be derived are estimated. If the project is still considered to be feasible, we move to the detailed design stage.

Structure or detailed design:

In the detailed design stage, computer oriented work begins in earnest. At this stage, the design of the system becomes more structure design is a blue print of a computer system solution to a given problem having the same components and interrelationship among the same components as the original problem. Input, output and processing specification are drawn up in detail. In the design stage, the programming language and the platform in which the new system will run are also decided.

There are several tools and techniques used for designing. These tools and techniques are:

- Flowchart
- Data flow diagram
- Data dictionary
- Structured English
- Decision table
- Decision tree

In the system design part is considered after the successful compilation of the problem analysis. The requirements which and specified in software requirements

specification is verified i.e. whether the requirement specified in it satisfies the user needs.

5.1. Database Design

Database Design is a crucial factor in the performance of a system both in terms of system timings and in the case with which the system can be maintained or modifies.

Table name : login

Field Name	Data Type	Description
Ccode	Varchar	Client code
Pwd	Varchar	Password

Table Name : server

Field Name	Data Type	Description
Scode	Number	Server code
Sname	Varchar	Server name
Stype	Varchar	Server type
Ssize	Number	Server size
Sloca	Varchar	Server location
Company	Varchar	Company name
Authority	Varchar	Authority
Addr	Varchar	Address
Eid	Varchar	Email id
Phoneno	Number	Phone no

Table Name : customer

Field Name	Data Type	Description
Cno	Number	Client no
Cname	Varchar	Client name
Company	Varchar	Company name
Addr	Varchar	Address
Phoneno	Number	Phoneno
Pwd	Varchar	Password

Cid	Varchar	Client id

Table Name : urlbook

Field name	Data Type	Description
Cno	Number	Client no
Size	Number	Required size
Scode	Number	Server code
Dur	Number	Duration
Dat	Varchar	Date of booking
Urlname	Varchar	Urlname
Domname	Varchar	Domain name
Pword	Varchar	Password
Utype	Varchar	Urltype
Ono	Number	Order no
Design	Varchar	Design of url

Table Name : urlinfo

Field Name	Data Type	Description
Ccode	Number	Client code
Urlname	Varchar	Urlname
Dname	Varchar	Domainname
Mname	Varchar	Maintenance name

Table Name : orderprocess

Field Name	Data Type	Description
Cno	Number	Client no
Prcode	Varchar	Product code
Prname	Varchar	Product name
Qty	Number	Quantity
Amt	Number	Amount
Ono	Number	Order no
Sdate	Varchar	Sales date
Price	Number	Price

Table Name : pay

Field Name	Data Type	Description
Ccode	Number	Client code
Payamt	Number	Payment amount
Date	Varchar	Paydate
Paytype	Varchar	Payment type
Cheddno	Number	Cheque/dd no

Bankinfo	Varchar	Bank address
Ono	Number	Order no

Table Name : payment

Field Name	Data Type	Description
Ccode	Number	Client code
Scode	Number	Server code
Size	Number	Required size
Amt	Number	Amount
Ono	Number	Order no

Table Name : prodpay

Field Name	Data Type	Description
Prcode	Varchar	Product code
Paydate	Varchar	Payment date
Ccode	Number	Client code
Amt	Number	Amount
Paytype	Varchar	Payment type
Ddcheno	Number	dd/cheque no
Ono	Number	Order no

Table Name : renewals

Field Name	Data Type	Description
Custcode	Number	Customer code
Sercode	Number	Server code
Urlname	Varchar	Urlname
Date	Varchar	Renewal date
Amt	Number	Amount

Table Name : sales

Field Name	Data Type	Description
Prcode	Varchar	Product code
Prname	Varchar	Product name
Price	Number	Price
Qty	Number	Quantity
Amt	Number	Amount
Sdate	Varchar	Sales date

5.2.Input Design

The goal of designing input data is to make entry easy, free from errors and validations should be maintained such that end users feel comfortable and user friendly while entering data into the system.When the programmer approach input design the first task is to design the source document that captures the data and select media as used to enter into the computer.

User Entry

In this user entry enter the user id and password. It is used for perform the securable data operation.

6. TESTING

Testing Objectives:

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

If testing is conducted successfully, it will uncover errors in the software. As a secondary benefit, testing demonstrates that software functions appear to

be working according to specification and that performance requirement appear to have been met.

Testing Principles:

All tests should be traceable to customer requirements. The objective of software testing is to uncover errors.

Tests should be planned long before testing begins. Test planning can design as soon as the requirements model is complete. All tests should be planned and designed before any code has been generated.

The parento principle applies to software testing. The parento principle implies that 80 percent of all errors uncovered during testing will likely be traceable to 20 percent of all program modules.

E - Space Testing

The testing should begin "in the small" and progress toward testing "in the large". To be more effective testing should be conducted by an independent third party. By "most effective", testing means that has the highest probability of finding errors.

A successful test case is one that uncovers an as-yet-undiscovered error. Software testability is how a computer program can be tested. The following list of categories shows that this software has been tested.

Software testing is often referred as verification and validation. Verification refers to the set of activities that ensures that the software correctly implements the specific function. Validation refers to a different set of activities that ensures that the software that has been built is traceable to the customer requirements.

6.1 Unit Testing

Unit testing comprises the set of test performed by an individual programmer prior to integration of the unit into a larger system. There are different types of tests to be performed on a programming unit. These may be classified as follows:

- Functional Tests
- Performance Tests
- Stress Tests
- Structure Tests

Functional Test cases involves exercising the code with normal input values for which the expected results are known, as well as boundary values and special values.

Performance Testing determines the amount of execution time spent in

various parts of the unit, program throughput, response time and device utilization by the program unit.

Stress Tests are those tests designed to intentionally break the limit. A great deal can be learnt about the strengths and limitations of a program by examining the manner in which a program unit breaks.

Structure Tests are concerned with exercising the internal logic of a program and traversing particular execution paths to exercise, deriving test date, determining the criterion to be used, executing test cases.

6.2. Integration Testing

It addresses the issues associated with the dual problems of verification and program construction. Black box test case design techniques are the most prevalent during integration, although a limited amount of white box testing may be used to ensure converge of major control paths. Integration testing is a systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit-tested modules and build a program structure that has been depicted by design.

Incremental Integration Strategies are

- ❖ Top-Down Integration
- ❖ Bottom-Up Integration

Test cases were designed so that all units tested modules were executed from the main module and the reports were generated to check the results with the expected results.

E - Space Testing

After has been integrated, a set of high order tests are conducted, validation criteria must be tested.

6.3.Acceptance Testing

This test was performed with the users of the system and made sure that it performed as they expected. It was verified that all functionality required by the

user have been satisfied. So for, the system has been found defect free and is working well.

Implementation

After having the user acceptance of the proposed system developed, the implementation phase begins. Implementation is the stage of a project during which theory is turned into practice. During this phase, all the programs of the system are loaded onto the user's computer. After loading the system, training of the users starts.

Maintenance

Maintenance phase is the final stage of the system life cycle. It is necessary to eliminate errors in the system during its working life and to tune the system to any variations in its working environment. It has been seen that there are always some errors found in the system that must be noted and corrected. It also means the review of the system from time to time. The analysis of the system is done for:

- Knowing the full capabilities of the system.
- Knowing the required changes or the additional requirements.

Studying the performance

9. Future Scope of the Project

The project will be more user friendly with the future enhancement of having the mailing facility, which will intimate the users once there web space quota is

over. As well as verification mails, warning mails and news updates to be send to the using the automatic mailing facility. This facility will make the website a complete one.

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