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Release/Analyse Feedback Forms and Conduct Surveys

Software Requirements Specification

Version : 1.0

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Software Requirements Specification

1.0 Introduction:

    1.1 Purpose:

        1.1.1   To Release Customer Feedback Forms on regular basis. Feedback Forms and Comments filled by Customer is analyzed and and accordingly rated. On the basis of rating of these Feedback Forms actions will be taken to improve Product and Services which are delivered by the Firm.

        1.1.2   Conduct Surveys on Registered Customers so that new Product or Services can be provided to Customers.

2.0 Scope:
        The Scope of the Voice Of Customer includes:

    a.   Contact Department releases Feedback Form on regular basis using Software.

    b.   Feedback Forms filled by Customer are rated and stored in Database by the Software.

    c.   Contact Department creates Feedback Report i.e PDF.

    d.   While creation of Feedback Report, feedback is analyzed by the Software and gives final rating along with comments which may be given by Customer.

    e.   Overall Feedback result along with comments are then reflected in PDF created during Report Creation Process.

    f.   Software takes care of sending e-mails to registered Customers regarding release of new Feedback Forms.

    g.   Contact Department also releases Survey Forms on Regular basis using Software.

    h.   Survey Forms filled by Customer are processed and stored in Data

i. Contact Department takes care of Survey Report creation process using Software.

j. Result of Survey is then reflected in PDF thus created in Report creation process.

k. Contact Department will be solely responsible for Feedback Form Report creation and viewing PDF reports created.

l. A particular Department head can also view Feedback Report created but viewing will be restricted to his department only.
E.G. Business Phone Department will be able to view PDF report created for Business Phones only.

m. Contact Department is also responsible for updating and reviewing Feedback Form and Survey Questions on regular basis. This is achieved using Software.

n. Senior Management can view Feedback Form Reports and Survey Reports created for all departments.

o. Software strongly follows MVC model.

p. Software makes sure to differentiate users of software and provide appropriate user interface to appropriate user based on their respective Authentication Credentials.

q. Software takes care of Report Generation (PDF Reports)

r. Software designed using J2EE technology

s. Password Protection provided whenever necessity arises.

3.0 Definitions, Acronyms, and Abbreviations:

a. JSP (Java Server Pages): It is used to create dynamic web content.

b. SERVLET : Used as controller of data flow (mediator) between Database and JSP Pages

c. J2EE (Java 2 Enterprise Edition): It is a programming platform, belonging to the Java platform, which is used for developing and running distributed java applications.

d. WASCE (WebSphere Application Server Community Edition): It is an application server that runs and supports the J2EE and the web service applications.

e. DB2 (IBM Database 2): It is a database management system that provides a flexible and efficient database platform to raise a strong "on demand" business applications.

f. HTTP (Hyper Text Transfer Protocol): It is a transaction oriented client/ server protocol between a web browser and a web server.

g. XML (Extensible Markup Language): It is a markup language that was designed to transport and store data.

h. Ajax (Asynchronous JavaScript and XML): It is a technique used in Javascript to asynchronously communicate with Server and use it for say "Login Authentication"

i. Web 2.0: It is commonly associated with web applications which facilitate interactive information sharing.

4.0 References:

a. Problem Definition (Provided by IBM)

b. SRS Format (Provided by IBM)

c. Object Oriented systems development using Unified Modeling Language by Ali Bahrami, publication: McGraw-Hill, International edition 1999

5.0 Technologies to be used:

a. J2EE(Servlet, JSP, Java Beans): Application architecture.

b. JAVA CORE: Application architecture.

c. WASCE: (WebSphere Application Server Community Edition) Web Server

d. DB2: IBM Database.

e. AJAX: Asynchronous Java Script and XML.

f. XML: Extension Markup Language.

g. RAD 7.0: Eclipse-Europa used as RAD Development tool.

h. PDF Report Creation using Java API.

6.0 Overview :

Overall Description will reflect major components of the system, interconnection and external interfaces.

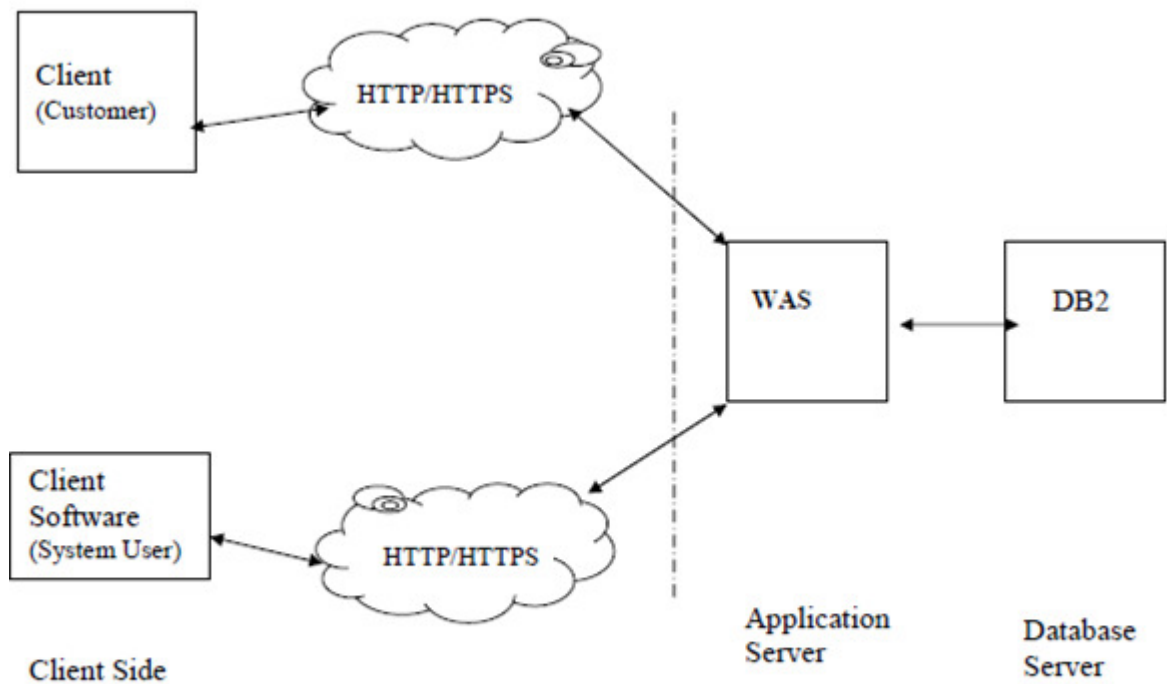**Specific Requirements** will describe the functions of actors, their role in the system and constraints.

7.0 Overall Description:

7.1 Product Perspective:

a. On Client Side i.e.user of the Software is provided with web pages designed using JSP

b. JSP pages then communicate with Web Server using HTTP Protocol

  c. Web Server has application which follows MVC model so Servlet makes sure to take appropriate action based on request received from Software user and update information to Database using Model Classes.

  d. Servlet also makes sure to send appropriate response to Client Side i.e user of the Software using JSP pages.

7.2 Software Interface:

    a. Front End Client: Web Browser supporting Web Pages and Javascript

    b. Web Server: WebSphere

    c. Data Base Server: DB2

    d. Back End: Servlet, JSP and Java Core (following MVC Model)

    e. RAD Tool: Eclipse-Europa

7.3 Hardware Interface:

Client Side			
Internet Explorer6.0 &above, Mozilla Firefox, Chrome	Processor	RAM	Disk Space
	Pentium III at 500 MHz	128MB	1GB
Server Side			
Web sphere application server	Pentium IV at 1.3 GHz	512MB	2GB
DB2 EXPRESS-C	Pentium IV at 1.3 GHz	512MB	1GB(Excluding data size)

7.4   Product Functions:

a. Release Feedback Forms:

Contact Department used this functionality provided by software to release Feedback Forms to Registered Mobile Phone Customers of the Mobile Firm.

b. Release Survey Forms:

Contact Department used this functionality provided by software to release Survey Forms to Registered Mobile Phone Customers of the Mobile Firm.

c. Analyze Feedback Form:

Analysis of Feedback Form filled by Registered Mobile Phone Customers is done by Software and saved to the Database.

d. Analyze Survey Form:

Analysis of Survey Form filled by Registered Mobile Phone Customers is done by Software and saved to the Database.

e. Rating Feedback Form:

When Customer fills and submits Feedback Form, the Form is rated accordingly by Software and this Rating thus calculated along with Comment(if any) given by Customer is also saved in Database.

f. Report Generation:

Contact Department uses this functionality provided by Software to create Final Reports for Feedback Forms and Survey Forms. While report creation, Software takes all Feedback responses of Customer into account to create a single output report i.e. PDF report. Similarly Software takes into account all responses received

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from Customers when Survey is conducted by the Contact Department and create a single output file i.e. PDF report.

g. Updating Questions:

Questions which are used in Feedback and Survey Forms can be easily Updated using Software. Contact Department Employee who is responsible to handle Questions to be used in Feedback and Survey Forms is provided with functionality to update Questions on regular basis and thus new Questions will be reflected in Feedback and Survey Forms released by Contact Department Employee.

h. E-mail Sending Functionality:

Contact Department Employee uses this functionality provided by Software to inform Registered Mobile Phone Customers about new Feedback Form releases and Surveys conducted on regular basis. Software makes sure the e-mail is sent to Registered Mobile Phone Customers and accordingly give acknowledgement to Contact Department Employee.

i. User Specific Functionality:

Software makes sure to differentiate between various users of Software based on their authentication credentials and provide them with respective functionality.

For Example :

 "Contact Department Employee" is will be provide with all Report Creation and all Report Viewing Functionality but "Business Phone Department Employee" is provide with "Business Phone Feedback Report" Viewing functionality only.

j. Other API:

Software uses additional Java APIs to communicate with "DB2 Express-C" Database PDF Report Creation and sending e-mails to Registered Mobile Phone Customers.

7.5 User Characteristics:

Software can be used by any user who is comfortable using Computer and has basic knowledge about Internet and Browsing Web Pages using Web Browsers. User is also expected to know English so that Software can be used efficiently by him.

7.6 Constraints:

a. Software's user interfaces is designed in English only.

b. Only Registered Users of Mobile Phones will be provided with Feedback Form and Survey Form.

c. Efficiency of Software will also depend on network traffic.

d. Protocol used for communication is restricted to HTTP protocol and SOAP messages.

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7.7 Architecture Design:

"Voice Of Customer" Software strongly follows MVC Model.

"Voice Of Customer" Software Architecture Design is as follows:
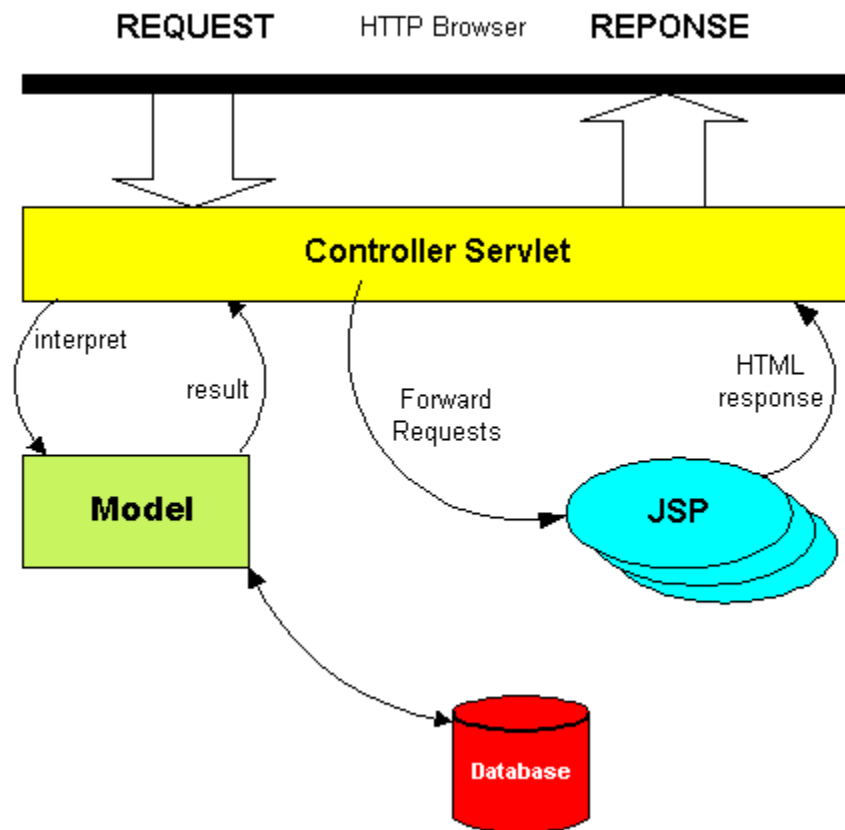
a.   Controller (Servlet Classes):

BusinessFeedbackForm.java, EmployeeIdentity.java, VerifyProductID.java, MailToCustomer.java, VerifyEmployee.java etc.

b. Model (Java Pojo Classes):

ProcessRegistrationForm.java, QuestionUpdateToDB.java, ProcessFeedback.java, MailSender.java, ConstructForm.java etc.

c. View (JSP Pages):

CustomerRegistration.jsp, EmployeeLogin.jsp, BusinessPhoneFeedbackForm.jsp, CustomerDepartmentMainMenu.jsp, RegistrationSuccess.jsp, EditFeedbackForm.jsp, UpdateSuccess.java etc.

d. Database :

DB2 Express-C

7.8   Use Case Diagram:

7.9   Class Diagram:

7.10   Sequence Diagram:

a. Database Design:

b. ER Diagram:

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7.11   Assumptions and Dependencies:

a. Database for Company Employees having Login ids and Password along with their personal information is already available with "Voice Of Customer" Software.

b. Database for Company Product i.e. Cell Phone Information is already available with "Voice Of Customer" Software.

c. User's Roles and Responsibilities are pre-structured.

d. User of the "Voice Of Customer" Software is expected to know English.

8.0 Specific Requirements:

8.1 Use-Case Reports:

a. Actors: Following are the various Actors involved in using "Voice Of Customer" Software

   I.   Contact Department Employee

   II.   Registered Customer

   III.   Business Phone Department Employee

   IV.   Gaming Phone Department Employee

   V.   Standard Phone Department Employee

   VI.   Senior Management Employee

   VII.   Sales and Marketing Department Employee

b. Functionality Description and its User:

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i. Employee Login:

In order to use specific functionality, the "Voice Of Customer" Software user should provide appropriate credentials during Employee Login Process. On the basis of credentials, Employee will be identified and provided with respective functionality/functionalities.

❖ Name of use case: Employee Login

❖ Description: Company Employee provides Login name and Password to Software. Once Software authenticates the Employee then depending upon Employee Type he will be provided with appropriate functionlaity/functionalities.

❖ Preconditions: Login name and Password of Company Employees is already available in Database which is used by the Software.

❖ Normal flow of events:

✓ Company Employee requests for Employee Login Page and enters Login name and Password in Web page thus received

✓ JavaScript Validates the information provided.

✓ Ajax code in Javascript sends Login name and Password to Web Server for Authentication

✓ On Server Side Servlet uses Login name and Password received by Web Server and authenticates using Employee Information already present in Database. Servlet returns "yes" if Employee authentication process yields positive result.

✓ On Client side, if Ajax Code receives "yes" then Login name and Password is forwarded to Servlet responsible for identifying type of Company Employee(e.g. Contact Department Employee, Sales and Marketing employee etc)
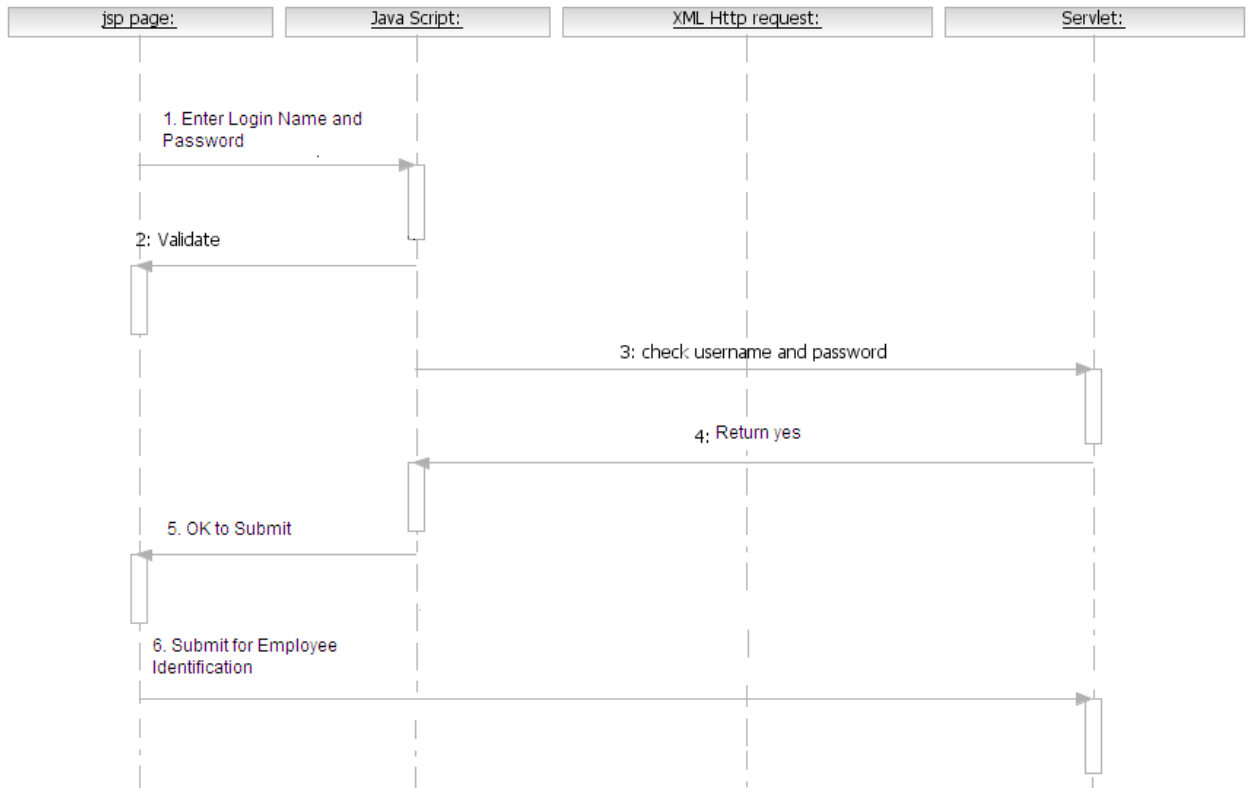
ii.   Employee Identification:

When user of system provides Login name and Password then using valid credentials, he will be provided with appropriate functionality.

❖ Name of use case: Employee Identification

❖   Description: When user of system provides Login name and Password then using valid credentials, he will be provided with appropriate functionality.

❖ Preconditions: : Login name and Password of Company Employees is already available in Database which is used by the Software.

❖ Normal flow of events:

    ✓ Login name and Password given to Employee Identification Servlet

    ✓ This Servlet identifies the Employee uniquely using Company Employee Information already present in Database

    ✓ If Employee exist then it sends appropriate Web Page to User
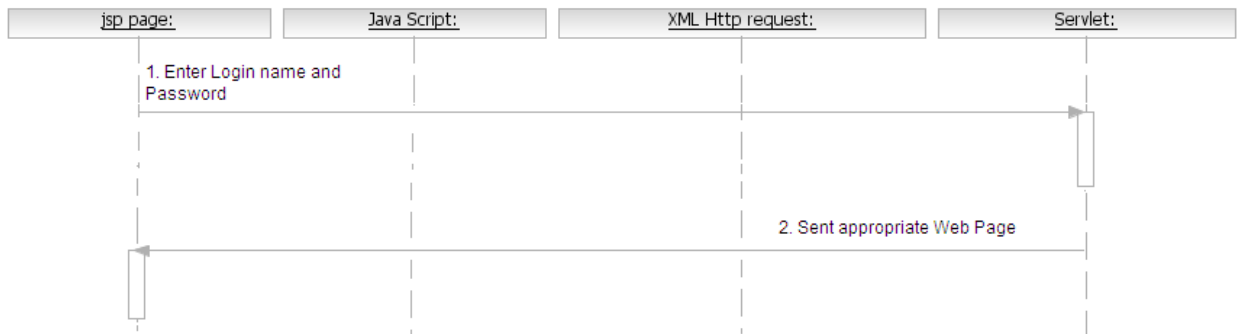
    iii.   Release Feedback and Survey Forms:

If User logins into the "Voice Of Customer" System using Contact Department Employee Credentials, then he will be provided with options like "Release Feedback Forms" URL specific to a Product like "Business Phone", "Gaming Phone", "Standard Phone", "Service Form" etc and "Service" provided by Mobile firm. URLs of feedback Form will be sent via "e-mail".

❖ Name of use case: Release Feedback Form

❖ Description: Contact Department Employee Specific Releases Feedback Form to   Specific Customers

❖ Preconditions: Feedback Questions already entered/updated by Contact Department Employee in Database

❖ Normal flow of events:

✓ Contact Department Employee logs in with this Login name and Password.

✓ Web Server accepts Login name and password and hands it over to Servlet. Servlet then sends Contact Department Main Menu Web Page as response to user

✓ Contact Department Employee now can see various options like "Release Business Phone Feedback Form", "Release Gaming Phone Feedback Form", "Release Standard Phone Feedback Form", "Release Service Feedback Form" and "Release Survey Form". He clicks on any option i.e. button and request is sent to Servlet

✓ Servlet then identifies the type of Feedback Form to be sent to Customers and then transfers request to Model Java Class.

✓ When "e-mail" containing Feedback Form URL is sent successfully by Model Java class, Servlet is notified accordingly. Servlet then sends JSP page to user indicating success in e-mail sending.

iv.   Edit Questions:

Contact Department Employee is responsible for Creating/Updating questions for Feedback, Service and Survey Forms.

❖ Name of use case: Edit Questions

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❖ Description: Contact Department edits questions for Feedback, Service and Survey Forms

❖ Normal flow of events:

- ✓ Contact Department Employee logs in with this Login name and Password.

- ✓ Web Server accepts Login name and password and hands it over to Servlet. Servlet then sends Contact Department Main Menu Web Page as response to user

- ✓ Contact Department Employee now can see various options like "Edit Business Phone Feedback Form", "Edit Gaming Phone Feedback Form", "Edit Standard Phone Feedback Form", "Edit Service Feedback Form" and "Edit Survey Form". He clicks on any option i.e. button and request is sent to Servlet

- ✓ Servlet then identifies the type of request send by employee and responses to user by sending Web Page containing current questions for Feedback, Service or Survey Form

- ✓ Contact Department Employee can now modify questions and updated questions are submitted to corresponding Servlet.

- ✓ Servlet then accepts the questions and sends all questions to Model Java Class

- ✓ Model Java Class then updates these new questions to Database

- ✓ Model Java Class sends notification to Servlet about successful updation to Servlet

✓ Servlet when received positive response from Model Java Class, it responses to user with Web Page indicating successful updation of questions to Database

v.   Create Report:

Contact Department is responsible for Report creation for received Feedback Forms.

❖ Name of use case: Create Report for Feedback, Service and Survey Forms filled and submitted by Customers

❖ Description: Report Creation

❖ Preconditions: Feedbacks given by Customers is already available in Database

❖ Normal flow of events:

✓ Contact Department Employee logs in with this Login name and Password.

✓ Web Server accepts Login name and password and hands it over to Servlet. Servlet then sends Contact Department Main Menu Web Page as response to user

✓ Contact Department Employee now can see various options like "Create Business Phone Feedback Report", "Create Gaming Phone Feedback Report", "Create Standard Phone Feedback Report",

"Create Service Feedback Report" and "Create Survey Report". He clicks on any option i.e. button and request is sent to Servlet.

✓ Servlet then identifies the type of request send by employee and this request is forwarded to Model Java Class

✓ Model Java Class then creates PDF Report for Feedback received from Customers and notifies Servlet about successful creation of PDF report.

✓ Servlet when receives positive response from Model Java Class, it sends response to employee with JSP page to indicate success of report creation.

vi. Customer Registration:

Customer has to register himself to "Voice Of Customer" System in order to received Feedback and Survey Forms on regular basis.

❖ Name of use case: Customer Registration

❖ Description: Customers use URL to view and fill Registration Form and then submits to Web Server

❖ Preconditions: Product Information is already available in Database.

❖ Normal flow of events:

✓ Customer requests for Registration Form to Web Server and receives JSP page to fill in his Details. On filling details he clicks "submit" button

✓ When submit is clicked, Javascript validates the details entered

✓ On validation success, Ajax code in Javascript sends "PRODUCT ID" entered by Customer to Servlet

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- ✓ Servlet verifies "PRODUCT ID" using Product Information which is already available in Database.

- ✓ Servlet on successful verification of Product sends "yes"

- ✓ Ajax Code when receives "yes" submits Customer Details to Servlet

- ✓ This Servlet then sends Customer Details to Model Java Class

- ✓ Model Java Class when successfully enters Customer Details to Database, it notifies Servlet

- ✓ Servlet when receives positive response from Model Java Class, it sends JSP page to Customer indicating successful Registration of Customer to "Voice Of Customer" System

vii. Constructing and Sending Feedback Forms:

Contact Department Employee sends URL for Feedback Form to Customers. Customer then use URL to make request for Feedback Form.

- ❖ Name of use case: Sending Feedback Form

- ❖ Description: Customers requests for Feedback Form

- ❖ Preconditions: Customer Information and Questions for Feedback Forms already available in Database

- ❖ Normal flow of events:

  - ✓ Customer sends request for Feedback Form to Servlet

✓ Servlet identifies type of Feedback Form requested and forwards request to Model Java Class

✓ Model Java Class then gets all Questions for that particular Feedback Form(e.g. Business Phone Feedback Form) requested by Customer from Database. It then sends all Questions to Servlet

✓ Servlet then dispatches all questions to JSP page(i.e VIEW).

✓ JSP page shows all questions received from Database and this JSP page is sent to Customer

viii.   Filling and submitting Feedback Form:

Contact Department Employee sends URL for Feedback Form to Customers. Customer then use URL, sent via e-mail, to make request for Feedback Form, fills it and submits it to Web Server

❖ Name of use case: Filling and submitting Feedback Form

❖ Description: Customer requests for Feedback Form using URL sent via e-mail and Submits it to Web Server

❖ Preconditions: Customer Information already available in Database

❖ Normal flow of events:

✓ Customer hits Feedback Form URL and request is sent to Servlet

✓ Servlet then responses with appropriate Web Page containing Feedback Form Questions

✓ Customer fills Feedback Form and submits it to Servlet

✓ Servlet then forwards Customer's Feedback Data along with Comments to Model Java Class

✓ Model Java Class does analysis of received feedback from Customer and decides over the "Rating". This "Rating" along with Comments, if any, is sent to Database. It notifies about it to Servlet

✓ Servlet when receives positive response from Model Java Class, it sends response to Customer via JSP page indicating successful Feedback Submission

ix. Report(pdf) Viewing:

Contact Department Employee is responsible for Report creation for Feedback received from Customers. There should be restriction over Report accessibility.

For Example,

"Contact Department Employee" and "Senior Management Employee" will be able to view Report created for all type of Feedback Forms like "Business Phone Feedback Form", "Service Feedback Form", "Survey Feedback From" etc.

But "Business Phone Department Employee" should be able to access Report created for Feedback received for "Business Phone Feedback Form" given by "Business Phone Customers"

❖ Name of use case: Report Viewing

❖ Description: Viewing PDF Reports created for Feedback given by Customers

❖ Preconditions: Company Employee Information already available in Database

❖ Normal flow of events:

✓ Company Employee request for Login page and enters Login name and Password

✓ Javascript does validation

✓ Ajax code in Javascript sends Login name and Password to Servlet

✓ Servlet verifies Login name and Password and sends "yes"

✓ Ajax code when receives "yes", Login name and password is sent to Servlet

✓ Servlet identifies the Employee Type and sends corresponding JSP page containing "Main Menu" (like SeniorManagementMainMenu.jsp, Sales_MarketingMainMenu.jsp etc)

✓ Employee when clicks "View Pdf" button, he will be provided with new window containing Report in Pdf form for which he had requested.

8.2 Supplementary Requirements

a. **24 x 7 Availability -** If the base is now the entire world, staying open 24 hours a day becomes critical. Because system can be an automated Process, so it can stay open for 24 hours a day. So UPS support must be on server site for at least 8 hours in case of power failure. System will remain inaccessible to users at 2:00 to 4:00 am for backup and maintenance purpose.

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b. **Dynamic Website -** Many early Web implementations consisted of static HTML pages. This becomes very difficult to manage if the number of pages gets too large. An effective system should be largely dynamic taking advantage of technology that automates this process rather than relying on manual processes. Application should serve dynamic user based customized web pages to its clients from server.

c. **Integration with existing enterprise systems –** Any existing Web site that relies on the manual duplication of data from another system is one that can be improved. Most of the business data in the world today exists in enterprise servers that can be connected to the Web servers to make this process far more effective.

d. **Provide good performance and the ability to scale the server –** The Web application Server should provide good performance and the ability to manage performance with techniques, such as support for caching, clustering, and load balancing.

e. **Providing session management capability -** Web application developers should not spend valuable time worrying about how to maintain sessions within the application. The Web Application Server should provide these services.