Software Requirements Specification

For

ONLINE GIFT SHOPPING

23th JULY 2019

Table of Contents

Revision History

Name	Date	details	Version

1. Introduction

1.1 Purpose

Online shopping or e-shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser. The Online Shopping System (OSS) for gift shop web application is intended to provide complete solutions for customers to purchase gift products through a single get way using the internet. It will enable the customer to browse through the shop and purchase them online without having to visit the shop physically.

1.2 Document Conventions

The System name is highlighted all over the document with bolded letters as well as underlined as well. Irrespective of that there is no specific convention provide. Every requirement statement has it's own priority.

1.3 Intended Audience and Reading Suggestions

This document is intended to provide a clear picture of the system for the users i.e the costumers and the vendors. And the SRS document got divided into sections which are classified as the scope of the project, the overall description about the system, the system features, external interface requirements as well as the non functional requirements.

1.4 Project Scope

This software system will be a **Online Gift Shopping** System . This system will be designed to help customers to find their desired gifts for them, which would otherwise have to be performed by manual searching. The software provides different categories of gifts for all the ages. With a simple registration, new customers can register to the portal and can find the required product. It provides access to the products from anywhere. It will meet the customer's needs while remaining easy to understand and use.

More specifically, this system is designed to provide the categories of available gifts to the searching customer. It will provide a tracking feature to keep the track of the ordered product after the purchase.

2. Reference

Courses:

ARISE on campus program FY 2019

Websites:

- www.google.com
- www.w3schools.com
- www.tutornation.com

3. Overall Description

The Overall Description section, of this document gives an overview of the functionality of the product. It describes the

informal requirements and is used to establish a context for the technical requirements specification in the next heading.

The Product feature, Operating Environment, Design and Implementation Constraints, of this document is written primarily for the developers and describes the details of the functionality of the product. This system will be completely web-based, linking to **Online Gift Shopping** and the remote web server from a standard web browser. An Internet connection is necessary to access the system.

3.1 Product Perspective

- Online Gift Shopping is a self contained system. It is aimed towards the customers who want to search out the good gift products. The web portal should be user-friendly, quick to learn and reliable for the above purpose. It is not a stand-alone product and depends on the availability of Eclipse software. It should run on Windows based platform.

Product Features

- It is easy to use the product with all the information provided in the form of links.
- The customers can access the portal with simple registration.
- User can access online gift shopping without any prior charges.
- The product provides customer the facility to choose the category of the gift products.
- Customers can check the tracking of their order on a regular basis.
- Customers can discuss their problems or submit their feedback via e-mail.

User Classes and Characteristics

The user classes will be Customer.

Operating Environment

Technologies to be used

Programming languages:

- **JAVA EE**: Java Enterprise Edition is a programming platform part of the Java Platform-for developing and running distributed multi-tier architecture Java applications, based largely on modular software components running on an application server.
- **HTML**: Hyper Text Markup is the predominant markup language for web pages. It provides a means to describe the structure of text-based information in a document and to supplement that text with interactive forms, embedded images, and other objects.
- **JavaScript**: A client side scripting language used to create dynamic web content and user interface.

Tools & Development Environment:

- **Apache Tomcat 9.0.22 Server**: Apache Tomcat is a Servlet container developed by the Apache Software Foundation (ASF). Tomcat implements the Java Servlet and the JavaServer Pages (JSP) specifications from Sun Microsystems, and provides a "pure Java" HTTP web server environment for Java code to run.

- **Eclipse IDE** is a modular, standards-based integrated

development environment (IDE), written in the Java programming language. The NetBeans project consists of a full-featured open source IDE written in the Java programming language and a rich client application platform, which can be used as a generic framework to build any kind of application.

Design and Implementation Constraints

- There is no maintainability of back up so availability will get affected.
- Limited to HTTP/HTTPS Protocols.
- No multilingual support
- User do not have any rights to edit any data in the system

User Documentation

- The user should be familiar with the Internet.

Assumptions and Dependencies

- The details related to the student, payment and service transaction provided online.
- Administrator is created in the system already.
- Roles and tasks are predefined.
- Roles and responsibilities are already established.

4. System Features

Registering New Users in the Database:-

3.1.1 Description and Priority

This feature will enable the new customer to enter his/her basic information in the database, so that the generation of profile for them may be done.

3.1.2 Stimulus/Response Sequences

This form will consist of basic fields such as Name, Email, Mobile number, Gender, Date of Birth and Password. There is one button Register. Register will submit the data to the database at the server tier.

3.1.3 Functional Requirements

The most important requirement here is to input values in the database and store them there for future use. To implement the security and to ensure that no android is filling in the registration forms, the user has
to enter the captcha generated during registration . If any field is left to provide the data, the system will prompt the user by using the scripts and will not submit the data until corrections/data entries are made completely.

Secure Login to the interface:-

3.2.1 Description and Priority

This feature will enable the user to have a secure and simple login to the system. To avoid handling a large number of errors and exceptions this feature will enable the user to provide only a limited number of inputs having constraints upon them and if there are any errors the system will notify the user about them.

3.2.2 Stimulus/Response Sequences

It will consist of two basic fields Username and Password. There are two buttons: Login and Forgot password. Login will submit the entered data for approval followed by access, and forgot password button will change the details of the user.

3.2.3 Functional Requirements

The most important function is to only grant access to users that are listed in the database. The customer will provide the information on who will be allowed access. To implement the security, the web page must check the database to see if the Username and Password are valid. If they are not, the user will receive an Enter correct username and password as a response.

Searching for Gifts:-

3.3.1 Description and Priority:

This feature will enable the user when he/she has successfully logged into the system or portal here to search for a gift according to their needs and requirements. To avoid handling a large number of errors and exceptions this feature will enable the user to enter only a limited number of inputs having constraints upon them and if there are any errors the system will notify the user about them.

3.3.2 Stimulus/Response Sequences

This will consists of basic search fields. The Search field will search the database for the gifts matching to the search.

3.3.3 Functional Requirements

The important function here is to suggest users a list of available gifts according to the provided information. The user will then upon his sole discretion will select a suitable gift product for him/her and will proceed to the payments.

Purchasing of Gifts:-

3.4.1 Description and Priority

This feature will enable the user(Customer) to purchase the online gifts available. Tracking is available for the purchased gifts.

3.4.2 Stimulus/Response Sequences

The gifts are categorized and are available for the purchasing by the customer, he/she has to select the gift, provide the payment information and place the order.

3.4.3 Functional Requirements

The important function here is to receive and deliver payment information to the customer so that he/she may order from the portals. If the payments are not received from the customer then an error message is generated Enter all details correctly.

Reviewing of results:-

3.4.1 Description and Priority

This feature will enable the user to check on the current status of their order.

3.4.2 Stimulus/Response Sequences

The comments are given by the site on the profile of customer so that they may keep a track.

3.4.3 Functional Requirements

The important function here is to make comments and review them accordingly.

5. External Interface Requirements

5.1 User Interfaces

The user interface is screen shown on the browser. The Home screen of the Web-Portal is where customer can register and login. The portal screen acts as an interface to provide services to the user which are to be availed from the database.

5.2 Hardware Interfaces

A minimum of 40GB of HDD, with Pentium IV processor, a minimum of 256MB of RAM so that a suitable OS (Windows XP) may be installed, and a reliable internet connection is required for the client side/user side so that may be accessed easily.

5.3 Software Interface

The system uses:

JSP: Java Server Pages. It is a technology that helps software developers serve dynamically generated web pages based on HTML, XML and other document types; uses java programming language.

Servlet: Java web-containers which holds actions to be performed; a Servlet a java programming language class used to extend the capabilities of servers that host applications access via a request response programming model.

Struts: Java Framework to be used to develop web applications,
NetBeans6.9.1,Oracle 10g.

IDE Eclipse Enterprise Edition: IDE Eclipse EE is a platform framework for Java web applications.

MySQL : It is a object-Relational Database Management System. The MySQL DBMS can store and execute stored procedures and functions within itself.

d. Communications Interfaces

Internet connection and Browser are required in order for accessing the services. The system uses the following browsers:-

6. Mozilla Firefox

7. Google Chrome

8. Internet Explorer

5. Other Non-functional Requirements

a. Performance Requirements

Some Performance requirements identified is listed below

a. The database must be support more than 100 customers and products record.
b. Can support many users at the same time.
c. High speed internet connection.

b. Safety Requirements

The material ordered must be for the authentic user this can be provide by there-strict communications between some areas of the program (constraints) . Material should be accessed by intended user.

c. Security Requirements

Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below. Specific requirements in this are could include the need to:

1. Keep specific log or history data sets.
2. Check data integrity for critical variables.
3. Communication needs to be restricted when the application is validating the user .
4. Providing Authentication.

d. Software Quality Attributes

There are a number of attributes of software that can serve as requirements. It is important that required attributes should be specified so that their achievement can be objectively verified. The following terms provide a partial list of examples

Portability

Some of the attributes of software that relate to the ease of porting the software to other host machines and/or operating systems. This may include: Java is used to develop the product. So it is easiest to port the software in any environment.

Maintainability

The user will be able to reset all options and all stored user variables to default settings.

Reliability

Some of the attributes identified for the reliability is listed below:

1. All data storage for user variables will be committed to the database at the time of entry.
2. Data corruption is prevented by applying the possible backup procedures and techniques.

Usability requirements

Some of the usability requirements identified for this system are listed below:

1. A logical interface is essential to an easy to use system, speeding up common tasks.
2. Error prevention is integral to the system and is provided in a number of formats from sanity checks to limiting free-text input.

Availability:

All cached data will be rebuilt during every startup. There is no recovery of user data if it is lost. Default values of system data will be assigned when necessary.

9. Other Requirements

Immediate Feedback:

The System must try to answer all the queries of the user and it should provide immediate feedback after getting any request from the customers. The system must provide the illusion to the user, that they are in contact to administrator of the web-site.

Increase the Quality of the Process:

The system must increase the quality of the services and the way of imparting knowledge by suggesting good products at reasonable price.

Make the Interface Simple as Possible:

The System must provide the simple and easy interface for beginners and also provide facilities for technical peoples who are using the system. The interface must be simple as possible.

Reduced Time:

To perform any task time is one of the important factors to consider. If the system not utilize properly time, than the entire aim of system is fails and the system is fails to reach its goal. So time take to process all these activities should be less but the output should be effective.

Appendix A: Glossary

Term	Definition
Database	Collection of all the information monitored by this system.
Administrator	Is a person responsible for maintaining one or many websites. The duties of the webmaster may include ensuring that the web servers, hardware and software are operating correctly, designing the website, generating and revising web pages, replying to user comments, and examining traffic through the site.
HTML	Hypertext Transfer Protocol is a transaction oriented client/server protocol between a web browser & a Web Server

HTTPS	Secure Hypertext Transfer Protocol is a HTTP over SSL (secure socket layer).
SRS(Software Requirements Specification)	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
Stakeholder	Any person with an interest in the project who is not a developer.
User	Customers
IDE	An integrated development environment (also termed integrated design environment, integrated debugging environment or interactive development environment) is a software application that provides comprehensive facilities to computer programmers for software development
Email	Electronic mail, commonly known as email or e-mail, is a method of exchanging digital messages from an author to one or more recipients

Appendix B: Analysis Models

Under the analysis model, we analyze the system to check the following:

1. Whether it meets the requirements that guided its design and development;
2. Works as expected; and
3. Can be implemented with the same characteristics.

To perform these analyses of the model, the following testing is to be implemented:-

Unit testing: Unit testing, also known as component testing, refers to tests that verify the functionality of a specific section of code, usually at the function level. In an object-oriented environment, this is usually at the class level, and the minimal unit tests include the constructors and destructors.

Integration testing: Integration testing is any type of software testing that seeks to verify the interfaces between components against a software design. Software components may be integrated in an iterative way or all together ("big bang").

Integration testing works to expose defects in the interfaces and interaction between integrated components (modules). Progressively larger groups of tested software components corresponding to elements of the architectural design are integrated and tested until the software works as a system.

System Testing: system testing is done to ensure whether the system meet all the requirements stated in the SRS.

System testing is performed on the entire system in the context of a Functional Requirement Specification(s) (FRS) and/or a System Requirement Specification (SRS). System testing tests not only the design, but also the behavior and even the believed expectations of the customer. It is also intended to test up to and beyond the bounds defined in the software/hardware requirements specification(s).

The system testing is categorized into three:

Alpha testing

Alpha testing is simulated or actual operational testing by potential users/customers or an independent test team at the developers' site. Alpha testing is often employed for off-the-shelf software as a form of internal acceptance testing, before the software goes to beta testing.

Beta testing

Beta testing comes after alpha testing and can be considered a form of external user acceptance testing. Versions of the software, known as beta versions, are released to a limited audience outside of the programming team. The software is released to groups of people so that further testing can ensure the product has few faults or bugs. Sometimes, beta versions are made available to the open public to increase the feedback field to a maximal number of future users.

Acceptance testing

Acceptance testing performed by the customer, often in their lab environment on their own hardware, is known as user acceptance testing (UAT). Acceptance testing may be performed as part of the hand-off process between any two phases of development.

Appendix C: Issues List

The problems that might occur with the software product are:

- It might occur that a Customer searches for a particular gift but the content is not available.
- During purchasing an error might occur.
- No transaction is flawless. Transaction can break at multiple points during the process.
- The portal is dependent on web services. Though we make every effort to ensure that services are provided on time but there is no guarantee The problems that might occur are:
    - Some web pages are lost. The user is looking for a specific Web page but try as they might, they can't find it.
    - Web pages load slow or incorrectly. The user found the Web page he wanted but it took forever to load or things are jumping around on the page while loading.
    - **JavaScript Errors.**

      Forms are completely broken. After clicking submit button, an error might occur.
    - Big security vulnerability. Someone to steal your login information and hack into your account
    - Broken Registration Process
    - Site won't load. Websites are supposed to work fine whether you type in the "www" or not. But an error might occur.

Synopsis Of

“Online Gift Shopping”

Submitted By

Pranay Kashyap	-	1621610076
Devansh Shahi	-	1621610034
Kumar Aniket	-	1621610051
Keshav Sharma	-	1621613023
Rohit Pal	-	1612710086
Rehan Raza	-	1621610087

Under the guidance of

Ms. Deepa Basantani

In partial fulfillment of

Bachelor of Technologies
Computer Science and Engineering

IIMT College of Engineering
A20 Knowledge Park 3
Greater Noida

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INDEX

1. INTRODUCTION

Many web portals claim to provide good gifting products to customers who are looking for as per their requirements. The different web portals functioning now a day promise their user's (the registered ones) to provide them with best service for the products which they are looking for but often fails to do so.

Also, there exist no way that customer can review the website or comment their opinions or suggestions about it. However, these reviews hold a high opinion for other new users who want to join the portal.

Online Gift Shop is a user friendly web-portal which provides solution to all these above stated problems from providing one-stop solution to finding suitable gift options through the portal depending upon the availability of the gift products, to the provision of online review section on the website.

2. MOTIVATION

Following are the limitations of the existing system:-

1. There is no such provision to search for the gifts in the nearby location of the customer.
2. There is no such provision to promote new upcoming products in these existing websites.
3. The sellers have practically no access to the details of their customers.

These limitations have been improved in the developed Online Gift Shopping system and it has more features to improve on these problems, providing a one stop solution.

3. OBJECTIVE(S) AND SCOPE

Objectives of the system are:-

1. The new user must register with the portal before availing any services from it.
2. For each registration, maintain the record in the database for the new user.
3. When the gift is found and selected by the customer payment for the price is to be done if user wants to buy that particular product.
4. The payment could be done by cash on delivery, Credit/Debit card, Mobile Wallets and UPI.
5. The customer may comment on the performance of the website.
6. Customers may review the products that they have ordered.
7. The new customers may are promoted by the site administrator; he also provides latest information related to new products.

Modules in the System:-

The Online Gift Shopping system can be divided into two modules, namely:

Module 1: Site Administrator

This module is responsible for maintaining the overall system based on defined business rules and it perform the following functions:

1. It can delete user.
2. It can modify the user details.
3. It can update website details.
4. It can upload new products.
5. It can add details to:
    - Product brands
    - Latest Products
    - News & Updates

7. Respond to e-mail request.
8. It can receive payments.
9. It can moderate the comments.

Module 2: Customer

The customer in contemporary world refers to everyone who want to search for gifting products from the internet. The web portal as stated earlier assists them in finding them a suitable gift by categories. The customer can either select the desired product from the drop down categories or use the search bar to search for the products manually.

Once the suitable gift product is found a pricing for the product is displayed to the customer. This payment can be completed using different payment modes (Cash on delivery, debit/credit card, mobile wallets and UPI)

Following are the major functionalities of the customer module:-

1. Register to the portal.
2. Search for products
3. Commenting upon the performance of the website.
4. Accessing the product browser.
5. Check for payments.
6. Keep updated with the online tracker.

4. TARGET USERS

Users of all ages are identified as the targeted user of the system

5. TECHNICAL PLATFORM:

Operating System:	Windows XP, Windows7
Language Requirements:	Java
Web Browser:	Google Chrome, Mozilla Firefox, IE ver. 7 and above
Database Technology:	MySQL
Tools & Development:	Eclipse EE IDE, HTML, XML, JavaScript

Information Gathering

Project Name: ONLINE GIFT SHOPPING

Submitter Name: Pranay Kashyap
Devansh Shahi
Kumar Aniket
Keshav Sharma
Rohit Pal
Rehan Raza

Date Submitted: 27/03/2012

About Online Gift Shopping System

Online shopping or e-shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser. The Online Shopping System (OSS) for gift shop web application is intended to provide complete solutions for customers to purchase gift products through a single get way using the internet. It will enable the customer to browse through the shop and purchase them online without having to visit the shop physically.

Explain different functionalities of Online Gift Shopping System

The system Online Gift Shopping has following major functionalities:-

1. Helping customers to find best gift products for them.
2. Providing categorized gift products according to their needs.
3. Registering new customers to the portal.
4. Providing access to the gifting service from anywhere.
5. Online tracking provided for the ordered products.

Analysis of Existing Business Process

The existing business process provides facilities such as searching for gift products for customers. Receives payments from the customers for the goods ordered.

Challenges in existing Business Process

The problems that might occur with the software product are:

- It might occur that a Customer searches for a particular gift but the content is not available.
- During purchasing an error might occur.
- No transaction is flawless. Transaction can break at multiple points during the process.
- The portal is dependent on web services. Though we make every effort to ensure that services are provided on time but there is no guarantee The problems that might occur are:
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    - **JavaScript Errors.**

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    - Big security vulnerability. Someone to steal your login information and hack into your account
    - Broken Registration Process
    - Site won't load. Websites are supposed to work fine whether you type in the "www" or not. But an error might occur.

ONLINE GIFT SHOPPING

PROJECT UNDERSTANDING DOCUMENT

VERSION 1.0

07/23/2019

VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	*<Author name>*	*<mm/dd/yy>*	*<name>*	*<mm/dd/yy>*	*<reason>*

TABLE OF CONTENTS

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Also, there exist no way that customer can review the website or comment their opinions or suggestions about it. However, these reviews hold a high opinion for other new users who want to join the portal.

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.

1.1 PURPOSE OF PROJECT

As stated above the sole aim of this project is to find a suitable gifting product for the registered customer at a reasonable price, provide a categorized list of products as per the needs of the customer at a reasonable price and provides the list of payment options for the customer as per his/her comfort.

The main purposes of this project are:-

1. To provide a list of available gifting products to the searching customer.
2. To provide them with categorized products.
3. To charge a reasonable price depending upon the payment to be made for purchasing a suitable gift.
4. To provide authentic tracking of the purchased products to the customers.

Benefits of the Project:

Benefits to the customers are described below.

Benefit to Customers:

With availability of gifting products the customer may find it a flexible mode to find and purchase products in a easier way, as it has categories of the products available on the website. Customers may find good quality and reliable services at a reasonable price and have an ability to review the website services as well as the products.

Customers have various modes of payments to make a purchase including cash on delivery, Debit/Credit card, Mobile wallets and UPI.

2. PROJECT AND PRODUCT OVERVIEW

Online shopping or e-shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser. The Online Shopping System (OSS) for gift shop web application is intended to provide complete solutions for customers to purchase gift products through a single get way using the internet. It will enable the customer to browse through the shop and purchase them online without having to visit the shop physically. With a simple registration, customers can find desired gifting products with a reasonable price.

The online gift shopping system can be divided into two modules, namely:

Module 1: Site Administrator

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This module is responsible for maintaining the overall system based on defined business rules and it perform the following functions:

1. It can delete user.
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1. Register to the portal.
2. Search for products
3. Commenting upon the performance of the website.
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5. Check for payments.
6. Keep updated with the online tracker.

3. SCOPE

3.1 OBJECTIVES

OBJECTIVES OF THE SYSTEM ARE:-

1. The new user must register with the portal before availing any services from it.
2. For each registration, maintain the record in the database for the new user.
3. When the gift is found and selected by the customer payment for the price is to be done if user wants to buy that particular product.
4. The payment could be done by cash on delivery, Credit/Debit card, Mobile Wallets and UPI.
5. The customer may comment on the performance of the website.
6. Customers may review the products that they have ordered.
7. The new customers may are promoted by the site administrator; he also provides latest information related to new products.

3.2 HIGH-LEVEL REQUIREMENTS

The following table presents the requirements that the project's product, service or result must meet in order for the project objectives to be satisfied.

Req. #	Requirement Description
Registration	To Provide complete access to the users i.e.to become a valid customer.
Transaction	Details of valid transaction and card details are retrieved from the Bank
Availability Of Products	Products will be available only for limited quantity until restock.
Network Connectivity	The user should have fast internet connection and should be supported by an advanced browser.

Req. #	Requirement Description
Availability Of Online Tracking	Online tracking available to the customers after purchasing the Product.
Searching For Products	Only a registered customer can purchase the products.

3.3 BUSINESS RULES AND SPECIAL CONSIDERATIONS

1. Customers are eligible to access online products and make payments, only after the registration.
2. Any anonymous user to avail resources from the portal has to become a registered user.
3. The user can make payments through cash on delivery, debit/credit card, mobile wallets or UPI.
4. The user should have a valid email-id, postal address to register.
5. Registration can be only through a web-based channel.
6. No transaction is eligible for cash back.

A. MAJOR DELIVERABLES/MILESTONES

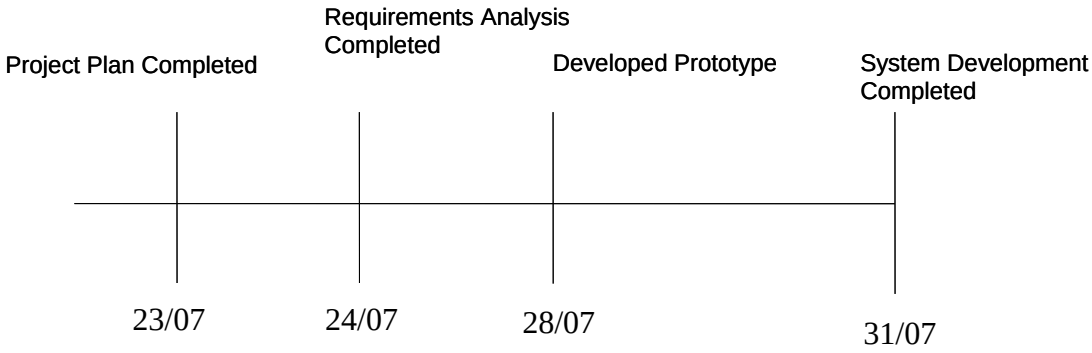
[Provide a list of the major deliverables/milestones that will be completed by the end of this project. A deliverable is any unique and verifiable product, result or capability to perform a service that must be produced in order to complete a process, phase or project. A milestone is a key performance indicator that is typically reported to executives to indicate the project's progress.]

Major Deliverable	Deliverable Description

7. DURATION

A. TIMELINE

[Provide an estimate of the project duration (e.g., 18 months). You may provide a high-level timeline for the project if information is available at this time. This time estimate will be further refined in the Planning Phase of the project. If applicable, also state the expected life of the product. An example of a high-level timeline is provided below.]



8. PROJECT UNDERSTANDING APPROVAL

The undersigned acknowledge they have reviewed the **Project Understanding Document** for the **ONLINE GIFT SHOPPING** project. Changes to this document will be coordinated with and approved by the undersigned or their designated representatives.

[List the individuals whose signatures are desired. Examples of such individuals are Business Steward, Project Manager or Project Sponsor. Add additional lines for signature as necessary. Although signatures are desired, they are not always required to move forward with the practices outlined within this document.]

Signature: _____ Date: _____

Print Name: Pranay Kashyap

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: Devansh Shahi

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: Kumar Aniket

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: Keshav Sharma

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: Rohit Pal

Title: _____

Role: _____

Signature: _____ Date: _____

Print Name: Rehan Raza

Title: _____

Role: _____

APPENDIX A: REFERENCES

[Insert the name, version number, description, and physical location of any documents referenced in this document. Add rows to the table as necessary.]

The following table summarizes the documents referenced in this document.

Document Name and Version	Description	Location
<Document Name and Version Number>	*[Provide description of the document]*	*<URL or Network path where document is located>*

APPENDIX B: KEY TERMS

The following table provides definitions for terms relevant to this document.

Term	Definition
Credit/Debit Card	means any credit/debit card issued on the account to the holder and must be a valid card.
VISA/MasterCard	types of cards issued by the banks which may be used for making payments.
Transaction	Transfer of monetary value from one bank account to another.
Web Portal	website bringing together information from diverse sources in a unified way.
Authentic	valid things, refers to the truthfulness of origins, attributions and commitment.
Discretion	depends upon the understanding of the user judgment power
Contemporary	relating to the current world

CHECKLIST FOR PROJECT REVIEW INTERVIEWS				
	Yes	**No**	**N/A**	**Remarks**
Project Planning				
Is it clear how the goals and objectives of this project fit within the overall goals and objectives of the organization (i.e., the bigger picture)?	Yes			
Was the knowledge base used in planning the project (e.g., in accessing previous experience, defining activities, tasks, and deliverables, obtaining checklists and templates to kick-start project deliverables)?	Yes			Various templates like information gathering, project understanding, synopsis, SRS, design templates have been made before.
Are the deliverables clearly defined (e.g., size, format, medium)?	Yes			The templates were well defined and provided a clear picture about the project.
Has the process for acceptance been established for each deliverable?	Yes			
Have the acceptance criteria been defined for each deliverable?	Yes			
Is there a Risk Management Log listing the priority risks, and are Risk Management Action Plans in place for the seven to ten most significant risks?			N/A	
Is the Work Breakdown Structure defined at an appropriate level of detail (i.e., tasks of manageable size - 5 to 10 days - at the	Yes			The Work Breakdown Structure template was

level at which the work is managed)?				clearly defined.
Are appropriate estimating techniques being used (e.g., task-based, function points)?			N/A	
Is there a detailed schedule in place?	Yes			The Work Breakdown Structure template clearly defined the schedule.
Does the schedule clearly identify the major milestones and the dependencies between work components?	Yes			
Is documentation available to substantiate the estimates and schedules (e.g., spreadsheets and working papers detailing the process followed and the assumptions made)?	Yes			
Is the Project Organization appropriate?	Yes			The module has been divided within the Team members.
Does the project have adequately skilled resources?	Yes			
Is the project using the right level of resources?	Yes			
Does the project team include an appropriate level of previous experience with this customer?		No		
Does the project team include an appropriate level of previous experience with this application?		No		
Does the project team include an appropriate level of previous experience with this technology?		No		

Is there a staff rotation plan in place to rotate individuals off the project, or into new roles on the project, in a 12 to 18 month time frame?			N/A	
Is there an approved financial plan that tracks the expected monthly cash flow, as the basis for monitoring the projectâ€™s financial performance?			N/A	
Is there an appropriate level of cost and schedule contingency included in the plan?			N/A	
Are standards and procedures put in place ahead of time for all deliverables and processes?	Yes			The conventions are followed.
Is there a documented Project Management Plan that is consistent with the template defined in the knowledge base?			N/A	
Contract and Financial				
Is there a signed contract in place (or a signed contract equivalent that allows work to proceed while the contract is being negotiated)?			N/A	
Are the key contractual requirements clearly understood by the project team?			N/A	
Are any necessary third party agreements signed and in place?			N/A	
Is there a contract file that provides a comprehensive record of all dealings under the contract?			N/A	
Is the project obtaining prompt customer payment of all moneys due under the contract?			N/A	
Is the project meeting its targeted financial performance?			N/A	
Scope and Requirements				

Does the scope statement clearly identify the boundaries of the project (i.e., will it be clear to all parties whether a proposed change is in or out of scope)?	Yes			The Project Scope has been clearly defined.
Is the scope quantified and measurable (e.g., by identifying the expected size of the target system in function points)?			N/A	
Are the requirements clearly defined and traceable to the project deliverables?	Yes			
Have the requirements been signed-off by the Acceptor and formally baselined?			N/A	
Are Change Control procedures in place and are they being followed for all changes to baselined deliverables?			N/A	
Are Decision Request procedures in place and are they being followed?	Yes			
Are the scope and requirements stable?	Yes			The scope and requirements are stable.
Customer Relationship				
Is there a single overall Acceptor?		No		
Is there frequent formal and informal contact with customer executives to review progress and maintain open communication?			N/A	
Is a summary status report distributed to the customer on a regular basis (weekly or monthly)?			N/A	
Is the customer performing adequate planning for their involvement?			N/A	
Is there a Steering Committee in place that meets monthly?			N/A	

Are key users involved and informed?			N/A	
Are users contributing to the solution?			N/A	
Is the customer organization committed to the success of the project?			N/A	
Is the customer fair and reasonable?			N/A	
Is the customer relationship good (i.e., there are no significant outstanding issues)?			N/A	
Team Performance				
Are standards and procedures in place covering the general conduct of the team (e.g., project terminology, routine communications, meeting procedures)?	Yes			
Have all team members received a full and sufficient orientation to the project?	Yes			
Are all team members adequately trained to carry out their responsibilities?	Yes			The training has been given to all team members.
Are all team member roles and responsibilities clearly defined and understood?	Yes			The role and responsibilities have been divided between the team members.
Have project and personal objectives been defined for each team member?	Yes			
Do team members interact effectively?	Yes			

Does the team meet regularly to review status, share experiences, provide suggestions, and resolve problems and concerns?	Yes			
Is project information posted/circulated?	Yes			The team leader sends email to every team member on the regular basis.
Has the project implemented some means to recognize and reward quality service, creativity, innovation, and success (can be as simple as public acknowledgment and thanks for a job well-done)?	Yes			
Is team morale high?	Yes			
Is the productivity of the team at an optimum level?	Yes			
Is project meeting time properly managed and are project meetings run effectively?	Yes			
Are performance reviews conducted to record and communicate the accomplishments of team members, and to appraise their skills, to facilitate career development?	Yes			
Is turnover within acceptable limits?			N/A	
Cost/Schedule Performance				
Is the project on schedule and within budget?	Yes			
Will the deliverables being produced meet the userâ€™s requirements?	Yes			
Is there a current and reliable version of the project work plans that includes approved changes and current estimates to	Yes			

completion?				
Is the schedule realistic now?	Yes			The schedule has been followed as mentioned in the Work breakdown Structure and directed by our Project Guide.
Are team members clear about how each work product is to be produced (e.g., who is responsible for delivery, who will review, related or impacted deliverables, when the deliverable is required)?			N/A	
Are team members tracking detailed progress against each task and reforecasting the remaining effort to completion and the expected completion date for each task, on a regular weekly basis?	Yes			The templates are reviewed regularly.
Are team members preparing weekly status reports in a timely manner (narrative, tracking, and change/decision request logs)?			N/A	
Does the Project Manager produce a Monthly Status Report to keep the projectâ€™s status visible to senior management in the customer and delivery organization?	Yes			
Is corrective action taken to resolve significant cost or schedule variances, such as replanning the remaining work or taking action to improve performance?	Yes			
Is project overtime within acceptable limits?		No		
Is all time worked being recorded?	Yes			
Data Management				

Are standards and procedures in place to control all of the data that support the project (e.g., document standards, configuration management standards and procedures)?			N/A	
Are project records being established, maintained, and disposed of in accordance with the standards and procedures?	Yes			The templates and code backup has been maintained.
Has an electronic and paper copy of all versions of all baselined deliverables been maintained?	Yes			
Is a Project Book in place and is this being maintained?			N/A	
Is an automated Project Index in place and is this being maintained (for projects of more than 15 people)?			N/A	
Is all software controlled in accordance with the software configuration management standards and procedures?			N/A	
Is a data management system used to record, communicate, and track the status of all data items to be delivered to the customer?			N/A	
Are all action items identified, recorded, communicated and tracked to closure?			N/A	
Are all project data backed up and are off-site back-ups in place in accordance with the company records management procedures?	Yes			The back-ups are maintained regularly.
Is there an up-to-date record of the project in the project experience repository that provides data on the projectâ€™s processes, metrics, and lessons learned?			N/A	
Quality Management				

Has the Quality Assurance role been identified and assigned, and does this have an appropriate level of authority?	Yes			The conventions are followed.
Is there a documented Quality Management Plan that is consistent with the template defined in the knowledge base?			N/A	
Are standards and procedures in place for all quality management activities and tasks (e.g., conducting walk-throughs, reviews, audits, inspections, handling and storing of products)?			N/A	
Have the quality requirements been identified (i.e., the customerâ€™s expectations for quality, the quality factors, and the quality metrics that will be used to give visibility to the levels of quality being achieved)?	Yes			All the requirements have been identified.
Are formal structured walk-throughs and reviews being conducted in accordance with the standards and procedures (e.g., the proper people attend, minutes are taken and distributed, and action items are assigned and followed up)?			N/A	
Are appropriate test plans and procedures in place and are they being followed?	Yes			
Is project data being analyzed to determine trends and norms and to identify when quality threshold or target levels are not being achieved?	Yes			
Are group process techniques being used to involve all team members in the review and continual improvement of project work processes?	Yes			
Is the established acceptance process being followed (including signed acceptance documents)?	Yes			
Are the deliverables that are being produced consistent with the deliverable definitions in the Project Management Plan	Yes			

(e.g., size, format, medium)?				
Are the deliverables being accepted by the customer, after they are submitted?			N/A	
Are Fault Report procedures in place and are the procedures being followed as defined in the knowledge base?			N/A	
Administrative Support				
Is the work space adequate?	Yes			
Are the facilities and equipment adequate?	Yes			
Is the general level of office support services adequate (e.g., document reproduction, office supplies, secretarial support)?			N/A	
Is security in place that is appropriate for the security classification of the project (e.g., badges, sign-in registers, electronic lock accessibility)?			N/A	
Is the system development environment adequate (e.g., availability of LANs, access to workstations, stability of the SDE)?	Yes			

Major Strengths

Identify up to four positive aspects that represent major strengths of the project.

1. Customers can search a gift product.

2. Customers can review the purchased products which can be viewed by other customers.

3. Administrator can upload new gift products which can be purchased by customers.

4. The administrator has the privilege to delete any customer from the website.

Risks

Identify any future exposures or major areas of risk to successful project delivery.

1. Database gets corrupted.
2. Website is hacked.
3. Scripting language is not working properly.
4. System gets crashed, for example with an infinite loop runs while registering.

Opportunities

Identify the three areas for change that provide the biggest improvement opportunity for similar projects in future.

1. Implementation of payment gateway.
2. Implementation of two-way chatting.
3. Uploading/Downloading of online materials.

Other

Identify any other points you wish to discuss.

Nothing.

Code Review Minutes
Date of Review 07 / 30 / 2019

Item(s) to Review	Administrator
Description of Item(s), Background and Context	The Administrator module of the project ONLINE GiFT SHOPPING SYSTEM is the important module which implements the basic functions of Deleting existing user, modifying User Details, checking for payments and updating the payments, updating Latest Products and News & updates.
Objectives of Review	The sole objective of the review is to correct the incorrect functionality and if any of functions are left to be completed must be completed. However code reviews have the following objectives: • Quality, defect-free software • Systems that are appropriate and complete meeting requirements • Software that complies with enterprise coding standards
Owner(s) of Item(s)	Administrator (Pranay Kashyap, Devansh Shahi, Kumar Aniket)
Who is Impacted? Who Depends on these Items?	Customer module is directly impacted by the Administrator, as the Administrator has the privilege to remove any of the above stated user and modify their details.
Reviewed by	Keshav Sharma, Rohit Pal, Rehan Raza
Next Steps	The next step to be taken after review is to enter into maintenance phase.

Logical Design and Layering Approach

Many web portals claim to provide good gifting products to customers who are looking for as per their requirements. The different web portals functioning now a day promise their user's (the registered ones) to provide them with best service for the products which they are looking for but often fails to do so.
Also, there exist no way that customer can review the website or comment their opinions or suggestions about it. However, these reviews hold a high opinion for other new users who want to join the portal.
Online Gift Shop is a user friendly web-portal which provides solution to all these above stated problems from providing one-stop solution to finding suitable gift options through the portal depending upon the availability of the gift products, to the provision of online review section on the website.

Maintainability, Adaptability

Assess factors that will impact the ease with which the software may be maintained or altered over time.

Area of Review	Observations	Suggestions
Duplicated Code	The code was found duplicated in Admin class where it is reused for implementing various functions such as deleteUser(), login(), uploadMaterials(), receivePayments() and updateDetails(). The code is reused as it allows us to save effort and to redesign the solution again and again.	*Whenever you see code that looks like it was copied and pasted, even with a few minor changes, explore opportunities for reuse. You might consider implementing classes that encapsulate the logic, or creating helper classes.*
Use of Short Methods	Short methods are used in Admin class for implementing functions such as update(), updateLatesttutor(), updateJobboard(), updateNews(), etc. This allows us to easily maintain these codes.	*Try to keep all methods short. Long methods become very hard to maintain over time*

Variable Scoping	Since using Advanced Java as the platform for development, thus no global variables had been used. All the variables declared are local to the function where they are declared.	*Try to keep variables scoped to the lowest level possible. Global variables should be avoided.*
Cohesion of Logic in Classes	The functions used in the Admin class have their functionality purely independent of the other and each uses unique parameters to implement the functionality, which are to be supplied by the human via the interface, and not by any other function.	*Do everything you can to encourage high cohesion in all classes.*
Coupling: Long Parameter Lists	Short parameter lists had been used to implement the designed functionality. This makes the code easy to maintain in future.	*Generally, methods with long parameter lists create higher degrees of coupling and therefore decrease maintainability*
Coupling: Control Coupling	Control coupling has been implemented in the form of flags used which return the assigned value when the function is called. Based upon these values the decision is taken whether the function has executed or not. It has been implemented in Admin class in functions such as deleteUser(), login(), modifyHome(), updateUser(), updateNews().	*If you use "control flags" to drive the internal behavior of a method, explore opportunities for specialized classes or overloaded methods*
Coupling: Global Data Coupling	The session variable is used as a type of global variable which stores the username of the Administrator. The username is displayed on the home page of the Administrator.	*This typically occurs when global variables are used to drive the behavior of a group of classes*
Coupling: Solution Sprawl Across Classes	The Administrator can delete the user from the system thus this will affect the modules of Tutor, Parent and Student. Also no functionality has been sprawled across other classes and is limited to a single class where the function is implemented.	*When you need to make changes across a large number of classes in order to implement a change in the application's behavior, you've got solution sprawl.*
Coupling: Inter-Layer Dependencies	The Admin class has a large number of Inter-Layer Dependencies as initially the values are received from the interface to the AdminPage class which is a .jsp page and then these values are used to call the functions in the Admin class.	*The more method calls you have from one class in a given assembly or "logical layer" to other classes in a different assembly or "logical layer", the tighter the coupling, and the harder it will be to maintain over time.*
Conditional Complexity, Level of Nesting, Use of Flags, use of switch statements	No deeply nested "If" statements have been used in implementing the logic. The Logic is directly implemented by defining each in a separate function for independent functionality.	*Consider applying the "Extract Method" refactoring to move code from within an "If Block" to a method that describes what that code does.* *Whenever you see switch statements or "If" statements in a class, you might have an opportunity to use class specializations instead.*

		If a method has deeply nested "If" statements, uses flags (e.g. Booleans, etc.) to drive logic, it can become very difficult to read and maintain
Encapsulation, Information Hiding, Inappropriate Intimacy between Classes	Since there is only a single class Admin which is used to drive the logic of the Administrator functionality and a .jsp page comprising of a AdminPage class which is used to call the functions of the Admin class, however it doesn't knows much about the Admin class.	*When classes know too much about the internals of each other, they become very tightly coupled and hard to maintain.*
Magic Numbers and Literals	Not Applicable.	*Try to replace magic numbers and literals with constants that have meaningful names. Magic Numbers and literals are numeric or alpha-numeric values in the code whose meaning may not be self-explanatory.*
Speculative Generality	Every functionality designed has been used in the solution.	*A.K.A. You Aren't Going to Need It*
Versioning Approach	The logic of the module has been programmed by using Servlet and JSP page, further versioning can be implemented by using Struts, as a logic of implementation leading to advanced version.	*Has the developer produced an approach that may be easily versioned over time?*
Use of Interfaces	The interfaces are reused leading to high reusability of the code. The interfaces are simple, user-friendly and full of instructions of how the operation is done.	*Are interfaces used appropriately?*
Simplicity of Solution	The designed solution is simple and user-friendly.	
General readability and intuitive naming of fields, properties, variables, methods, etc.	The name of variables, methods used in the module have an appropriate name applying the same logic as to be used in the application of module.	
Appropriate Use of Comments	The inline comments have been used in the module.	
General adherence to Microsoft Coding Standards		
Unit-Tests were created to support regression testing	The various unit tests for the Administrator module are implemented in the test case document and tested and is found working correct against these tests.	

Robustness

Assess the primary factors that affect how well the software handles incorrect data or unforeseen scenarios.

Area of Review	Observations	Suggestions
Defensive Programming	The values received through the interface of the module are checked that they may be entered into the table for insertion, and for modification that the value for the modification already exist in the module.	*Performs early parameter checking (e.g. boundary checks, type checks, assertions, etc.) before executing main body of logic* *Checks return values received from service or method calls* *Checks for nulls when appropriate* *Avoids "Apocalypse Ready" designs; These are designs that handle exceptions that will probably never happen or "fringe case" issues*
Proper use of Exception Handling	The try-catch statement has been used to implement the Exception Handling. In order to avoid errors t be handled by the programmer the exceptions are thrown to Java which handles these exceptions and displays the appropriate error message. The use of try-catch enables the system to keep working even when one of its methods do not function correctly.	*All exceptions are caught and handled at the "top of call-stack"* *Lower in the call stack, exceptions are only caught to log or gather information, add information to the exception, perform cleanup, or attempt to recover* *Prefer the use of standard framework-defined exceptions when possible* *Exceptions are thrown only for clearly abnormal cases; Exceptions aren't used to control application flow.*
Exceptions are Logged to Facilitate Debugging	The thrown exceptions may be used by the developer to repair and maintain the code accordingly.	
Parameters are strongly typed	The parameters used in the Student module had been declared beforehand and are all defined data type of Java and we know Java is strongly typed.	

Performance

Assess the areas that will typically have the greatest impact on application performance.

Area of Review	Observations	Suggestions

Style of Communication	The query or object retrieves only that much information from the database which is asked in the logic or requested by the user; the view records function of the interface displays only the needed records of the user to the Administrator hiding the confidential information such as username and password of the user. The code also has minimal cross-process class and finishes a logic in one function only.	*Code has minimal cross-machine calls* *Code has minimal cross-process calls* *Code favors chunky vs. chatty communications to services* *Avoidance of "Data Buffet" anti-pattern; This occurs when a query or object retrieves more data than it's consumer will probably use*
Evaluate use of Boxing / Unboxing	Conversion from value type to object type and then again back to value type has been not implemented in the module.	*Avoid conversion to/from value and reference types where possible*
Loop considerations	The loops terminate as soon as the logic has been met, the expression are evaluated after the loop has terminated to store the final value only. Logic getting the same results are not used within the body of the loop.	*Loops are exited as soon as conditions met* *Expressions are not re-evaluated from within the loop controller statements* *Logic that always gets same results does not occur within the body of loops* *Use "For" instead of "For Each" when appropriate*
String Handling	Not string concatenation and StringBuilder approaches are used as no appending i.e to join or add on to the end of something is done.	*Assess string concatenation approaches* *Assess use of StringBuilder*
Resource Cleanup	The imports used in the module are essential for implementing the logic and are acquired late and released early. The finalizers are not used in the module to avoid function overlapping i.e., whether the logic has executed or not the statements in the final block are implemented.	*Resources are acquired late and released early* *Assess potential for Generation 2 garbage collection* *Evaluate appropriate use of "using" statement* *The Dispose pattern is implemented for managed resources* *Finalizers are avoided*

Appropriate Use of Caching	Since in Admin module each value is a different one thus nothing is cached and is not used frequently. Every value used in the function is unique and is implemented only when the values are supplied via the interface.	*Items that change frequently are not cached* *Know your cache-hit ratio; don't bother caching items that aren't retrieved frequently*
Appropriate use of ViewState and Postback checking	We have not stored the ViewState on the server side in a session and then passing the viewstate id to the client side via a hidden field. However when a user signs in,his session is maintained and when he logs out the session expires and he cannot roll back.	
Consider opportunities for Asynchronous or Queued Operations	No need was found to perform the Queued operations.	
Solution makes minimal or no use of Reflection	No use of reflection is done.	
Use of Code Instrumentation	No use of Code Instrumentation.	
Premature Optimization?	Premature optimization means if the value of core product is weak, doubling the percentage of users will not help much and it will hurt as every unit of effort put into optimization is one less unit that can be put into improving core product. We will not begin optimizing until users say that they are very disappointed with the product. Hence there is no premature optimization.	

Supporting Documentation

Assess the design solution's need for supporting documentation

Area of Review	Observations	Suggestions
Object Models	The Object Models are not implemented in this module.	
Sequence Diagrams	The sequence diagram has not been implemented as the developed solution is a web-application and to define the timeline for a particular user is very difficult.	
Entity-Relationship Diagrams	The ER diagram used to depict the Administrator module proved very useful as most of the functioning has been clearly stated in it and during coding proved very helpful in deciding the logic of the code.	
Other Diagram	The class diagram also proved to be very	

	useful in implementing the logic as all the name of functions, their return type, their variable names had been decided earlier; however the variables used to hold the values supplied through the interface has not been declared and defined in this diagram	
Use of nDoc or XML Comments	No use of XML comments. But comments are provided to make a clear understanding in Student module.	
Where will Documentation be Stored? How will it be Maintained?	The various templates holds the documentation and can be maintained easily.	

Migration Considerations

Assess how current or future users (i.e. developers) dependent on this solution will migrate to the proposed approach. How will the risk of breaking changes be minimized?

Online shopping or e-shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser. The Online Shopping System (OSS) for gift shop web application is intended to provide complete solutions for customers to purchase gift products through a single get way using the internet. It will enable the customer to browse through the shop and purchase them online without having to visit the shop physically.

- The individual source code files which were written in pure Java have to be rewritten in the proposed environment language.
- The ojdbc Jar files has to be suitably replaced by the libraries of the proposed new environment.
- The HTML, CSS and JavaScript files hardly will need any changes because they are independent of the platform in which they are used and are dependent on the browsers interpretation of them.
- If the migration is being done to a environment which supports Object Oriented Programming paradigms then classes which are defined in this project need not be redefined. Only certain names and appropriate statements need to be written.
- The pre requirement for portability is the generalized abstraction between the application logic and system interfaces.

Other Areas to Consider

Provide commentary on any other aspect of the design solution.

Not applicable.

SOLUTION ARCHITECTURE DOCUMENT

ONLINE GIFT SHOPPING

Document History

Version	Date	Author	Reason for Change
1.0	23-July-2019	Pranay Kashyap, Kumar Aniket, Devansh Shahi, Rehan Raza, Keshav Sharma, Rohit Pal	

Table of Contents

1 General Information

The J2EE platform is a multi-tiered system. A tier is a logical or functional partitioning of a system. When the developers are not disciplined, the display logic, business logic and database logic are muddled up and/or duplicated in a 2- tier client server system.

The advantages of the multi-tier architecture are:

- Forced separation of user interface logic and business logic.
- Business logic sits on small number of centralized machines (may be just one).
- Easy to maintain, to manage, to scale, loosely coupled etc.

Each tier is assigned a unique responsibility in a 3-tier system. Each tier is logically separated and loosely coupled from each other, and may be distributed.

The advantages of a 3-tiered or n-tiered application: 3-tier or multi-tier architectures force separation among presentation logic, business logic and database logic. Let us look at some of the key benefits:

- **Manageability**: Each tier can be monitored, tuned and upgraded independently and different people can have clearly defined responsibilities.
- **Scalability**: More hardware can be added and allows clustering (i.e. horizontal scaling).
- **Maintainability**: Changes and upgrades can be performed without affecting other components.
- **Availability**: Clustering and load balancing can provide availability.
- **Extensibility**: Additional features can be easily added.

1.1 Introduction

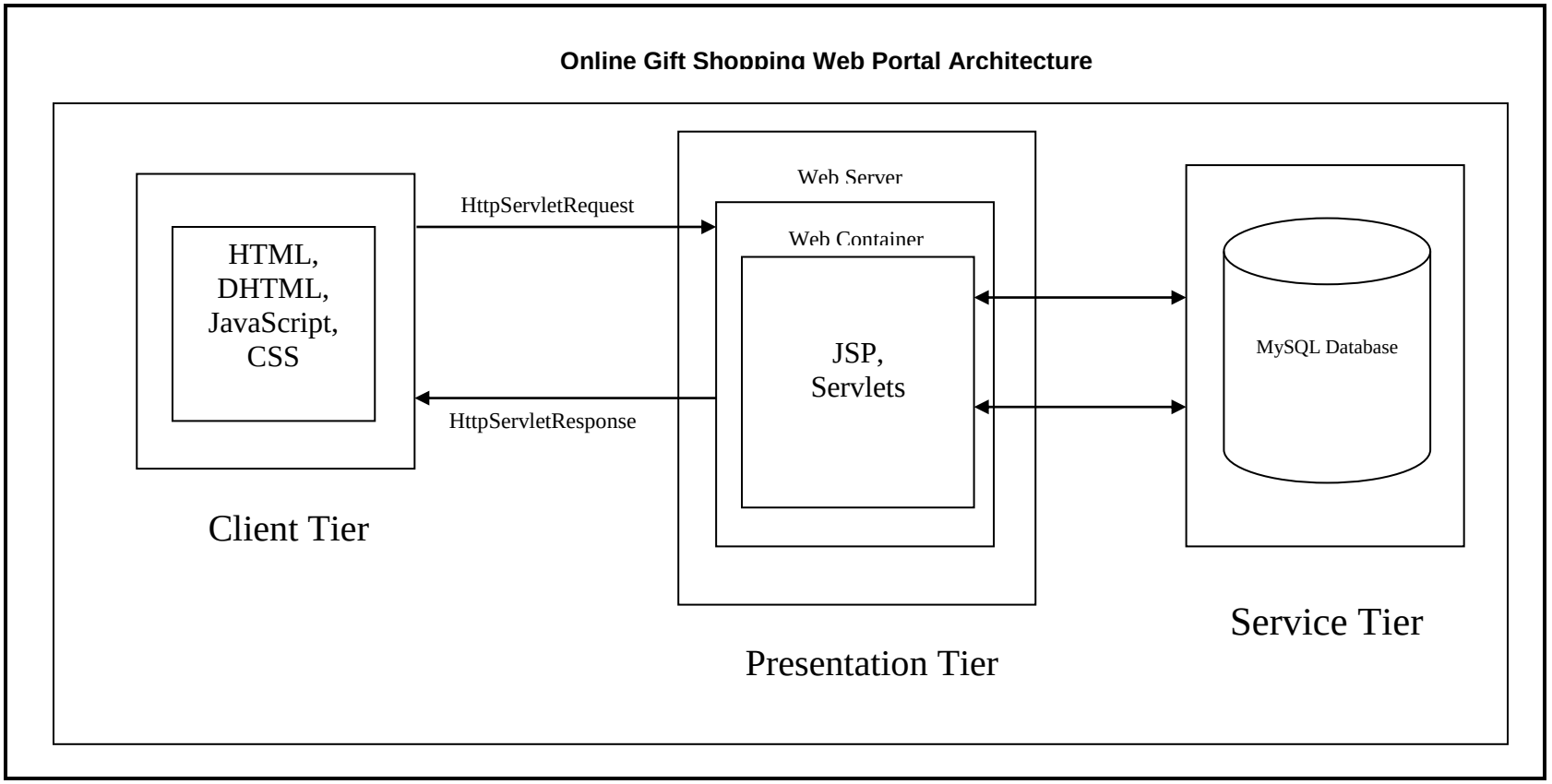
The **Goal** of the proposed system is to create a web–based application with the following capabilities**:**

- **Performance and scalability:** System should be efficient and scalable.
- **Code and Design Reuse:** Code reuse decreases the cost of development and increases the stability of the code. Also, following the best design practices and architectural and design patterns will enable us to reduce the risk of inconsistent design.
- **Logical Functional Decomposition:** Every class in the design will have a clearly defined responsibility to play in the application. This will result in an application, which is easier to understand, maintain and extend.
- **Minimize Network Traffic**. Avoid transmitting unnecessary and redundant data. To achieve this goal, we would be using value objects to pass the data to and from the web layer to the business layer and the DB layer.
- **Maintainability:** This architecture results in a system that would be easy to maintain. The configuration would be controlled primarily by configuration file, which would control the application flow and logic.
- **Reliable:** The developed system must be reliable enough to avoid unexpected behavior of the system and each of the methods, procedures and functions doing Insert, Update, Delete, Create Table or Select must include error management.

2 J2EE – Solution Architecture

J2EE Solution Architecture in enterprise architecture is a kind of architecture domain, that aims to address specific problems and requirements, usually through the design of specific information systems or applications. The solution architecture is required to implement solutions to meet business requirements and ensures alignment with the Enterprise Architecture.

2.1 High Level Architecture



2.2 Description

The target application has the following layers:

- HTML pages are built using HTML editor and Dreamweaver acting as the presentation layer and will be developed by HTML tags, JavaScript and style sheets.
    - **HTML**-Hyper Text Markup Language (HTML) is the main markup language for web pages. HTML elements are the basic building-blocks of web pages.
    - **JavaScript**-A scripting language developed by Netscape and used to create interactive Web sites.
    - **Style Sheets**-It is used for describing the presentation semantics (the look and formatting) of a document written in a markup language.

- Business Logic Layer will be developed by using Servlets and Java Server Page (JSP)s.
    - **JSP**-Java Server Page (JSP) is a technology for controlling the content or appearance of Web pages through the use of servlets, small programs that are specified in the Web page and run on the Web server to modify the Web page before it is sent to the user who requested it.
    - **Servlet-** A Servlet is a small Java program that runs within a Web server. Servlets receive and respond to requests from Web clients, usually across HTTP(the HyperText Transfer Protocol).

- JavaBeans are reusable software components for java.
    - **JavaBeans**-They are classes written in the Java programming language conforming to a particular convention. They are used to encapsulate many objects into a single object (the bean), so that

they can be passed around as a single bean object instead of as multiple individual objects. A JavaBean is a Java Object that is serializable, and allows access to properties using getter and setter methods.

- Reusable components are used in Logging, Registering, Searching, Making Payments, Commenting, Modifying Details, exception Handling and Data Access and will be written in java servlets and beans.
- MySQL Database are used as a Database Layer
    - **MySQL**- It is grid computing product group including (among other things) a database management system (DBMS) and an application server.

Client Tier

- Client tier represents Web browser.
- The client tier makes requests to the Web server.
- The Web server, who will be serving the request by either returning static content if it is present in the Web server or forwards the request to either Servlet or JSP in the application server for either static or dynamic content.

Presentation Tier

- Presentation tier encapsulates the presentation logic required to serve clients.
- JSP and Servlets which are the web container elements forms the presentation layer.
- A Servlet or JSP in the presentation tier intercepts client requests, manages logons, sessions, accesses the business services, and finally constructs a response, which gets delivered to client.

Service Tier

- This tier is the external resource such as a database.
- It is responsible for storing the data.
- This tier is also known as Data Tier or EIS (Enterprise Information System) Tier.
- It uses Java Beans classes to access Oracle 10g database.
- The data access will be done through Java Database Connectivity classes which enable the Oracle database to be connected to the code and operations may be performed on it.

Version	Description	Created By	Date
1.0	***First version of the system***	***Pranay Kashyap, Devansh Shahi, Kumar Aniket, Keshav Sharma, Rohit Pal, Rehan Raza***	***23-07-2019***

General Description

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It consists of a group of elements (for example, classes and interfaces) that can be used together in a way that will have an effect larger than the sum of the separate elements combined. The use case should contain all system activities that have significance to the users. A use case can be thought of as a collection of possible scenarios related to a particular goal, indeed, the use case and goal are sometimes considered to be synonymous.

A use case (or set of use cases) has these characteristics:

- *Organizes functional requirements*
- *Models the goals of system/actor (user) interactions*
- *Records paths (called scenarios) from trigger events to goals*
- *Describes one main flow of events (also called a basic course of action), and possibly other ones, called exceptional flows of events (also called alternate courses of action)*
- *Is multi-level, so that one use case can use the functionality of another one.*

Use cases can be employed during several stages of software development, such as planning system requirements, validating design, testing software, and creating an outline for online help and user manuals.

Actors ***<an entity that can interact with a system, invoking some behavior>***

1. Administrator
2. Customer

Preconditions ***<the state(s) the system can be in before this use case starts>***

1. The System is functioning properly
2. The System should be connected to the Internet
3. The System should have access to the database
4. The Actor should have knowledge of working on internet.
5. The Actor must have a valid E-mail id.
6. The Actor must have a valid Debit Card or an account in the bank.

Basic flow of events: ***<a specific sequence of actions and interactions between actors and the system being discussed (happy path Or basic course of action)>***

Line	System Actor Action	System Response
1	Administrator Manages(Deletes User, Modifies User Details)	Customer, Administrator
2	Administrator Updates	Latest Products, Product Browser, News & Update, Payments
3	Administrator Uploads	Gift Products
4	Administrator Moderates Comments on	Products
5	Administrator Receives Payments to grant access from	Customer
6	Student Searches	Products
7	Student Comments on	Websites, Products
8	Student Tracks	Product tracking
9	Student Makes Payments to	Administrator

Exceptional flow of events: ***<an alternate sequence of actions and interactions between the actors and the system (alternate course of action)>***

1	Administrator Updates for customers	Payments, News & Updates, Latest Productss, and Product browser.
2	Administrator manages	Customers
3	Administrator manages(moderate's comments)	Customer comments
4	Administrator receives payment for purchasing products.	Customers

Post Conditions ***<the state(s) the system can be in when this use case ends>***

The logout operation must enable the logout of the user from the current session.

The feedback provided by the user must be entertained in the system if applicable.

The maintenance of the system must be done regularly to keep the system running.

The system must be monitored regularly in order to avoid slow responsiveness and working of the system.

System Messages ***<all system generated messages that the system will prompt for the user>***

1	Login-Login successful or Login Failed: Re-enter your username and/or password.
2	Search-Search Results not found. Please modify your search.
3	Register-Successfully registered or you are already a member.
4	Purchased-Successfully or failed to make payment due to slow internet connection.
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Appendix ***<List of any supporting documents attached>***

1. http://searchsoftwarequality.techtarget.com/definition/use-case
2. http://en.wikipedia.org/wiki/Use_case
3. ARISE – On campus program FY 2019