University of Macau
May 6th, 2024

澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

CISC3003 Web Programming
Instructor: Prof. Kam H. Vat

Individual Report

By

Li Shitian DC126892

Development of a Simple Shopping Cart System

Abstract

The project developed a straightforward yet comprehensive shopping cart system for web platforms, employing HTML, CSS, Vanilla JavaScript, PHP PDO, and a MySQL database. It offers a full-fledged e-commerce solution with responsive design to suit various devices. Key functionalities include Product CRUD (Create, Read, Update, Delete), Order CRUD, and Shopping Cart CRUD operations. These features enable efficient product management, order processing, and shopping cart handling. The system was constructed methodically to ensure high usability and performance across diverse user scenarios.

Introduction

This project is a simple shopping cart system built using HTML, CSS, Vanilla JavaScript, PHP PDO and MySQL database. Based on the video, I step-by-step create a complete responsive Product CRUD (Create, Read, Update, Delete), Order CRUD and Shopping Cart CRUD system. The shopping cart system is designed to manage products, orders, and user interactions through a web interface.

Project Background and Objectives

The e-commerce industry's expansion necessitates efficient online shopping solutions. This project aims to create a responsive web-based shopping cart system that simplifies product management and order processing for users and administrators.

Development Tools and Technologies

Front-end: HTML, CSS, and JavaScript
Back-end: PHP with PDO for database interactions
Database: MySQL
Tools: Google Chrome, XAMPP

List of Services

The shopping cart system offers a multitude of services including:

1. **Product Management**: Addition of new products. Viewing and editing existing products. Deletion of products from the system.
2. **Order Management**: Creation of new orders upon purchase. Viewing past orders and their details.
3. **Shopping Cart Management**:Adding items to the shopping cart. Viewing and modifying items in the cart (quantity adjustments, removals). Checkout and purchase functionalities.

List of Tasks

Tasks completed during the project encompass:

1. **Initial Design**: Conceptualizing the system layout and functionality. Designing the user interface with HTML and CSS.
2. **Development**: Implementing JavaScript for front-end interactions. Developing PHP scripts for server-side logic. Setting up MySQL database for data persistence.
3. **Testing**: Functional testing of each CRUD operation. Responsive design testing across different devices and browsers.
4. **Documentation**: Preparing detailed documentation and user guides.
5. **Deployment**: Setting up the local development environment using XAMPP. Deploying the application for testing.

System Design and Accomplishments

In this section of the report, I will discuss the primary functionalities developed for the simple shopping cart system, which include components of product management, shopping cart and purchasing processes, and order management. Additionally, I will outline the project deliverables that demonstrate the successful completion and responsiveness of the system.

The product management feature is pivotal for the smooth operation of any e-commerce platform. In this project, a user-friendly interface was developed specifically for administrators to add new products to the system. This interface not only supports the addition of new items but also allows for the comprehensive management of existing products. Administrators can easily view, edit, or delete products, ensuring that the product listings are always up to date and reflect accurate information.

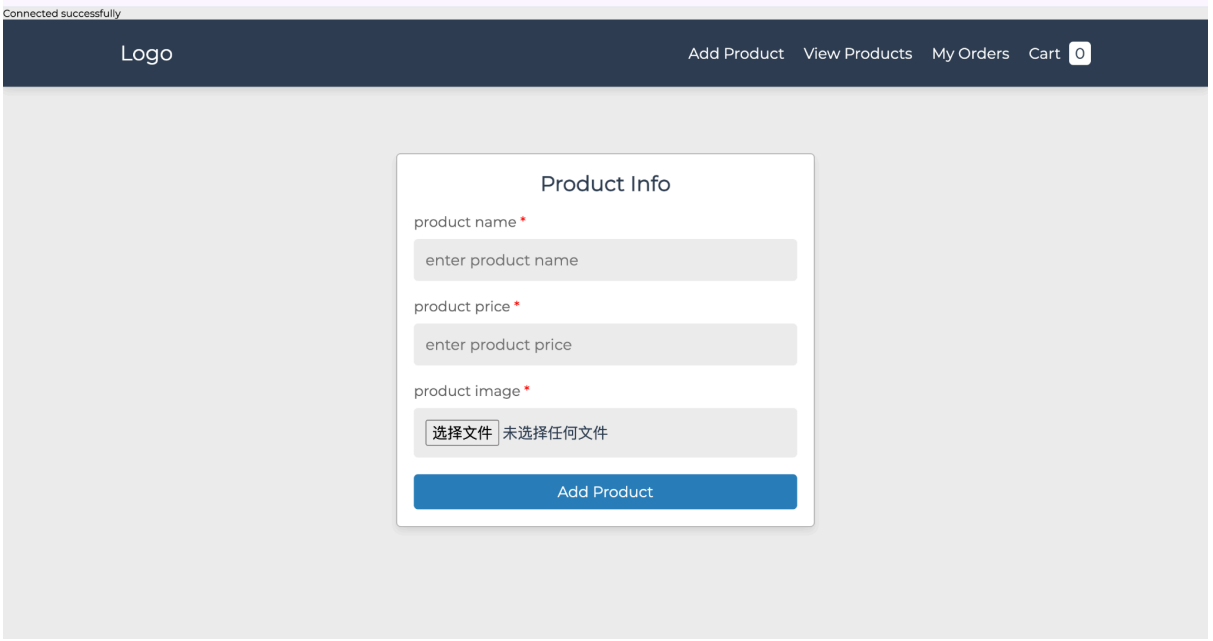

Figure01: Add product

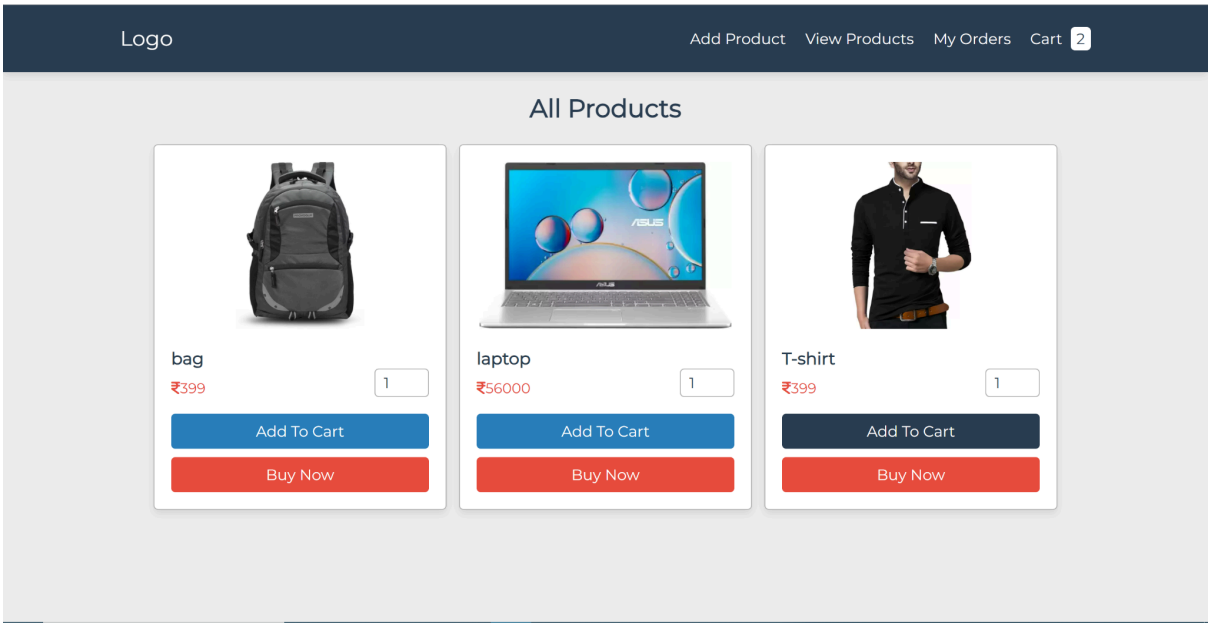

Figure02: All products after added

Moving to the shopping cart and purchasing functionalities, these are designed to enhance the user experience on the e-commerce platform. Users can seamlessly add products to their shopping cart, a feature facilitated by JavaScript and PHP sessions to handle the cart items across different pages of the site. The cart management system is robust, allowing users to view their cart at any time, update quantities, or remove items as needed. The checkout functionality is streamlined to ensure a smooth transition from cart to purchase, capturing user information and finalizing the order in a secure and efficient manner.

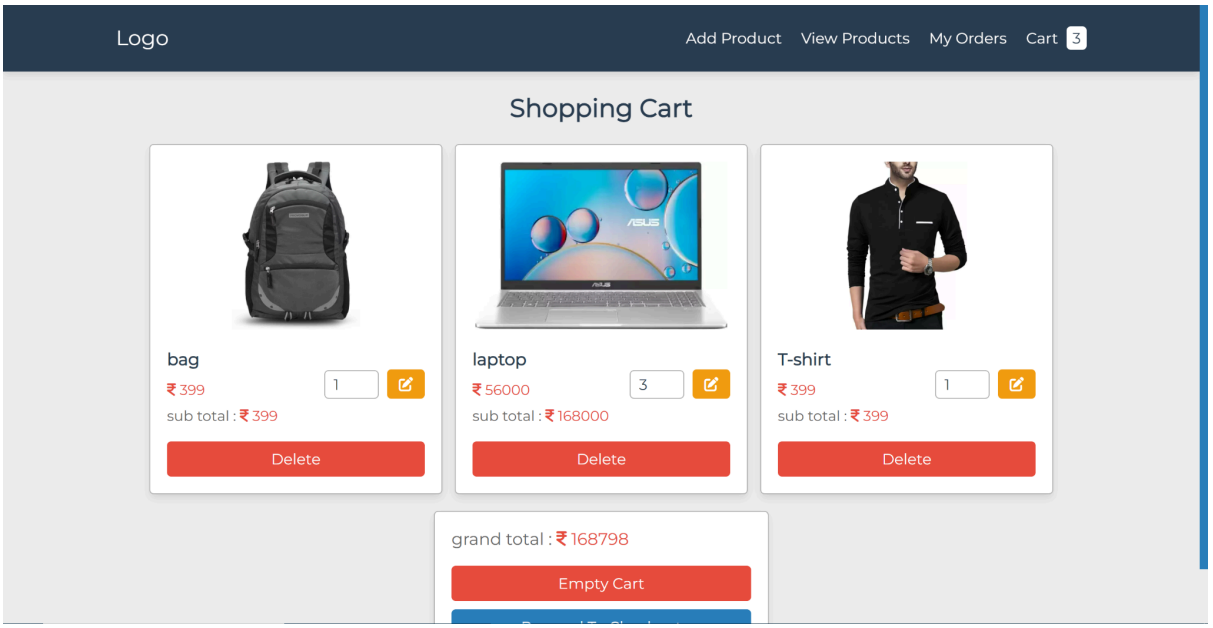

Figure03: View of shopping cart

The order management system automatically generates orders once the checkout process is completed. It records all necessary details such as order date, items purchased, quantities, and total cost. Users can access their order history, providing them with a detailed view of their past orders and the status of each. This functionality is crucial for maintaining transparency and trust with customers, as they can track their orders and view past purchases anytime.

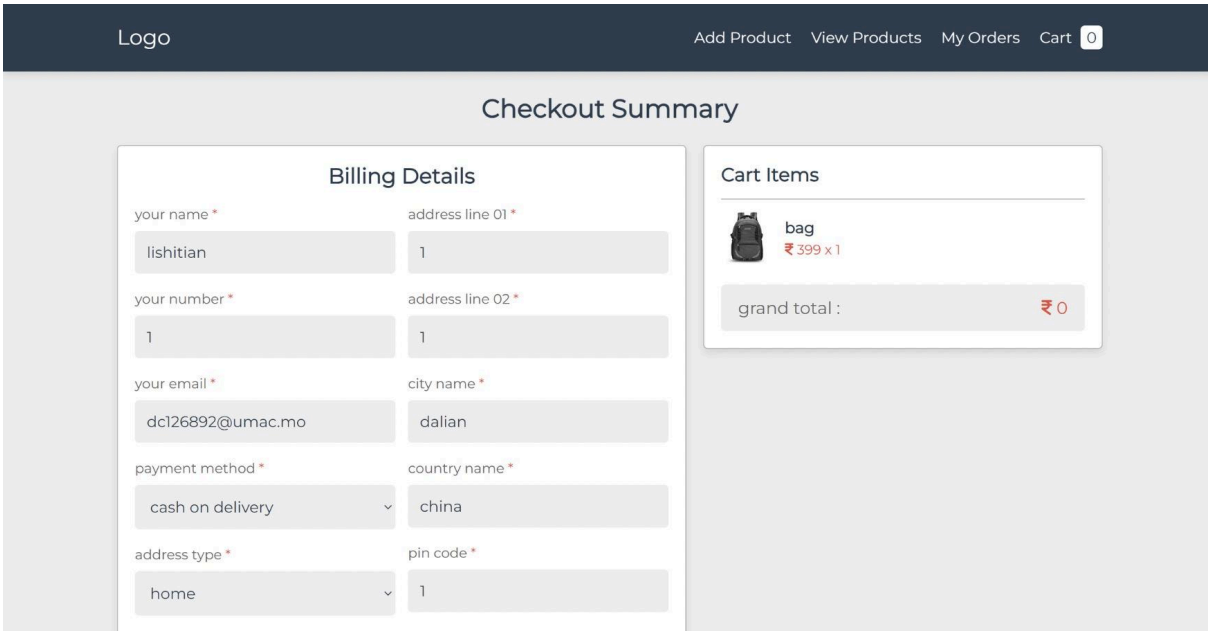

Figure 04: Order details about user

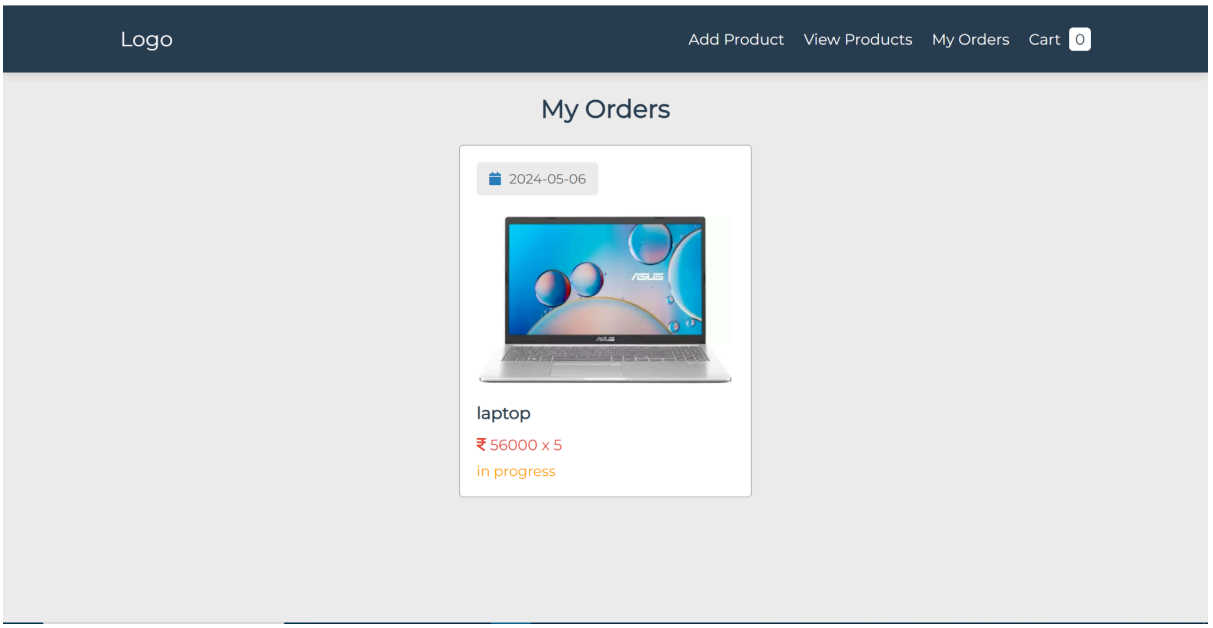

Figure 05: Order details about product

An integral part of this shopping cart system is the efficient handling and storage of data, which is crucial for both the product management and order processing functionalities. For this project, a MySQL database is employed to store all necessary information, which includes user details and

product data. The use of XAMPP as a local development environment facilitated the setup and management of the MySQL database, ensuring a smooth development process.

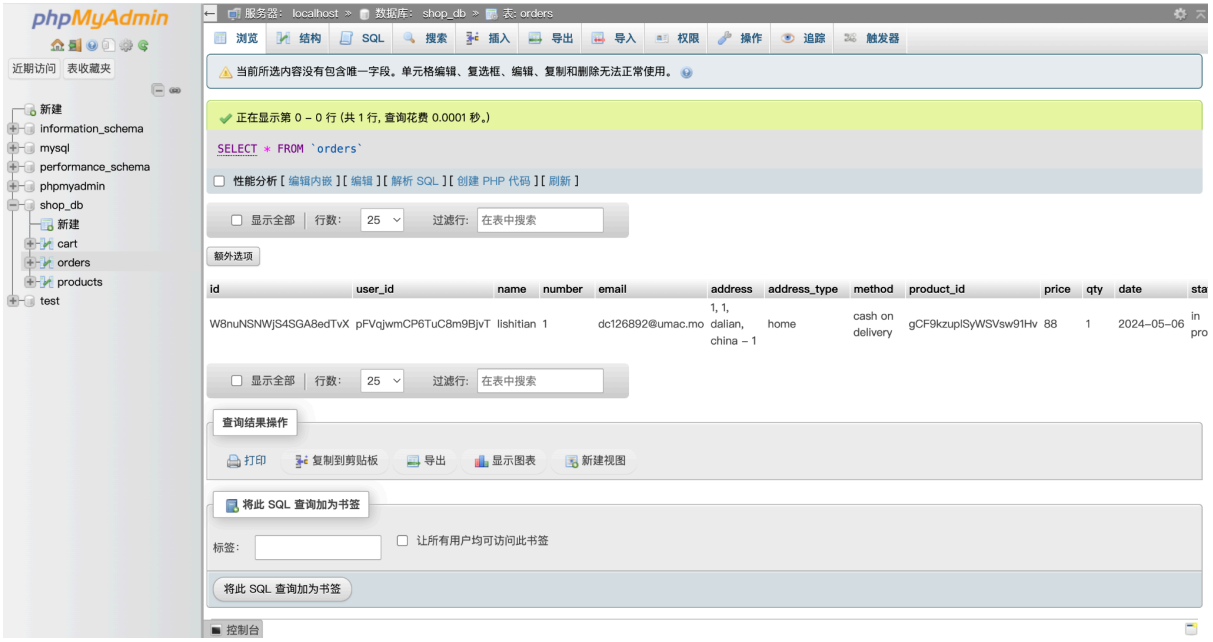

Figure06: Database of orders

Figure07: Database of products

Regarding project deliverables, the system was developed using HTML, CSS, JavaScript, jQuery, and PHP, ensuring all code was functional and adhered to modern web standards. Extensive testing was conducted to ensure that each part of the system worked as expected, and screenshots from these test runs are included to demonstrate the functionality. Moreover, the implementation of responsive design was a critical aspect of this project. Media queries were used extensively in the CSS to ensure that the

website is accessible and provides an optimal viewing experience across a variety of devices and screen sizes, from desktops to mobile phones.

Project Archive and Documentation

GitHub Repository:

Link to the project's GitHub repository for public access. Readme File, the instructions and descriptions of the project components are in it as well.

https://github.com/lee10lele/CISC3003-Individual-Project

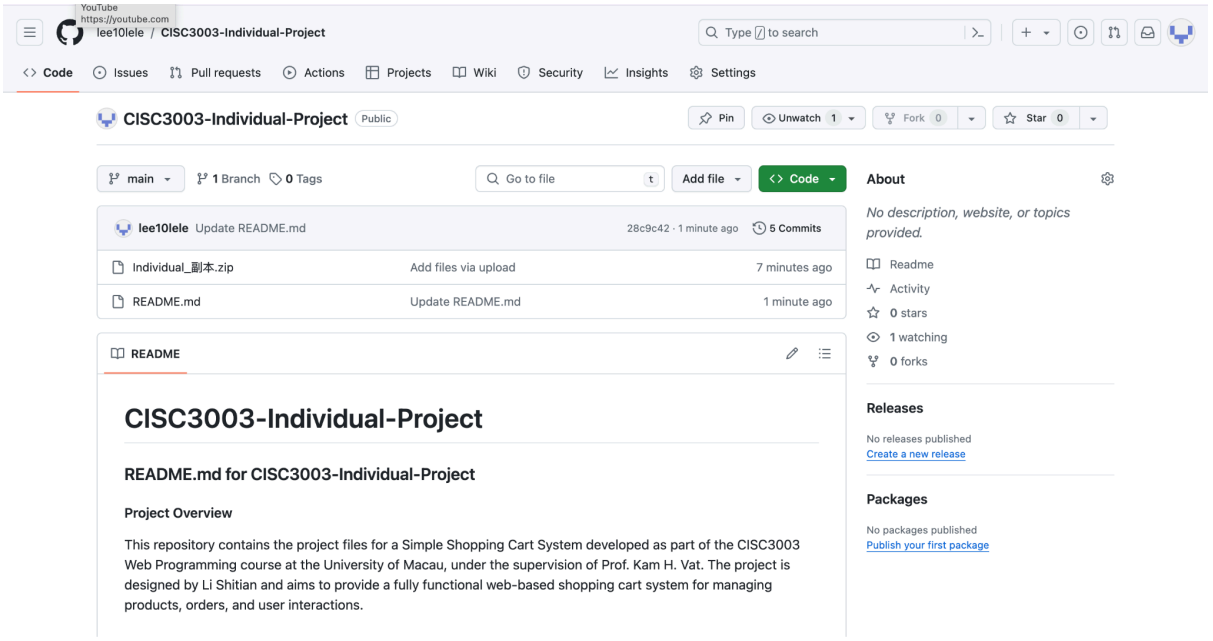

Figure08: Github respository

Incomplete Aspects

User authentication and management system were not developed. Advanced product filtering and search capabilities were omitted. Integration with external payment gateways for processing transactions was not completed.

Conclusion

The development of the "Simple Shopping Cart System" for the Web Programming course provided a comprehensive exploration of web development, utilizing HTML, CSS, JavaScript, PHP PDO, and MySQL.The project successfully implemented basic e-commerce functionality, such as product, order,

and shopping cart CRUD operations, which are essential for the effective management of an online store.
Despite the success, the project highlighted areas for improvement, such as the lack of user authentication and payment gateway integration, which could enhance the functionality and security of the system in future updates.
In conclusion, this project not only strengthened my technical skills, but also improved my problem solving skills and project management experience. It has laid a solid foundation for my future career development and opportunities in the field of web development.

Self-Assessment

CISC3003 Assessment Rubric for Semester Project - Part 2

Your Student ID and Full Name	Raw Score Assigned	Raw Score Earned
Project Walkthrough Example Brief (at least 3 A4 pages but no more than 6 pages; -2 points for Brief below three A4 pages or exceeding six A4 pages)	5	5
Project Walkthrough PPT (based on the videos of presentation not more than 20 slides; -2 points for PPT below 10 slides, or exceeding 20 slides; ZERO for no PPT submitted)	5	5
Project Deliverables (5 points for working HTML/CSS/JS/jQuery/PHP/ coding + 5 points for screen images captured from successful test-run + 5 points for media queries to enable responsive design; ZERO for not working coding, ZERO for no screens captured for successful test-run, and ZERO for not supporting mobile first, responsive web design)	15	15
Project Archive (5 points for zip file of the Eclipse workspace, including all related Web project files, 5 points for readme file, and 5 points for screen shots) plus a project (public access) GitHub link for easy reference (10 points)	25	15
Project Report - Abstract (200 words; -3 points for below 100 words, or for exceeding 200 words)	5	5
Project Report - Project List of Services (ZERO for no list of project services given)	5	5
Project Report - Project List of Tasks (ZERO for no individual tasks provided)	10	10

Project Report - Project Accomplishments (-5 for no list of project accomplishments provided, including HTML/CSS/JS/jQuery/PHP/SQL files/media queries)	5	5
Project Report - Project Incomplete - What have not been done! (-5 for no concise conclusion of what has not been accomplished)	5	5
Project Presentation Video (no more than 15 minutes: -5 points if no presentation video is provided)	5	5
Project Self-Assessment Rubric (5 points) + Personal Assessment based on the Rubric (5 points); -5 points if no such rubric provided in the report; -5 points if no self-assessment is done in the project archive (Word document)	10	10
Total Score ● -95 points for no individual submission from submission link ● -10 points if project is not completed as a full-stack Web application (covering both front-end Web design and backend Web application development) ● -10 points if project does not include screen shots to properly prove the working of the system services.	95	95
Semester Score (10-point scale) Part 2 of 2 in Project Assignment	10	10
100 Scale	100	100
Classification on Quality of Work		

Note: You need to create a self-assessment rubric to evaluate your learning from the Project Walkthrough Example chosen.