software capstone project

E-commerce clothing shop

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# Introduction

1.1 Project Overview

The project described within this document is an E-commerce Clothing Shop Application designed to meet the requirements of online shoppers who are searching for convenience, flexibility and time-saving advantages. The prospective end users will find this application user-friendly and useful because it will facilitate the ways the business and the customers will interact with each other. The e-commerce shop will be built using Laravel, a PHP web framework which is popular for developing scalable and secure web applications.

1.2 Objectives:

The primary objectives of this project are:

1. To design and develop a fully functional web-based e-commerce clothing shop application using Laravel framework.
2. To create a user-friendly and intuitive graphical user interface that enables customers to easily navigate and browse through the product catalog.
3. To implement RESTFUL API using Laravel’s built-in API features.
4. To develop a complete automating testing suite for better security and functionality, including Unit Test , Integration Test.
5. To store and manage data related to users, products, orders and inventory using SQL Server.
6. To perform input validation to ensure that customer data is accurate and secure.
7. To provide basic documentation in a README file to help users and developers understand how to use and contribute to the application.
8. To incorporate social media sharing functionality to allow customers to share their products with their friends and family.

1.3 Features

The primary features of this project are:

1. Login: Users can create an account or log in using their email and password
2. Register: New users can register by providing their personal information and email
3. Cart: Users can add and remove products from their shopping cart
4. Inventory:

* The administrator can manage the inventory by adding, editing and deleting the products.
* The administrator can view inventory reports for a given time period

1. Order: Users can place an order by providing their billing and shipping information
2. Payment: To process payments securely
3. Contact: Customers can contact customer support easily by email
4. Order Status: The administrator can update the status of order
5. Customer List: The administrator can view a list of customers and their information

1.4 Deliverable Timeline:

|  |  |
| --- | --- |
| Date | Deliverable |
| May 3, 2023 | Project Proposal |
| May 17,2023 | Project Plan/Initialization and Analysis |
| Jun 23, 2023 | Design and Implementation |
| June 30, 2023 | Testing |
| July 7, 2023 | Documentation |

1. Project Proposal(May 3, 2023)

* Proposal
* GitHub Link : <https://github.com/DorisCH20/CapstoneProject>

1. Project Plan and Analysis( May 17, 2023)

* System requirements specifications
* Software requirements specifications
* User stories
* UML diagrams

1. Design and Implementation(Jun 23, 2023)

* Database Design
* Application implementation
  + Code correctness
  + Good Human Machine Interaction
  + Recommended code practices
  + Time and Space complexity of the algorithm

1. Testing(June 30, 2023)

* Unit Test coverage
* Integration and Acceptance Testing

1. Documentation(July 7, 2023)

* User Manual
* Software Design Document

1.5 Budget Summary:

The development of this application will be free of charge

1.6 Evolution of this document

This project plan is a living document and as such will be subject to change as the term of the project moves forward. Updates should be expected the following sections:

* + References – updated as necessary
  + Definitions, acronyms, and abbreviations – updated as necessary
  + Technical Process – this section will be revised appropriately as the requirements and design decisions become clearer
  + Schedule – as the project progresses, the schedule will be updated accordingly

1.7 Definitions, acronyms, and abbreviations

* UML: Unified Modeling Language - A way to visually represent the architecture, design and implementation of our project
* GUI: Graphical User Interface – method used to mediate between user and device through

Visual representations and text.

* UI: User Interface – the means by which a user and system interact
* Milestones: end-point of a process activity
* Deliverables: project results delivered to customers

# 2. Project Organization

2.1 Process model

Waterfall Model will be used as it allows for the straightforward definition of progress.

2.2 Organization Structure

Doris Chan – Full-stack developer

# Managerial Process

3.1 Assumptions, dependencies, and constraint

Assumptions for this project are that, I am using Laravel framework, which is new for me and challenging, and have also sufficient knowledge in PHP, SQL database and communications.

In the project plan, a number of factors are taken into account:

The team budget of 1 person: 90 days =300 hours

The project deadline: July 7, 2023

The final presentation: July 7, 2023

NOTE: Due to deadline of February 13, 2023, running out of time will have its reflection on the product, and not on the duration of the project. By assigning a priority of every user requirement, a selection can be made of user requirements that may be dropped out if time runs out.

3.2 Risk Management

This section mentions any possible risks for the project. Also methods are defined to prevent or reduce these risks:

* Technological risks
* People risks
* Organisational risks
* Requirements risks
* Estimation risks

3.3 Monitoring and controlling mechanisms

The monitoring and controlling of the progress is done by the developer and the client using the following means:

* Weekly project status meetings
* Reassign resources to fill the gap depending on the availability and previous knowledge of what the currently unavailable resource was working on.
* Client will be made aware, in advance, of the amount and type of change that can be accommodated within the term of the project.

# Technical process

4.1 Methods, tools and techniques

Developer is required to use VS Code, PHP with Laravel Framework, Github , SQL, XAMPP while developing. UML diagrams will be generated by diagrams.net

4.2 Software documentation

The software user manual will be generated along with the functional requirements and be validated during the acceptance process.

4.3 Project support functions

All project support documents will be completed in applicable phases.

4.4 Project development language

Project development language is PHP and SQL

4.5 Hardware

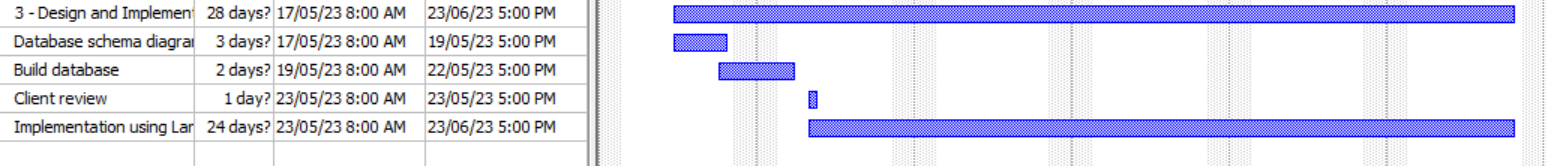
The client will provide a desktop computer to install the system

* Laptop – Intel Core i5(11th Gen) i5-1135G7 2.40GHz 2.42GHz 8 GB – 256 GB SSD – Windows 11

# Timeline – Gantt Chart

A picture containing application

Description automatically generated



A picture containing background pattern

Description automatically generated

# Project Structure

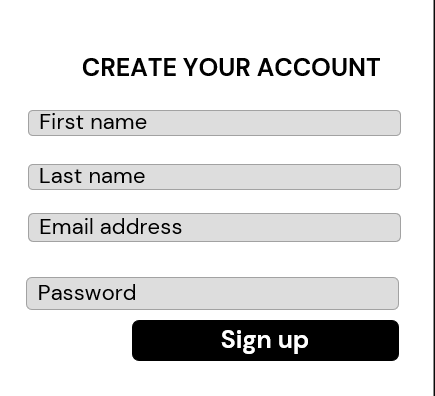
# Project Wireframe

## 7.1 Home Interface sketch

A picture containing text

Description automatically generated

## 7.2 Register Interface sketch

****

## 7.3 My Cart Interface

Graphical user interface, application

Description automatically generated with medium confidence

## 7.4 Login Interface

Text, application

Description automatically generated

# User Stories

## User Story 1:

As a customer, I want to be able to create an account so that I can save my shipping and billing information so that the checkout process is faster and more convenient.

## User Story 2:

As a customer, I want to be able to login to the an account so that I can save my shipping and billing information so that the checkout process is faster and more convenient.

## User Story 3:

As a customer, I want to be able to browse and search for products.

## User Story 4:

As a customer, I want to be able to view detailed product descriptions, images and prices.

## User Story 5:

As a customer, I want to be able to add products to my cart and proceed to checkout

## User Story 6:

As a customer, I want to be able to view and edit my cart before checkout.

## User Story 7:

As a customer, I want to be able to be able to save my billing and shipping information for future purchases.

## User Story 8:

As a customer, I want to be able to able my order history and track my orders.

## User Story 9:

As an administrator, I want to be able to add products in the catalog.

## User Story 10:

As an administrator, I want to be able to edit products from the catalog.

## User Story 11:

As an administrator, I want to be able to delete products from the catalog

## User Story 12:

As an administrator, I want to be able to view and manage customer orders.

## User Story 13:

As a customer, I want to be able to share products on social media.

## User Story 14:

As a customer, I want to able to contact customer support through email

## User Story 15:

As a customer, I want to able to change my password

## User Story 16:

As a customer, I want to be able view and edit my account information, such as my shipping address and payment methods to ensure accuracy and convenience for future purchases.

## User Story 17:

As an administrator, I want to be able to view the order report

## User Story 18:

As a customer, I should be able to pay with credit/debit cards when I checked out

## User Story 19:

As a customer, I want to be able to view products based on price range.

## User Story 20:

As a customer I want to be able to save multiple shipping addresses, to have the flexibility to ship items to different locations.

## User Story 21:

As a customer, I want to be able to view products based on color.

## User Story 22:

As an administrator, I want to be able to review customer accounts details.

## User Story 23:

As an administrator, I want to be able to update customer information.

## User Story 24:

As an administrator, I want to be able to manage access levels for staff accounts.

## User Story 25:

As a customer, I want to be able to track the delivery status of my orders in real time.

## User Story 26:

As a customer I want to be able to view products based on size.

## User Story 27:

As a customer I want to be able to view products based on availability.

## User Story 28:

As an administrator, I want to be able to manage the content of “About Us” page.

## User Story 29:

As an administrator, I want to be keep up to date the Terms and Conditions pages

## User Story 30:

As an administrator, I want to be able to generate and manage invoices.

# UML diagrams

## Use Case Diagram

Diagram

Description automatically generated

## Class Diagram

A picture containing text, screenshot, design

Description automatically generated

## Data Flow Diagram