System Design Document

MCDA 5510(Software Development in Business Environment)

M.Sc. in Computing and Data Analytics

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# INTRODUCTION

As the year winds down to the holiday season, people usually decorate their houses with colorful lights and bright ornaments, bring out hot chocolate, the warm fuzzy blankets, and watch Christmas movies with their families while their pets doze. Winters in Canada are usually quite harsh, so people rarely venture out unless necessary.

While Christmas shopping is wonderful, we often realize that we’ve missed out on buying an item till the very last moment, at which point, the weather or other factors could prevent us from visiting a physical store. It is not always possible to find that one unique product on Amazon, but it can be found in local stores in times like these.

Here, “Dashing through the Snow” comes in handy as an online store which meets your festive needs, delivering local products from around the city to your doorsteps within 24 hours.

## **Purpose**

1. Bring festive (Christmas) vibes to families during harsh weather conditions by providing them with a wide range of decorative items, lights, edibles, gifts etc. on their doorsteps.
2. Provide a platform for local artifacts, handicrafts, and businesses to prosper and get acknowledged.
3. Quick Delivery service within 24 hours.

## **Definitions, Acronyms and Abbreviations**

|  |  |
| --- | --- |
| **Attributes** | **Meaning** |
| FR | Functional Requirement |
| NFR | Non-Functional Requirement |
| IR | Interface Requirement |
| DB | Database |
| Frontend | Client-side User Interface |
| Backend | Server |
| SQL | Structured Query Language |

## **Scope**

### **In Scope**

1. Landing Homepage
   1. Carousels
2. About Us
   1. Brief Overview
   2. Journey
   3. Contact Information
3. Shop
   1. Categories
   2. Filters
   3. Card view of Items
   4. Add items to the cart
4. Cart
   1. View items in cart
   2. Remove items from cart
   3. Checkout
5. Profile
   1. Edit profile
   2. Add/Remove addresses
   3. Order History
6. Login / Register
   1. Login
   2. Log in with Google or Facebook
   3. Register
   4. Register with Google or Facebook
7. Payment Gateway
   1. Card Payment
   2. Wallet Payment

### **Out of Scope**

1. Vendor Screen
2. Customer Support

## **References**

1. [Angular with .NET](https://learn.microsoft.com/en-us/visualstudio/javascript/tutorial-asp-net-core-with-angular?view=vs-2022)
2. [Payment Using Stripe](1.%09https:/www.positronx.io/how-to-integrate-stripe-card-checkout-payment-gateway-in-angular/)
3. [Web applications Azure architecture design](https://learn.microsoft.com/en-us/azure/architecture/guide/web/web-start-here)
4. [Hosting Web Application on Azure](https://jasonwatmore.com/post/2020/01/08/angular-net-core-sql-on-azure-how-to-deploy-a-full-stack-app-to-microsoft-azure)

## **Overview**

# SYSTEM OVERVIEW

## **System Characteristics**

The web application is expected to be available round-the-clock from anywhere in Halifax, and usable from any device for any screen size. Security is a must for end users’ data and should be flexible, and scalable to meet reasonable demand occasionally. Additionally, it should have rich user experiences built on the client.

### **Availability**

“Dashing Through the Snow” is planned to be hosted on Azure and will be available only in the city of Halifax.

### **Performance**

The delay in loading the web application should be less than 1 seconds.

### **Scalability**

The application is scaled to handle 20 users in real-time.

### **Security**

Security is a very important factor, and the application follows industry standards and guidelines.

* Password encryptions, namely SSL encryption is to be used.
* Azure Web Application Firewall is to be enabled.

### **Functional**

The website is designed to address selling local festive goods and items such as lights, decorations, cakes, candles, dresses and many more.

### **Ease of use**

The website is designed to be easy to use with friendly and quick navigation to move around different pages on the site.

### **Content**

Website content is relevant, informative and user-centric.

### **Optimization**

The website and its content are to be optimized for different devices, browsers, data speed, search engines, and users.

### **Responsive**

“Dashing Through the Snow” will be a responsive website. It should change its layout and options to fit the device and browser size.

## **System Architecture**

Diagram

Description automatically generated

## **Infrastructure Services**

## **System Context**

## **Standards and conventions**

## **Software development tools**

## **Outstanding Issues**

# COMPONENT DESCRIPTION

## **Component Identifier**