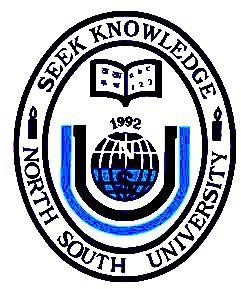
## Department of Electrical and Computer Engineering

**North South University**



**Senior Design Project**

**Online Grocery Shop**

Iftekhar Riyadh ID #1610670042  
Tasfia Nausheen ID #1711488042  
Avisheik Barua ID #1721158042  
Maruf Hossain ID #1412604642  
SM Nasif Sadiq ID #1530117642

**Faculty Advisor:**

**Dilhan Md Nuruddin Hasan**

**ECE Department**

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**DECLARATION**

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

Students’ names & Signatures

## Iftekhar Riyadh

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

## Tasfia Nausheen

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

## Avisheik Barua

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

## Maruf Hossain

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\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ **5. SM Nasif Sadiq**

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**Abstract**

An online grocery allows a customer to offer online orders for various items or services from a store serving online customers. This system provides an online display of all things they want to sell. This web-based application advises customers to choose their daily essentials and products in their shopping cart. Customers store their complete detail of address and contact and get their selected commodities in their homes. This web-based application saved lots of time for customers.

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Chapter 1

**Overview**

* 1. Introduction

As people are getting more and more busy and industrial in life, the use of online shopping is increasing more and more and especially during the age of pandemic, the use of online shopping has increased more than ever. People are locked inside and to buy their necessary items, people nowadays, buy items from online. The demand for online shopping is only increasing than ever. In online shopping, consumers have the opportunity to get full information regarding the product along with it’s review given by the previous consumers. So, if a new consumer is trying to buy a new product from the website, he/she doesn’t have to go anywhere looking for people to ask for review rather than they can read the review of other consumers from the website. Online shopping websites contain both good high quality to average quality with all sort of price range, keeping all level of people in mind. In, online shopping, there are no national and international barriers as well. People around the globe can order anything from anywhere.

* 1. Project Description

This project is to ensure a user-friendly shopping experience for customers that helps the customer to shop and for sellers to sell their products, securely and easily and also, ensure safe, secure bill payment after customers are done shopping. This project of ours will save time and energy of the customers and also make it easier for the customers to look for products by the feature in the website, that is, image search which will make it more efficient and quicker to find any product. In short, people can shop anytime from anywhere, 24/7.

Our project will fulfill the following other objectives as well:

* Ensure a user-friendly interface for customers to shop, hassle-free
* Ensure a secure and user-friendly way to pay via online after the customers are done shopping
* Ensure customer friendly shopping facility by able to search for products by image search facility
* Ensure secure way for sellers to sell products anytime from anywhere, hassle-free
* Customers can search product by image processing.
* Ensure customer support by online chat and call option.
  1. Technical Approach

We will ensure a design integration that is easily accessed by anyone who comes across the website. Also, user experience will help us in designing websites that will be developed. We will pay attention to the prevalence of users when exploring a site. After that, we can create a website with features that are matched with the results of research from the prevalence of these users so that later it will be easier for them to visit. One technique to keep our site safe is by not entering the login form on the site’s advance element. Because many individuals sometimes try to disrupt the peace of a website. We can anticipate the speed-related issues by using a medium to small resolution images or using the CSS Sprite method. So later, the data request to the server element will not be short and facilitate page access. Here, we as web designers must create a unique design of eyesight without striking. While the owner of the site must fill it with interesting content so that users come home again.

* 1. Summary

In this chapter, we discussed the importance and goals of our project. We have discussed how our project will ensure user-friendly shopping along with image processing feature, making it convenient for the users to find any product hassle-free.

Chapter 2

**Existing System**

* 1. Introduction

If we look at other online websites, there is only the search engine feature where a user has to type in the product they are looking for, to find that specific product which is pretty time consuming and not so efficient. But because of the image processing feature, it makes the online shopping experience for the customers more efficient and less time consuming. One has to just click the photo of the product to find it on the website. Also, the online chat & call option for customer support can also be very efficient to customers if any problem occurs or if they face difficulty finding a product.

* 1. Similar Existing System

In recent days, people don’t really go outside to buy necessary items especially during pandemic. People don’t really have that time or energy to go out and look for products one by one for purchasing. There are existing websites that aren’t less efficient because of their limitations like, sometimes searching the right product can be time consuming, also, there are times when the shipping costs in some websites are high, making it hard for some customers to purchase anything. There are also times when there are feuds regarding seller and consumer regarding refunds or returns or the customer services aren’t up to the point. Also, some shops aren’t open 24/7 which sometimes might create problem for the customer. And, to overcome these limitations, we decided to build this project which can be efficient for all sort of customers, be it anywhere.

* 1. Summary

In this chapter, we discussed the similar systems that were being developed and also about the limitations of those and that they are already existing in society.

Chapter 3

**System Design**

3.1: Introduction:

System definition activities are conducted to create and describe in detail a system-of-interest (SoI) to satisfy an identified need. The architecture definition of the system may include the development of related logical architecture models and physical architecture models. System definition activities build on the artifacts and decisions from concept definition, primarily the articulation of the mission of the (SoI), the needs and requirements of stakeholders, and preliminary operational concepts.

System design is the process of defining the components, modules, interfaces, and data for a system to satisfy specified requirements. System development is the process of creating or altering systems, along with the processes, practices, models, and methodologies used to develop them.

3.2: System Description:

Online Grocery Shop is a online portals that facilitate online transactions of goods and services through means of the transfer of information and funds over the Internet. In the early days, e-commerce was done partially through emails and phone calls. But we give many other facilities to our customers. It’s a place where a people can find all type of grocery item. A customer can choose items by logging into their profile. As they are creating a profile, all information of their product can see in their profile. There will be many discounted products. A user can also choose product according to price range. There is a admin panel of this website. Admin can do all the necessary purposes of this website. Such that: Adding goods or deleting, give discount in any item, Add or delete user etc.

3.3: System Design:

**Website**

**Send Image**

**Internet**

**Server**

**Product detection**

**Add to cart product**

**Camera, Raspberry pi**

**Admin**

**User**

**Database**

**Capture Image**

**Product direction**

3.4: Summery:

Though this is not a complete project. We will construct many other things in our project. In this chapter we give an overview of our system. We are also working on AI, camera repository, a detailed search bar and a payment gateway.

Chapter 4

**Technical Description**

4.1: Introduction:

A technical design doc describes a solution to a given technical problem. It is a specification, or “design blueprint”, for a software program or feature. The primary function of a TDD is to communicate the technical details of the work to be done to members of the team. However, there is a second purpose which is just as important: the process of writing the TDD forces you to organize your thoughts and consider every aspect of the design, ensuring that you haven’t left anything out.

4.2: Technical Description:

In this project we are creating our database by mySqual. There are several tables for several purposes. Such that admin info, user info, products, order etc. Mainly we construct the theme design by CSS. Other parts like categories, order part designed by PHP. We also use Java script and bootstrap for the other parts.

4.3: Summery:

In this chapter, we have discussed the components, their features and how they have played vital roles respectively to make the project a perfect one. But this is not the final one.

Chapter 5

**Principle of operation**

5.1 Introduction:

In this chapter, we will discuss the design of the technical functions of the project. Implementation is the action that must follow any preliminary thinking in order for something to actually happen. Our project features required perfect design implementation in order to run in harmony with other features. We have discussed the entire design implementation in this part.

5.2 List of components:

MySql

Visual Studio

Xampp

Bootstrap

Javascript

5.3 Principle of operations:

There are several parts of our project. As it’s an ecommerce website, main things happens in our database. Database is the main place where we stored our all information. But there are 3 type of view of our project. One is admin panel, second is guest who can check the website and another is user who can log in to our website using a email and password. Rest of the part we are construct using PHP codes by visual studio codes. We are also use a framework named bootstarp in front-end, user interface, construct buttons and etc.

5.4 Summery:

In this chapter, we have discussed the design of our project and how we achieved it with proper implementation.

Questions:

1. what is new in your idea

Though there are some online grocery shops in our country but we have something different from them like we will use artificial intelligence for the website. Thus, a user can search product by capturing image.

2. How is it relevant to the users in Bangladesh

In current days we are in a pandemic situation. As our government is also trying to build a Digital Bangladesh so everything should be digital. So, a people can buy their daily goods from our website from home.

3. what are the state-of-the-art similar solutions?

Currently, there are no state-of-the-art similar solution nor is there are solutions that are really good.

4. How to commercialize your idea in Bangladesh?

Though there are some competitors in our country but there are some limitations in every platform. We will construct a well-developed user interface for the website. We will try to give 24/7 support for any issues. Will try to deliver products in a shortest time and the best one.

5. what are the obstacles you are currently facing?

The main obstacle is the security issue, that is, to make sure that 3rd party doesn’t tamper with the data and information. Also, gaining trust of the consumer is another big challenge. Another, big obstacle is to make sure the website is always responsive, and has great performance speed and also is accessible and has good retention.

6. How to improve your current solution?

The website will be tested thoroughly so that customers achieve maximum efficiency. We will also test if the website is simple for finding anything a customer desires and also easily accessible for any aged disable people. We are going to make sure the system is strong enough to withstand regressive daily operations under conditions where the database is maintained and cleared over a certain time of span.

7. what are the socio economic and legal challenges you may face eventually in Bangladesh for practical implementation?

Primarily, we might face the challenges regarding the trust and security of the online grocery shop. The practicality can be justified but people might question the quality and authenticity. This can be mitigated by giving proper customer service and excellent reviews of the product.