



PROGRAM TITLE: .....

UNIT TITLE: .....

ASSIGNMENT NUMBER: .....

ASSIGNMENT NAME: .....

SUBMISSION DATE: .....

DATE RECEIVED: .....

TUTORIAL LECTURER: .....

WORD COUNT: .....

STUDENT NAME: .....

STUDENT ID: .....

MOBILE NUMBER: .....

**Summative Feedback:**

**Internal verification:**

# I. THEORETICAL BASIS

## 1.1 Domain và DNS

### - What is a domain?

A domain name is the web address people type in to access a website, such as google.com, amyandjordan.com, or findtheinvisiblecow.com. A domain name is unique and directs visitors to website.

### - What is DNS?

Domain Name System (DNS) is an naming database that locates and translates internet domain names into IP addresses

All DNS servers fall into one of four categories: Recursive resolvers, root nameservers, TLD nameservers, and authoritative nameservers.

### - How domain are organized and managed?

Domain names are organized via subdomains which are subordinate levels of the Domain Name System root domain. Top-level domains (TLDs) are the first-level set of domain names, and include generic top-level domains (gTLDs) such as .com, .net and .org as well as country code top-level domains (ccTLDs).

## 1.2 Web Server

### - A Web server is to respond to requests from Web client computers

### - There are 3 components of a Web server:

#### + Hardware:

#### ○ Web server computers

- More memory, larger hard disk drives, and faster processors than typical PCs

#### ○ Blade servers

- Placing small server computers on a single computer board, then installing boards into a rack-mounted frame

#### ○ Virtual server (virtual host)

- Maintains more than one server on one machine

#### ○ Architectures

- Server farms: Large collections of servers

- Centralized architecture: Uses a few very large and fast computers
- Distributed/decentralized architecture : Uses a large number of less powerful computers, divides the workload among them

+ Operating system software:

- Open-source software: Developed by a community of programmers who make it available for download at no cost

Linux: Open-source operating system that is easy to install, fast, and efficient

+Web server software

- The most popular Web server programs are:
  - Apache HTTP Server
  - Microsoft Internet Information Server (IIS)
  - Sun Java System Web Server (JSWS)

- A web server is software and hardware that uses HTTP (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide Web. The main job of a web server is to display website content through storing, processing and delivering webpages to users. Besides HTTP, web servers also support SMTP (Simple Mail Transfer Protocol) and FTP (File Transfer Protocol), used for email, file transfer and storage.

- Client-server web model

+ Client computers request services

A server processes the clients' requests

Web software is platform neutral, meaning that it lets different types of servers communicate with a variety of clients

+ Two-Tier Client/Server Architecture

Request message: Message that a Web client sends to request a file or files from a Web server

+ Three-tier architecture

Extends two-tier architecture to allow additional processing (e.g., collection of data from a database) before responses to requests are made

+ N-tier architectures

## Higher-order architectures

Third tier includes software applications that interactively supply and update information to and from the web server

- Protocols for accessing the web server:

A web server is software and hardware that uses HTTP (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide Web. The main job of a web server is to display website content through storing, processing and delivering webpages to users. Besides HTTP, web servers also support SMTP (Simple Mail Transfer Protocol) and FTP (File Transfer Protocol), used for email, file transfer and storage.

- Publish a website in 5 easy steps:
  1. Prepare your website content
  2. Design and build your website
  3. Find web hosting
  4. Do a quality assurance audit
  5. Publish your website using Webflow

### 1.3 Frontend and Backend

- What is a frontend (in a website)?

The frontend of a website is everything the user either sees or interacts with when they visit the website. It is responsible for the total look and feel of an online experience

+ Popular frontend technologies: JavaScript, HTML, CSS, React, React Native, Angular, Flutter, Vue.js...

- What is the backend?

The backend is the infrastructure that supports the front end and is made up of parts of a piece of software regular users can't see. The backend is basically a website's brain.

The backend includes the server that provides data whenever requested, the database where that data is organized, and the application that delivers that information.

+ Popular frontend technologies: PHP, Python, JavaScript, Laravel, MongoDB, MySQL...

- Relationship/difference between frontend and backend:

Frontend refers to the client-side, whereas backend refers to the server-side of the application. Both are crucial to web development, but their roles, responsibilities and the

environments they work in are totally different. Frontend is basically what users see whereas backend is how everything works.

#### 1.4 UX/UI and tools

- Some principles of UI/UX design for website:

- Focus on the user
- Consistency
- Put the user in control
- Create an easy-to-navigate interface
- Usability testing ...

- Popular UI/UX design tools:

- Sketch
- InVision Studio
- Axure
- Craft
- Proto.io
- Adobe XD
- Figma
- Webflow
- Balsamiq...

- The difference between Online Web Creation Tools and Custom Built Sites is based on the following criteria: flexibility, performance, functionality, User Experience (UX) and Interface. User Interface (UI). The difference between Online Web Creation Tools and Custom Built Sites is based on the following criteria: flexibility, performance, functionality, User Experience (UX) and Interface. User Interface (UI). The difference between Online Web Creation Tools and Custom Built Sites is based on the following criteria: flexibility, performance, functionality, User Experience (UX) and Interface. User Interface (UI).

- Fleibility

First of all, when it comes flexibility of website, online website creation tool has pre-made template which help the user to see their site at the time of buying and the function available in pre-made template are limited so user have to satisfied whatever they get from the online template as well as customization option in template are limited. In addition, some of the sites are not totally friendlier with SEO and marketing tools as well as user cannot make any changes to the site and web hosting companies also provide the hosting and domain name that help the user who have no experienced of coding and online website have good design with limited capabilities and services.

However, custom-build site have more flexibility than online website and sites are made according to the requirement of client which helps to develop more flexibility between web designer and client. Additionally, design, features, colors, fonts and outlook are made according to the requirement of client and site are already tested before deploying to the server and FTP server also provide grater flexibility which means that web folders can be access from the website that is hosted directly. At last, client can buy their own Domain name and hosting plan according to their desire.

- Performance

The performance of online website creation tool is very good related to custom build site because custom build website is made by coding in which the designer can made mistake but in online website creation tool is made by expert designer which have less mistake which increases the performance of sites as compared to custom build site but there are some sites which have poor performance lack of proper coding. Moreover, we cannot make full trust on online website that it will provide fast performance and speed of online site also depend upon the style of coding as well as sites having more plugin and animation also make site slower. Additionally, speed of side also depends upon the server that is used, as some of the server is not good which provide poor response from the server and make the performance of the site slower.

However, custom build website has both poor and good performance depend upon the designer in what form they write the code, plugins are limited or not as well as depend upon the server used in the site. Similarly, designer who are expert can reach the site to higher performance compared to online website creation tools and if the designer has used high range server and hosting site then it will also help to increase the performance of the site but only few websites have higher performance compared to online sites so while making the site client have to choose appropriate designer who can make the site faster and made the site according to their desire. Furthermore, using less plugin and animation help to load site faster and using dynamic content also help to increase the performance of site.

## 1.5 Software testing and quality assurance

### - What is testing?

Testing is the practice of making objective judgments regarding the extent to which the system (device) meets, exceeds or fails to meet stated objectives

### - Website testing tools?

- [eggPlant Functional](#)
- [iMacros](#)
- [Katalon Studio](#)

- [Ranorex Studio](#)
- [TestComplete](#)
- [Test Studio](#)
- [SOAtest...](#)

- What is QA Quality Assurance?

Quality Assurance in Software Testing is defined as a procedure to ensure the quality of software products or services provided to the customers by an organization. Quality assurance focuses on improving the software development process and making it efficient and effective as per the quality standards defined for software products.

## 1.6 Technologies and frameworks used to develop the website

- Assess the impact of common web development technologies and frameworks in relation to website design, functionality, and management.

### Disadvantages:

Adds complexity for simple projects

Can be too opinionated/ less freedom

Stop beginners from learning actual JS coding

Updates can introduce issues

### Advantages:

Faster development

Responsive by default

Browser compatibility

Community, documentation and support

Built in routing

- Offers a number of tools and techniques to design and build a custom website. Compare and evaluate the tools and techniques that should be applied when ?

ER Diagram tool like lucidchart, we can draw the demand of website, a database, ... before we going to build

Scrum tool for communication and collaboration when website is building

Draw and design tool like Adobe Cloud or Figma, we need a detail design file before we build a website



- Offers selected technologies, management services, tools and software to make a website built on demand.

Technologies: PHP-Bootstrap-MySQL-NginX

Management services: redmine, scrum website, gitlab, git tree

## 1.7 SEO Website

- What is SEO web?

SEO stands for “search engine optimization”. In simple terms, it means the process of improving your site to increase its visibility when people search for products or services related to your business in Google, Bing, and other search engines. The better visibility your pages have in search results, the more likely you are to garner attention and attract prospective and existing customers to your business.

- Ways to improve the position of the website on popular search engines like Google, Bing, etc.
  - Publish Relevant, Authoritative Content
  - Update Your Content Regularly
  - Metadata
  - Have a link-worthy site

## II. WEBSITE DESIGN AND BUILDING

### 2.1 Problem statement:

DWG is a company that sells mobile devices such as phones, laptops and accessories.

You are tasked with meeting DWG clients and gathering requirements to build a website including functional and non-functional requirements.

### 2.2 Analysis of the problem:

Functional and non-functional requirements of the website: Functions to order, display products, add products to cart, pay for products, fill in shipping address

### 2.3 Website interface design:

<https://www.figma.com/file/uLkLiubGJueYPfazC54osE/Store?nodeid=23%3A23&t=IEWRP9U1ZALDRZBb-0>

# LOGO

Any devices you need is here !



## MOST OUTSTANDING PHONE

Sort by *New* ▾



Phone  
€105



Phone  
€105



Phone  
€105

[Customizer](#) - [Waistcoat](#)



## CUSTOMIZER

€135



Main color



Add to cart

[Product Info](#) [Size](#) [Details](#) [Delivery & Returns](#)

## Order page - Delivery to the store

[COLLECTIONS](#) [CUSTOMIZER](#) [SALE](#)

[ITEMS \(3\)](#) [PROFILE](#)

City

Delivery method

In-store pick up

To the door

Address

Point

Enter your loyalty card

Recipient's details

Name and surname

Phone

Email

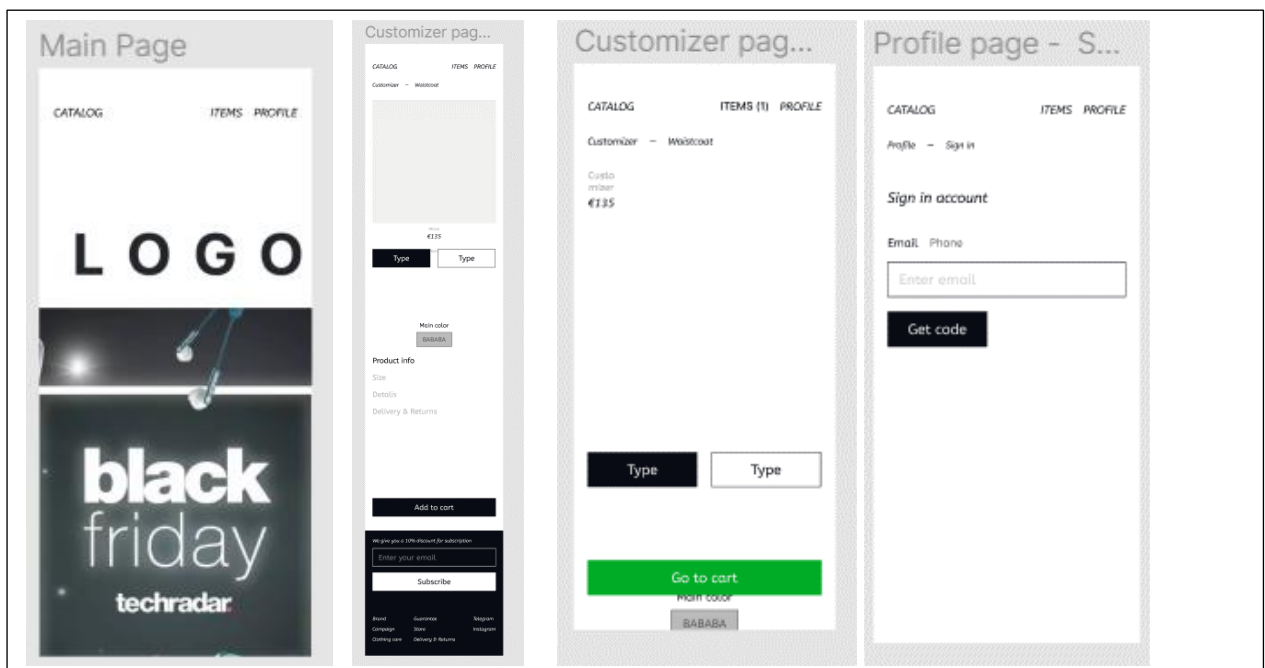
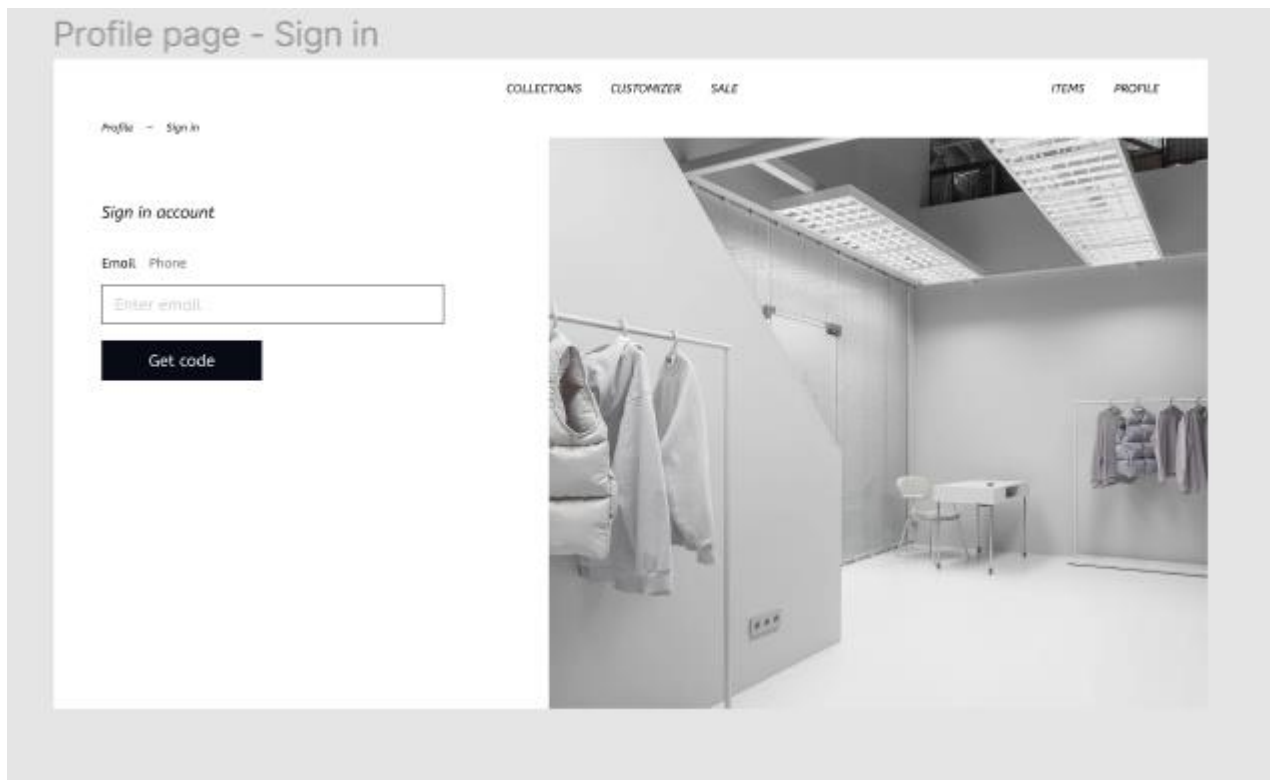
Payment method

Payment card

Order Comment

☐ I agree to the terms of the offer and the loyalty policy

Place an order

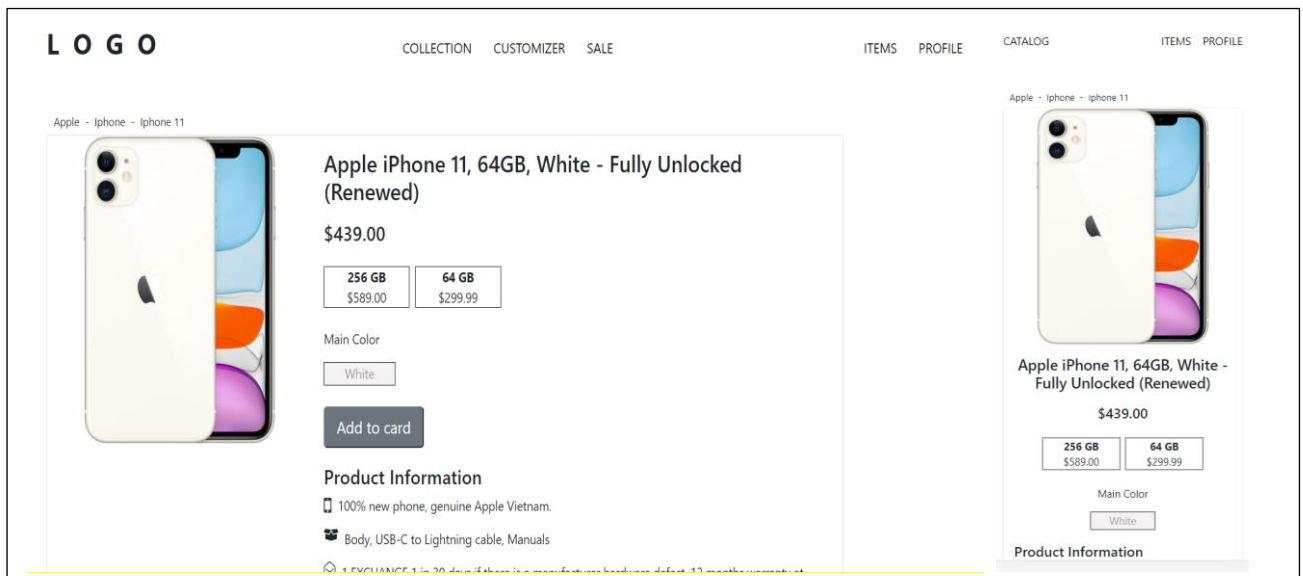
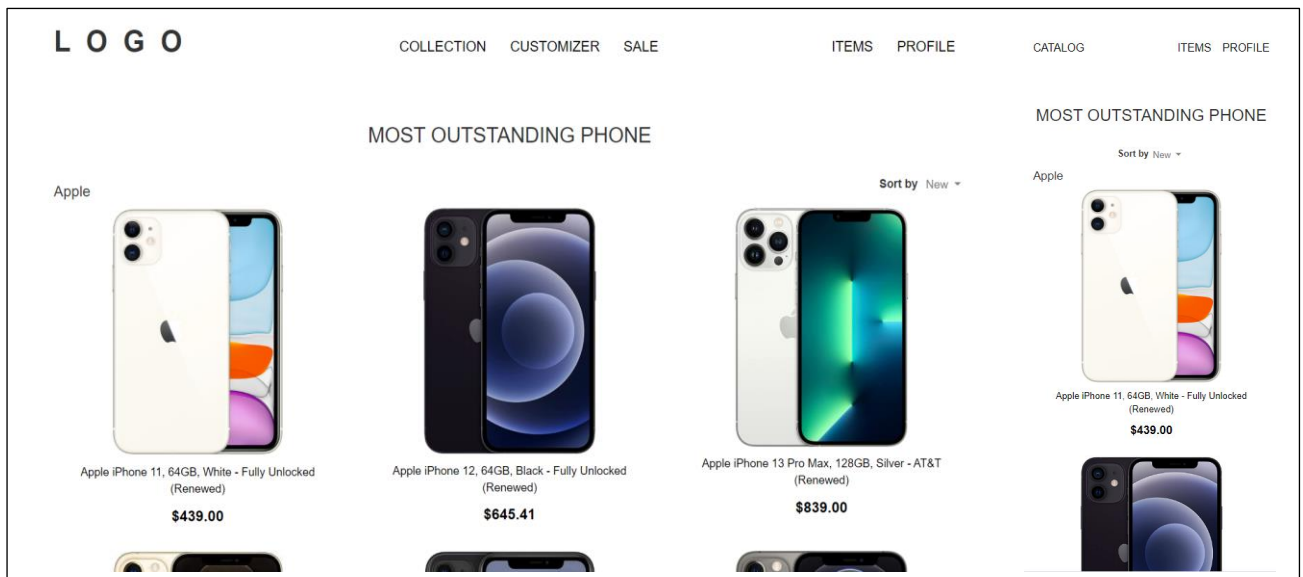
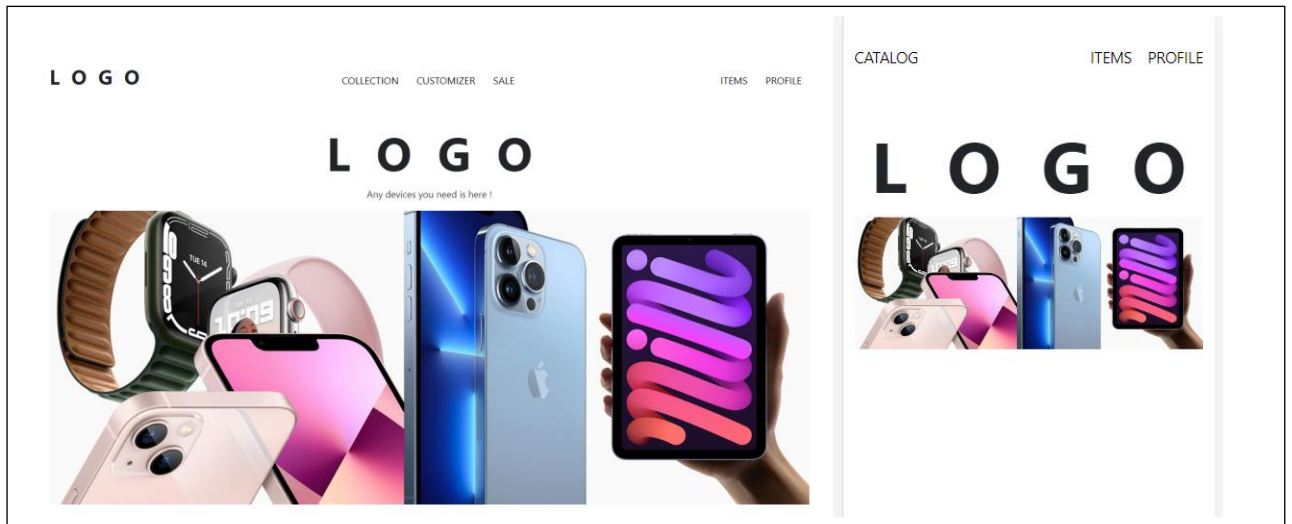


## 2.4 Evaluation of the website development process:

The website development process is full of design and coding steps, there are difficulties in responding to the website correctly

## III. ASSESSMENT OF WEBSITE BUILDING RESULTS

### 3.1 Demo website:



LOGO

COLLECTION

CUSTOMIZER

SALE

ITEMS

PROFILE

CATALOG

ITEMS

PROFILE

City

Enter city

Delivery method

In-store pick up

To the door

Address

Bolshaya Novodmitrovskaya, 36 p. 2

Point

Enter your loyalty card

Enter loyalty card

Recipient's details

Name and surname

Enter name and surname

Phone

Enter phone number

Email

Enter email

Payment method

Payment card

Order Comment

City

Enter city

Delivery method

In-store pick up

To the door

Address

Bolshaya Novodmitrovskaya, 36 p. 2

Point

Enter your loyalty card

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Email

Enter email

Payment method

Payment card

Order Comment

LOGO

COLLECTION

CUSTOMIZER

SALE

ITEMS

PROFILE

CATALOG

ITEMS

PROFILE


Profile - Sign in

Sign in account

Email Phone

Enter email

Get code



Profile - Sign in

Sign in account

Email Phone

Enter email

Get code

## IV. REFER

- References, references in the Harvard style.

