Department of InformationTechnology

University of the Punjab

Final Year Project Proposal

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1. Introduction

Before digital signage became common, stores relied on analog video displays for in-store advertising. In the 1980s and 1990s, it was typical to see video monitors in shops showing promotional content via VHS tapes. The arrival of DVDs marked the beginning of digital signage for retailers, as DVDs provided higher quality and more flexibility than VHS, prompting many stores to make the switch to DVD players.

Today, digital signage displays products using a variety of formats, including images, text, animations, and videos. Content is typically saved on USB drives or DVDs and then connected to a media player that projects it on screens. However, traditional digital signage has limitations: it can only play pre-recorded content, and if a store uses multiple screens, the same message usually plays on each screen. To show different messages on each screen, stores must use multiple media players.

1.1 Project Title

"Digital Signage"

1.2 Project Overview Statement

This project aims to inform and engage customers by providing detailed product information through digital signage. Digital signage serves as an effective tool to communicate with customers, combining text, images, and animations to present product details in a way that is more engaging than traditional posters or bulletin boards.

Digital signage helps connect with customers and boost sales by displaying content that captures attention and enhances the shopping experience. In the past, stores needed large budgets and sales staff to showcase products, but digital signage now allows for easy display of information, reducing costs for both displays and personnel. With a well-placed electronic screen, customers can view product features, photos, and videos at their convenience, without needing to wait for assistance.

To make this more accessible, we will create a web application for stores. This app will allow customers to browse product details and prices on their own, reducing wait times and lowering display and staffing costs for store owners. The app also provides the option to view products online, offering flexibility and convenience.

Project Overview Statement Template

Project Title:
"Digital Signage"

Group Leader:

Project Members:

Name	Registration #	Email Address	Signature
Aleeza Aftab	BIT21208	aleezaaftab338@gmail.com	
Ayesha Shahbaz	BIT21242	Choudharyayesha644@gmail.com	

Project Goal:
Digital signage is a centrally managed content distribution system that enables customers to easily access product features and prices on their own, while also allowing store owners to effectively keep track of their inventory records.

Objectives:

Sr.#	
1	Educate Customers: Assist customers in learning about product features and prices effectively.
2	Encourage Self-Exploration: Enable users to independently explore products without needing sales staff assistance.
3	Reduce Costs: Lower display and operational costs for retailers.
4	Inventory Management: Allow store owners to effectively maintain accurate inventory records.
5	Mobile Accessibility: Provide information about available products through mobile applications for convenient access.

Project Success criteria:
Increased customer engagement and sales growth, reduced wait times and costs, improved inventory accuracy, positive user satisfaction, and high app utilization rates.

Assumptions, Risks and Obstacles:
In the case of mobile applications, the end users may not have internet facilities all the time.

Organization Address (if any):

Type of project: ❑Research √❑Development

Target End users: user and owner

Development Technology: √❑Object Oriented ❑Structured

Platform: √❑Web Application ❑Distributed
√❑Desktop Application ❑Setup Configurations
√❑Mobile Application_____

Suggested Project Supervisor:

Approved By:

Date:

1.3 Project Goals & Objectives

The primary goal of this project is to showcase electronic and other products through digital displays while minimizing display and overall costs. Customers will no longer have to wait for assistance from the shopkeeper to learn about products and their features. Instead, they can independently browse through products, check features, and view prices, all on a single platform. This solution provides a secure environment that customers can trust, along with support when needed.
In this smart system, the following functions will be carried out:

- It will present images, features, and prices of products.
- Product records will be maintained to keep track of inventory history.
- Availability and unavailability of products will be displayed.
- Users can explore the display and view products on their own.

1.4 High-level system components

High-level system components:
Admin:
- Add items
  - ID
  - Features
  - Price
  - Specifications
  - Pictures
- Update items
- Delete items
- Manage inventory

User:
- Explore items
- Get awareness about item's features
- View item/product.
- Comparison of Products
- Cart option
- Order product

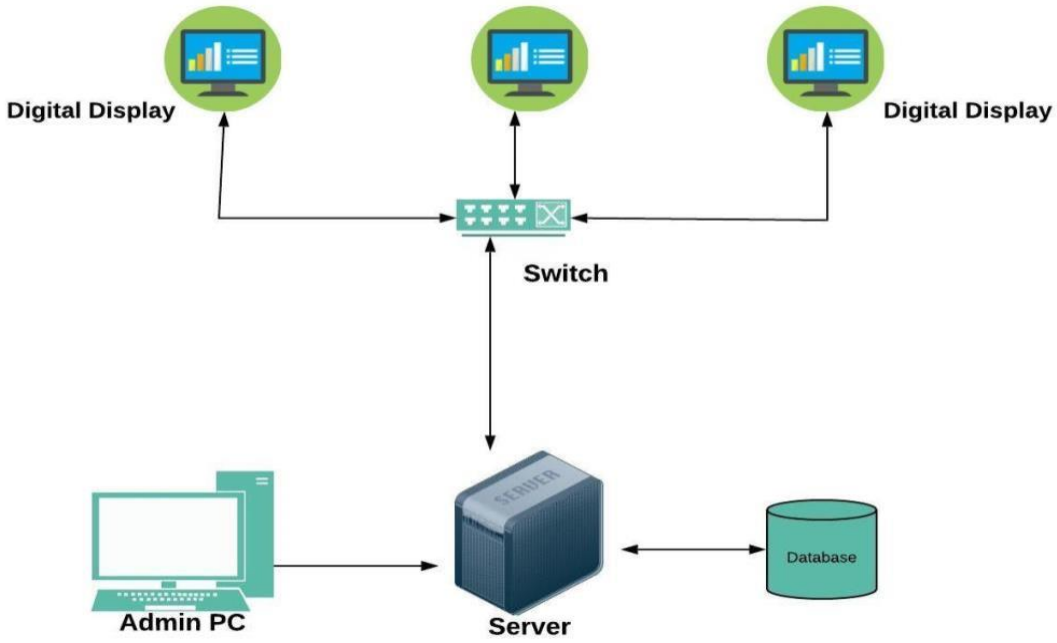
1.5 List of optional functional units

- Android Application
- Track order

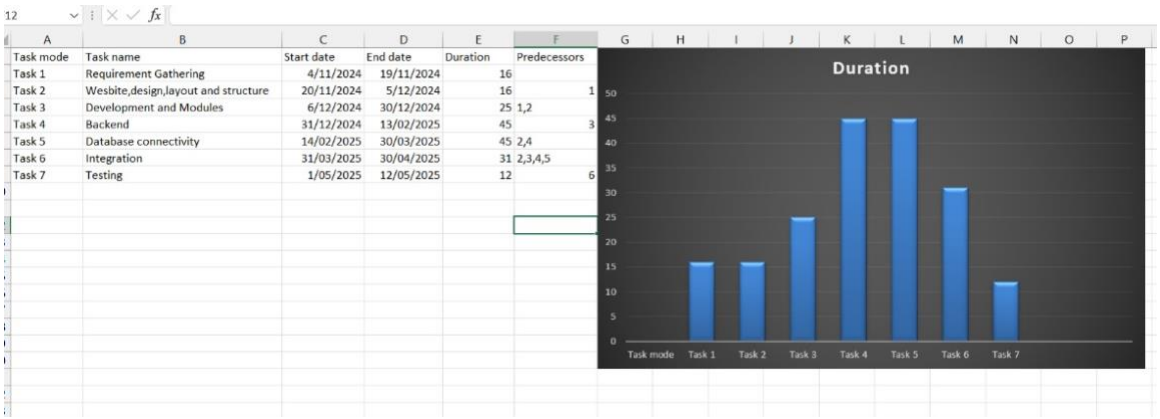
1.6 Exclusions

- Payment method

1.8 Application Architecture



1.9 Gantt chart



Task mode	Task name	Start date	End date	Duration	Predecessors
Task 1	Requirement Gathering	4/11/2024	19/11/2024	16	
Task 2	Wesbite,design,layout and structure	20/11/2024	5/12/2024	16	1
Task 3	Development and Modules	6/12/2024	30/12/2024	25	1,2
Task 4	Backend	31/12/2024	13/02/2025	45	3
Task 5	Database connectivity	14/02/2025	30/03/2025	45	2,4
Task 6	Integration	31/03/2025	30/04/2025	31	2,3,4,5
Task 7	Testing	1/05/2025	12/05/2025	12	6

1.10 Hardware and Software Specification

Hardware Requirements:

- ➢ Core i3 or higher Processor Based Computer
- ➢ At least 3 GB RAM, 8 GB RAM recommended
- ➢ 1.8 GHz or faster processor. Dual-core or better recommended
- ➢ Hard Drive: 50 GB

➢ Video card that supports a minimum display resolution of 720p (1280 by 720)

Software Requirements:

➢ Windows 10 version 1507 or higher: Home, Professional, Education, and Enterprise

1.11 Tools and technologies used with reasoning

The application tools, which are to be used on front and back end of the system to be developed, should be listed. The reasons for these tools should also be enlisted. Identify what the needs for tool support are, and what the constraints are, by looking at the following:

- The development process. What tool support is required to effectively work? For example, if the organization decide to employ an iterative development process, it is necessary to automate the tests, since you will be testing several times during the project.
- Host (or development) platform(s).
- Target platform(s).

The programming language(s) to be used.

- Existing tools. Evaluate any existing and proven tools and decide whether they can continue to be used.
- The distribution of the development organization. Is the organization physically distributed?
- Development tools generally support a physically distributed organization differently.
- The size of the development effort. Tools support large organizations more or less well.
- Budget and time constraints.

***Technology and Languages*:**

➢ C#
➢ Java
➢ ASP.Net
➢ JavaScript
➢ Html
➢ CSS
➢ Bootstrap

***Application Tools*:**

➢ Visual studio
➢ Android studio
➢ XAMPP Server

Database

➢ MySQL

Documentation

➢ Microsoft Visio
➢ Microsoft word