

A Project Report On

AD RELEVANT SYSTEM

Submitted in partial fulfillment of the requirement for the
award of the degree

Bachelor of Science (Information Technology)
(B.Sc IT)

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Bachelor of Science (Information Technology) (B.Sc IT)

Certificate

This is to certify that the project work entitled

AD RELEVANT SYSTEM

*submitted in partial fulfillment of the requirement for
the award of the degree of*

*Bachelor of Science (Information Technology)
of the*

Marwadi University

is a result of the bonafide work carried out by

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DECLARATION

I/We hereby declare that this project work entitled **AD RELEVANT SYSTEM** is a record done by me.

I also declare that the matter embodied in this project is genuine work done by me and has not been submitted whether to this University or to any other University / Institute for the fulfillment of the requirement of any course of study.

Place :

Date :

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Signature: _____

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1. INTRODUCTION

The Ad Recommendation System is a web-based application designed to display relevant advertisements to users based on their browsing behavior. It uses keyword extraction from users' current page visits and matches these keywords with the database to show multiple relevant ads simultaneously. The system also includes a secure admin panel to allow authenticated users to add, update, or delete advertisements dynamically.

This ensures that ads shown to users are targeted, increasing the chances of engagement, and improving user experience and monetization potential for site owners.

2. PREAMBLE

2.1 MODULE DESCRIPTION

1. Authentication Module (Admin Login):

Purpose:

To restrict access to the ad management panel only to authorized users.

Files Involved: login.php, logout.php, db.php

Key Functions:

- Validates admin credentials using the database.
- Uses PHP sessions to maintain login state.
- Provides logout functionality to securely end the session.

Workflow:

1. Admin enters username and password on login.php.
2. Credentials are verified from the admin table in the database.
3. On success, the session is started and redirected to admin.php.
4. On logout, session is destroyed by logout.php.

2. Ad Management Module (Admin Panel)**Purpose:**

To allow the admin to manage ads (add, update, delete).

Files Involved: admin.php, db.php

Key Functions:

- Form-based UI for entering ad title, image URL, description, and target keywords.
- Displays all existing ads in a list format.
- Provides delete functionality via query parameters.

Database Table: ads

Fields: id, title, description, image_url, keywords

Workflow:

1. Admin logs in and visits admin.php.
2. The ad creation form allows new ads to be submitted.
3. Ads are listed with options to delete or edit (if implemented).
4. Data is stored in the MySQL ads table.

3. Behaviour Tracking Module

Purpose:

To track the user's activity and store browsing behavior using keywords.

Files Involved: track.php, db.php

Key Functions:

- Extracts the keyword from the URL (?keyword=...).
- Stores keyword information in the database (if necessary for logs).
- Can be used for analytics or future machine learning enhancement.

Workflow:

1. When a user visits the site with ?keyword=shoes, track.php runs.
2. The keyword is captured and may be used directly to fetch relevant ads.

4. Ad Display & Recommendation Module

Purpose:

To dynamically show ads relevant to the user's keyword or behavior.

Files Involved: get_ads.php, index.php, db.php, styles.css

Key Functions:

- Retrieves ads that match the user's keyword from the database.
- Displays them in a responsive grid layout with animation.
- Includes logic to show ads with matching or similar keywords.

Workflow:

1. index.php includes track.php and get_ads.php.
2. Based on the current keyword, matching ads are fetched.
3. Ads are styled using styles.css and shown in a card layout.

5. User Interface Module

Purpose:

To present an intuitive and visually appealing interface for both users and admins.

Files Involved: styles.css, all PHP UI files

Key Features:

- Responsive layout using CSS grid.
- Dark mode toggle (optional enhancement in CSS).
- Consistent UI for both admin and user panels.

6. Database Module

Purpose:

To handle all interactions with the MySQL database.

Files Involved: db.php

Key Functions:

- Establishes database connection using MySQLi.
- Used throughout the system (admin, ads, tracking) for consistent access.
- Stores:
 - Admin credentials
 - Ad data
 - Optionally, user tracking info

3. STUDY OF EXISTING SYSTEM

Introduction

Digital advertising has evolved significantly over the past decade, becoming increasingly intelligent, data-driven, and intrusive. Existing systems used by major platforms such as **Google Ads**, **Facebook Ads**, and **Amazon Advertising** are highly optimized, but they operate with complex infrastructures and prioritize monetization over transparency. This study analyzes their workings, identifies limitations, and establishes the need for a simplified, privacy-conscious alternative—such as the system developed in this project.

Working of Existing Advertisement Systems

Most commercial advertising platforms follow a multi-layered approach for targeting users:

1. User Behaviour Analysis

These systems monitor users across websites and applications using **cookies**, **trackers**, **device fingerprinting**, and **login history** to build detailed user profiles.

2. Data Aggregation

Behavioral data is aggregated and analyzed using AI/ML models to predict user interests, preferences, and intent.

3. Real-Time Bidding (RTB)

Advertisers participate in automated auctions to bid for ad placements. The ad with the highest bid and relevance score is selected for display.

4. Ad Serving

Ads are dynamically served through embedded JavaScript SDKs or ad iframes, often fetching resources from third-party ad servers.

Limitations of Existing Systems

Despite their technological advancement, existing ad systems suffer from several shortcomings:

Aspect	Issues in Existing Systems
Complex Setup	Integration often requires SDKs, tracking scripts, and third-party APIs.
Privacy Invasion	User behavior is monitored across platforms, often without explicit consent.
High Infrastructure Dependency	Relies on cloud-based services and fast connections to external ad servers.
Limited Control for Publishers	Publishers have minimal say in which ads appear on their platforms.
Regulatory Risks	Increasing privacy regulations (GDPR, CCPA) challenge the legality of tracking-based ads.

Need for a Simpler Alternative

In contrast to these large-scale systems, the proposed **Ad Recommendation System** offers:

- **Keyword-based targeting** without behavioral profiling.
- **Local hosting of ads**, ensuring full control and content integrity.
- **Simple PHP-MySQL implementation**, easy to deploy and manage.
- **Session-free tracking** that respects user privacy.

- **Open customization** for small businesses, blogs, or academic environments.

This approach ensures a balance between contextual ad relevance and ethical software design, suitable for educational use or deployment in privacy-sensitive environments.

Comparative Analysis

Feature	Existing Systems (Google/Facebook)	Proposed System
Tracking Scope	Cross-site, persistent tracking	Session/URL-based only
User Privacy	Low	High
Implementation	Complex (SDKs, APIs)	Simple (PHP/MySQL)
Cost	High (pay-per-click models)	Free/Open
Publisher Control	Limited	Full
AI/ML Integration	Yes	Not required (optional)
Hosting	Cloud-based	Self-hosted

While existing systems are highly optimized and feature-rich, they are not always suitable for all use cases—especially in contexts that prioritize simplicity, transparency, and privacy. The proposed Ad Recommendation System fills this gap by delivering a functional, lightweight, and easily manageable solution tailored to small-scale applications, websites, or educational environments.

4.TECHNICAL DESCRIPTION

Hardware Requirements

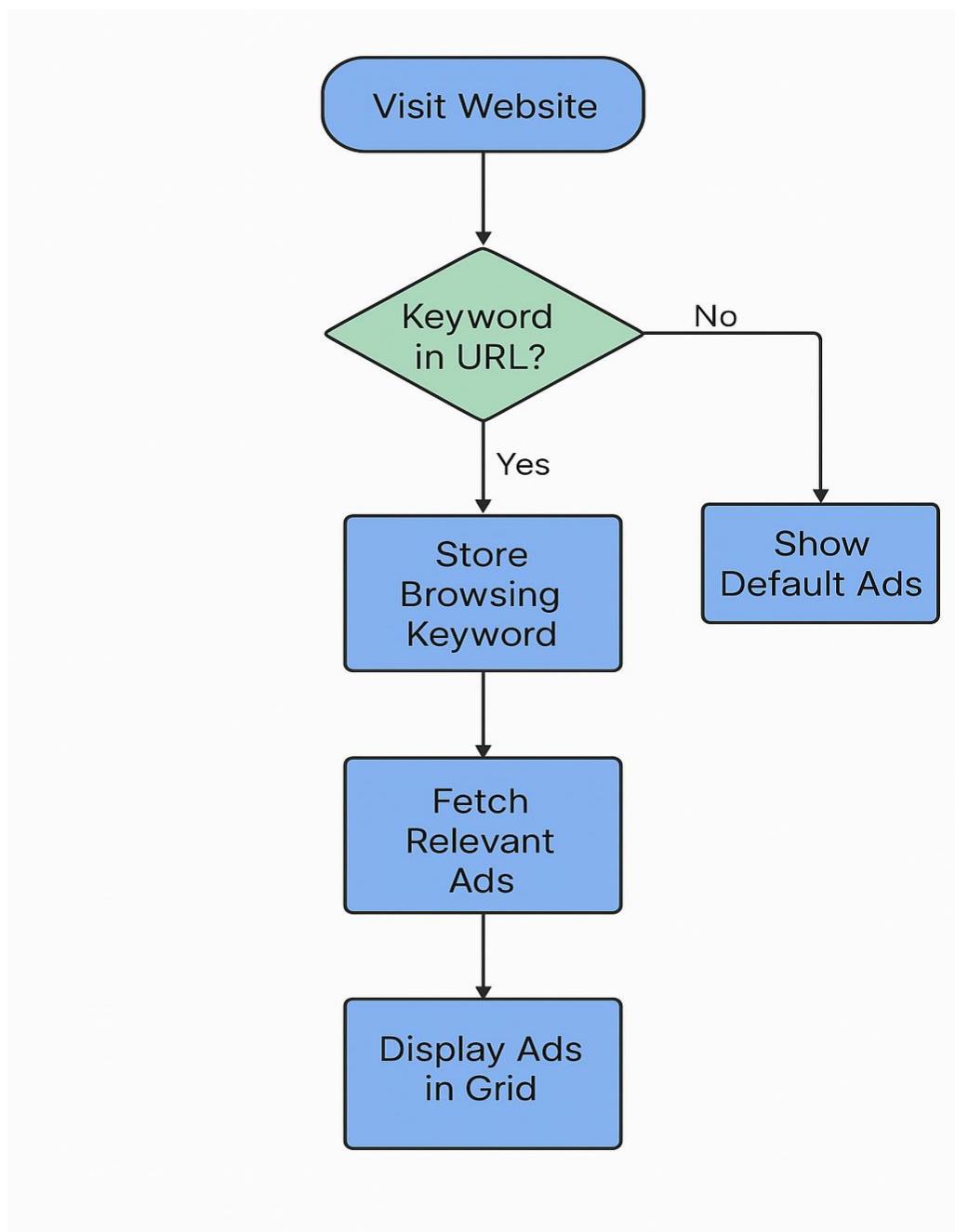
- Processor: Dual Core or above
- RAM: Minimum 4 GB
- Storage: 100 MB (excluding media files)
- Display: Standard 720p or higher

Software Requirements

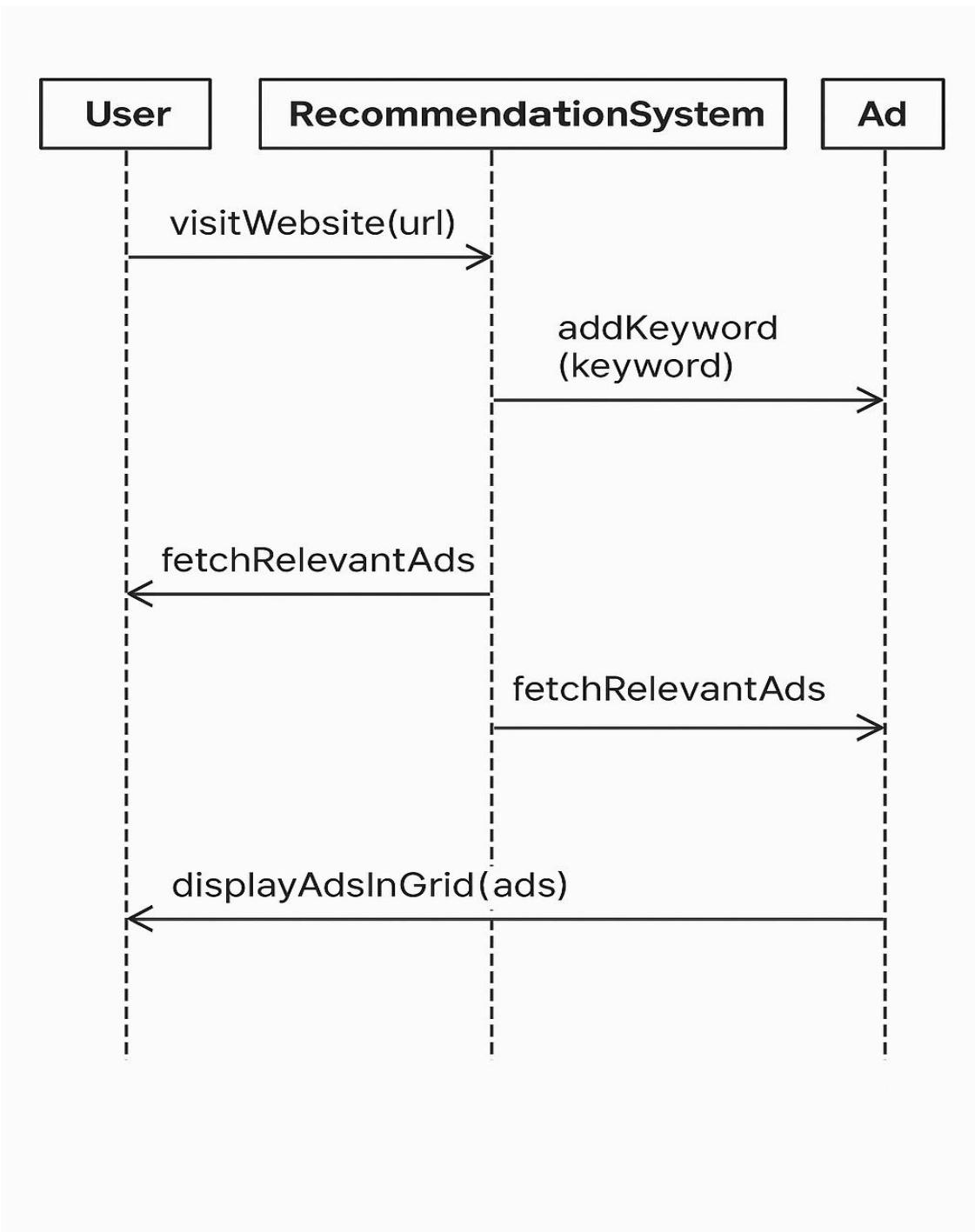
- OS: Windows/Linux/macOS
- Server: Apache (XAMPP/LAMP/WAMP)
- Language: PHP 7.x or later
- Database: MySQL/MariaDB
- Browser: Chrome, Firefox, Edge

5. SYSTEM DESIGN AND DEVELOPMENT

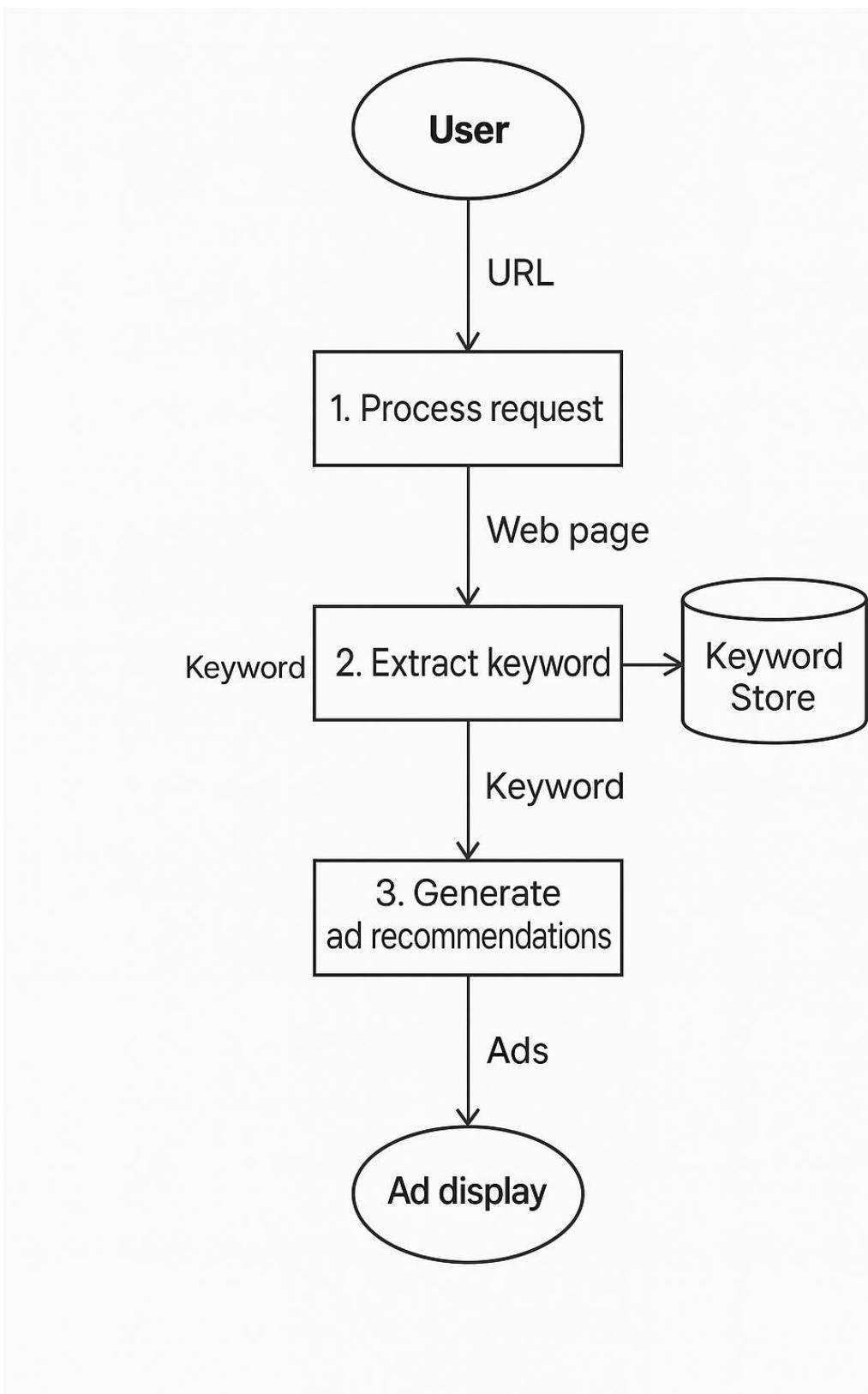
- FLOWCHART



- SEQUENCE DIAGRAM



- DATAFLOW DIAGRAM



- **ALGORITHM**

START

- ▶ Check for keyword in URL
 - ▶ Yes → Fetch matching ads from DB
 - ▶ No → Show message
- ▶ Display results on UI
- ▶ Optional: Track keyword
- ▶ Admin Login
 - ▶ Add Ad
 - ▶ Delete Ad
- ▶ END

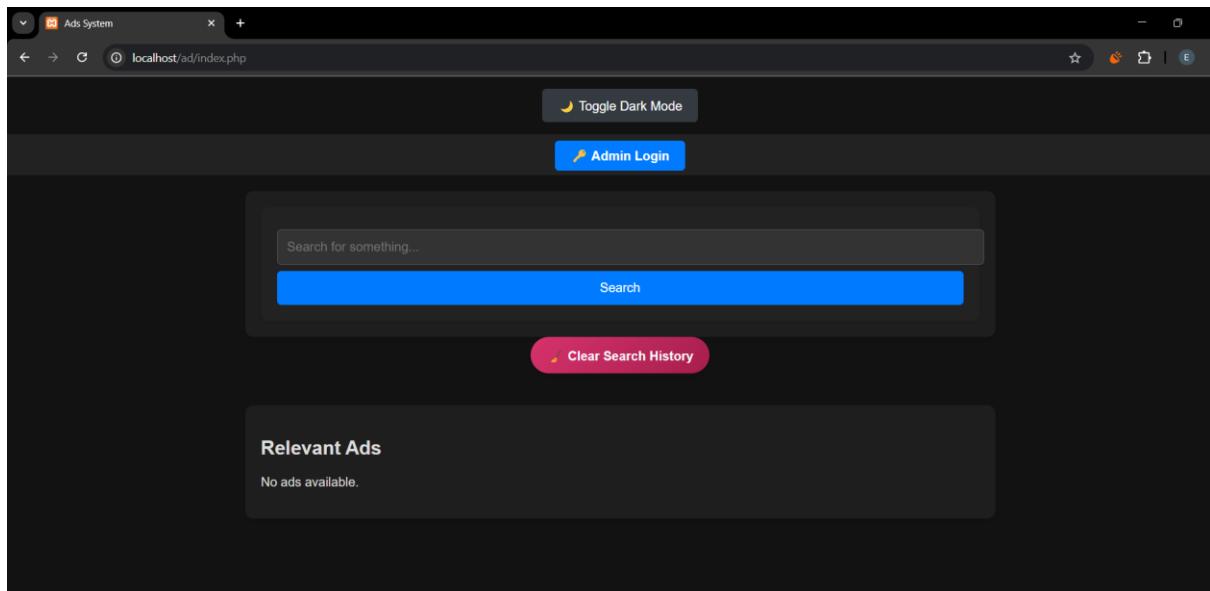
- **FILE STRUCTURE**

/ad_system

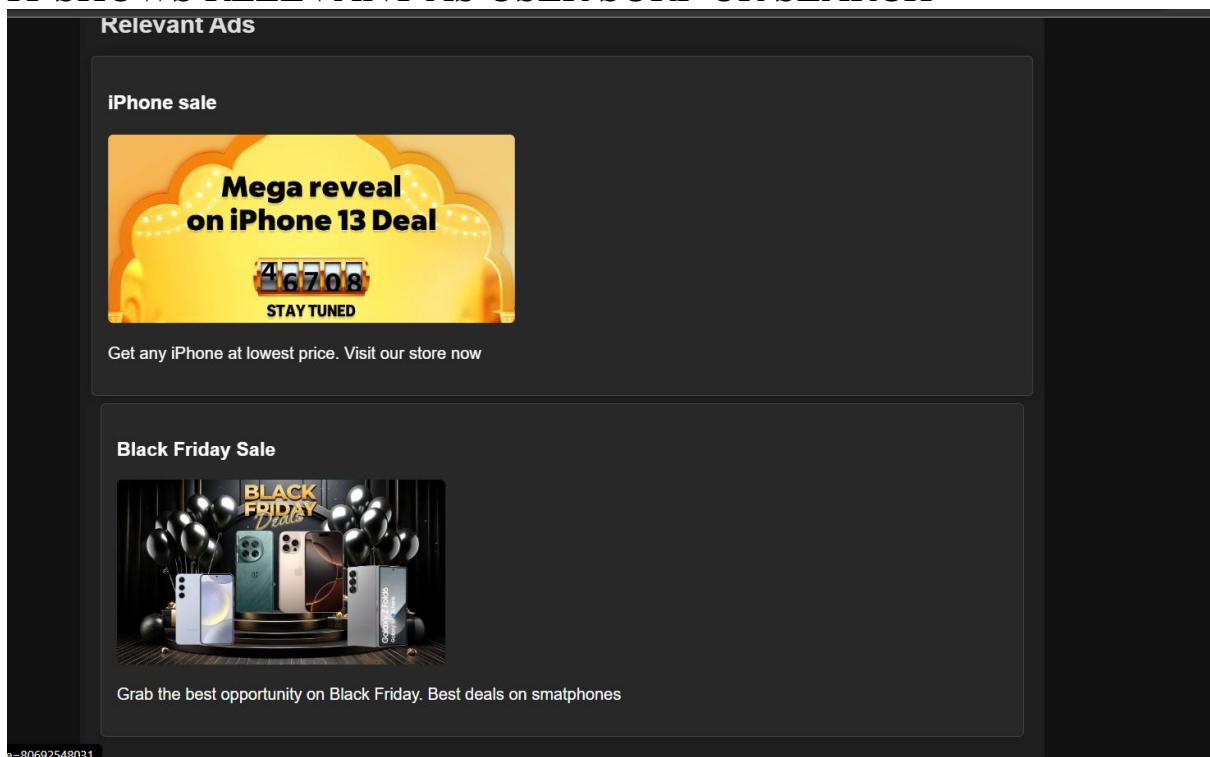
- admin.php → Admin dashboard
- login.php → Admin login
- logout.php → Ends session
- index.php → Main page (user side)
- track.php → Keyword tracking script
- get_ads.php → Fetch and display ads based on keyword
- db.php → Database connection
- styles.css → UI/UX styling
- ad_system.sql → SQL schema for ads and admin login

6. SCREENSHOTS

THIS IS THE HOMEPAGE AND IT SHOWS RELEVANT ADS



IT SHOWS RELEVANT AS USER SURF OR SEARCH



AS USER SEARCHED CLOTH IT SHOWS ADS RELEVANT TO IT

A screenshot of a web browser window titled "Ads System". The address bar shows "localhost/ad/index.php". A search bar at the top has "CLOTH" typed into it. Below the search bar is a blue button labeled "Search". To the right of the search bar is a pink button labeled "Clear Search History". The main content area is titled "Relevant Ads". It displays two ads: "Summer sale" featuring a woman holding shopping bags with a 50% off offer, and "Black Friday sale". Below the ads, a subtext says "Buy branded clothes at ease at your door step with us at lowest price".

THIS IS ADMIN PANEL WHERE ADMIN CAN LOG IN

A screenshot of a web browser window titled "Admin Login". The address bar shows "localhost/ad/login.php". At the top, there are "Home" and "Toggle Dark Mode" buttons. The main content area is titled "Admin Login". It contains two input fields: one for "username" with "admin" typed in, and another for "password" with several dots. Below the password field is a blue "Login" button.

HERE ADMIN CAN MANAGE ADS AND ADD ADS

The screenshot shows a dark-themed web application. At the top, there is a navigation bar with 'Dashboard' and 'Logout' links. Below this, a title 'Admin Panel - Manage Ads' is displayed. A sub-section titled 'Add New Ad' contains five input fields: 'Ad Title', 'Ad Description', 'Image URL', 'Target URL (e.g., https://example.com)', and 'Keywords (comma-separated)'. A large blue button labeled 'Add Ad' is positioned at the bottom of this section.

WE CAN CREATE NEW ADMIN FROM THIS PANEL

The screenshot shows a dark-themed web application. At the top, a title 'Create New Admin' is displayed. Below it are two input fields: one containing the text 'admin' and another containing five dots ('.....'). A large blue button labeled 'Create Admin' is located at the bottom of the form.

7. CONCLUSION

This project demonstrates how a web-based ad system can be effectively developed using PHP and a database backend. The system allows for user authentication, dynamic ad retrieval, and admin management of advertisements. By building this application, we understand the technical foundation of digital ad platforms, which serve as crucial tools in online marketing. The implementation showcases how automated systems can streamline the advertisement process while offering targeted delivery and user interaction tracking. This system provides a scalable framework that can be enhanced with features like analytics, targeting algorithms, and real-time bidding.

8. LEARNING DURING THE PROJECT WORK

- **Backend Development:** Gained practical experience in server-side scripting using PHP to manage ads, users, and admin functionalities.
- **Database Integration:** Learned how to design and interact with a database to store and retrieve ad data effectively.
- **User Authentication:** Understood how to create secure login systems for both users and admins.
- **AJAX Integration:** Implemented asynchronous ad fetching using AJAX, improving page responsiveness.
- **System Design:** Developed an understanding of how digital ad platforms are structured and how content delivery can be optimized.
- **Debugging & Testing:** Improved skills in identifying bugs, handling errors, and testing the web app in different scenarios.

9. BIBLIOGRAPHY

- **W3Schools** – For learning PHP basics and examples.
Website: www.w3schools.com
- **PHP.net** – For official PHP functions and documentation.
Website: www.php.net
- **GeeksforGeeks** – For understanding how login systems and databases work in PHP.
Website: www.geeksforgeeks.org
- **MDN Web Docs** – For learning about JavaScript and AJAX.
Website: developer.mozilla.org
- **YouTube Tutorials** – Helped in understanding PHP projects with step-by-step guides.