**Semester Project ICT LAB**

Date of Submission: 9th December 2023

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Class: BSCSev 1-B

**PHASE 2**

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**Project Name:**

***BLOGGING WEBSITE***

***“AirTime.pk”***

**The blogging platform AirTime.pk usually has elements that promote participation, education, and teamwork. The following are some salient characteristics:**

• **User-friendly Interface:** Users must be able to locate and access instructional content with ease if the interface is clear and easy to use.

• **Content Management System (CMS):** An effective CMS makes it simple to create, amend, and arrange blog entries, guaranteeing that instructional material is arranged and easily accessed.

• **Search Functionality:** Users may locate pertinent educational articles, resources, or subjects with ease thanks to a robust search engine.

• **Groups and Labels**: Users can more easily investigate particular subjects or topics of interest thanks to the organization provided by effective categorization and tagging of content.

• **Multimedia Integration:** Support for a range of media formats, including audio, video, and graphics, improves the educational process and accommodates various learning preferences.

• **Social Media Integration:** This feature expands the blog's audience and visibility by enabling users to post instructional content on social media.

**• User profiles and dashboards:** With personalized user profiles, students may keep tabs on their development, save content they find particularly interesting, and personalize their education.

**• Comment Section:** This area encourages reader participation and remarks, creating a collaborative learning atmosphere.

**• Subscription and Notifications:** To stay informed and involved, users can sign up to receive newsletters, updates, or notifications when new instructional content is available.

**• Author Profiles:** Including author biographies with qualifications and experience raises the educational content's legitimacy.

**• Secure User Accounts:** To safeguard user information and privacy, secure login and account management tools should be included.

***User authentication in AirTime blogging website:***

**User Registration:** A user must first create an account in order to interact with the blogging platform. They give a strong password and a distinctive username throughout the registration procedure. Additionally, some websites can request more details in order to create a profile.

**• Credential Verification:** The website's database is used to compare the entered credentials—password and username—with the data that has been saved there. Since the password is often hashed for security, the actual passwords are secured even in the event that the database is compromised.

**• Session Management:** When a user successfully verifies their identity, a session is created that lets them browse the website without having to enter their credentials each time. Session management is done securely to avoid unwanted access.

**• Two-Factor Authentication (2FA):** Several blogging platforms include an extra security measure by utilizing two-factor authentication. Usually, this entails emailing the user a verification number to their mobile device or to their email, which they have to submit in addition to their password.

**• Password Reset Mechanism:** A safe password reset mechanism is offered in the event that a user forgets their password. Usually, this entails emailing the user's registered email address with a link to reset their password.

**• Account Lockout:** Blogging websites may use account lockout measures to thwart brute force assaults, in which an attacker tries to guess the password repeatedly. The account might be momentarily locked after a predetermined number of unsuccessful login tries.

**• Secure Transmission:** To guarantee that the data is secure while in transit, user credentials and sensitive data are encrypted during the authentication process using protocols like HTTPS.

**• Role-Based Access Control (RBAC**): Depending on their roles, users may have varying levels of access after completing the authentication process. An administrator might, for instance, be granted more rights than a standard user.

**• Logout functionality:** If a user is using a shared or public computer, they should be able to safely log out of their session to stop unwanted access.

***Content management in AirTime blogging website:***

**• Content Creation:** Writers and instructors are able to produce instructional articles, blog entries, guides, and any other kind of content that falls within the educational niche.

**• Text Formatting and Editing:** You can add images, embed videos, format text, and add other multimedia elements using the tools provided by the content management system (CMS). This guarantees that the instructional material has an eye-catching and captivating appearance.

**• Categorization and Tagging:** Information is categorized and appropriately keyword-tagged. This facilitates website navigation and makes it easier for users to find particular themes or interesting issues.

**• Version Control:** Authors can monitor changes made to material over time with the use of version control capabilities included in some CMS platforms. Accuracy assurance and collaborative content development can both benefit from this.

**• Drafts and Revisions:** Before publication, authors can save their work as drafts, which enables them to work on articles gradually. Another crucial component of quality control is the capacity to examine and go back to earlier iterations.

**• Scheduled Publishing:** This feature allows authors to arrange and automate the production of instructional materials by allowing information to be released at predetermined periods.

**• User Permissions:** Access and permission levels may differ across various user roles (administrators, authors, and contributors, for example). This aids in preserving the caliber of the content and limiting who can change or publish it.

**• Content Preview:** Before publishing, authors can see how their work will seem to readers to make sure formatting and multimedia components work as intended.

**• Media Library:** Adding multimedia content to instructional pieces is made easier with the use of a central repository for pictures, videos, documents, and other media files.

**• SEO Optimization:** A few content management systems provide capabilities for improving material's search engine optimization. These options include the ability to add meta tags, descriptions, and make sure URL structures are correct.

**• Comments and Feedback:** Features for handling user comments and feedback on instructional materials are frequently found in content management systems. Interaction and community involvement are facilitated by this.

**• Content Archiving and Deletion:** Older material might need to be archived or removed over time. Options for handling the website's content lifecycle management should be offered by the CMS.

***Platform compatibility in AirTime blogging website:***

**• Multiple browsers Compatibility**: The website ought to work with widely used web browsers like Edge, Firefox, Chrome, and Safari. Preventing problems such as layout distortions and functionality failures can be achieved by testing and optimizing the website for various browsers.

**• Operating System Compatibility:** Users with a variety of operating systems, including Windows, macOS, Linux, iOS, and Android, can access the educational blogging website. To ensure a similar user experience across these many operating platforms, the website needs to be interoperable.

**• Load Time Optimization**: Improving the website's speed to guarantee quick loading times on devices and in network conditions is another aspect of platform compatibility. Maintaining user pleasure and engagement requires doing this.

**• Adaptability:** As the website expands, it must be scalable to accommodate more users and content without sacrificing its functionality across various platforms.

***Data security in AirTime blogging website:***

**•User Identification and Authorization:** To safeguard user accounts, employ robust authentication techniques like salting and hashing passwords. To make sure that users (such as administrators, authors, and students) have the proper permissions depending on their roles, implement role-based access control, or RBAC.

**•Data Backups:** Make sure that all of the website's data is regularly backed up in case of server outages, unintentional deletions, or security breaches. Make sure backups can be rapidly restored and are stored safely.

**•Content Safety Policies (CSP):** Use CSP headers to restrict the resources (such style sheets and scripts) that can be loaded onto the page. This aids in the prevention of cyber-attacks.

**Data Security at Rest:** In the event of a security compromise, encrypt data that is kept on the server to prevent unwanted access. This is especially crucial when it comes to keeping private user data.

**• Security Headers**: To improve security, include security headers in HTTP responses. Many security vulnerabilities are reduced by headers like X-Content-Type-Options, Strict-Transport-Security (HSTS), and Content Security Policy (CSP).

**• Privacy of Users:** Users should be informed of the website's privacy policy in clear terms, and their express consent should be obtained before collecting and using their personal data. Respect applicable data protection laws, such as the CCPA.

**• Incident Response Plan:** Create and keep an incident response plan in order to quickly handle security incidents. Procedures for looking into, stopping, and recovering from security breaches should be part of this plan.

**• Security of Educational Content:** If the website contains instructional content, make sure that intellectual property rights are upheld and that access to delicate educational resources is suitably limited.

**USER STORIES**

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| **Sr no** | **Type of user** | **Objective** | **Results** |
| 1 | **Undergraduate/ Graduate**  **Student** | looking for information about their courses and fields, study advice, and academic resources | Enhanced participation, a helpful online community, and the development of a personal brand as an informed and helpful student blogger. |
| 2 | **Professor** | Exchanging lesson ideas, instructional strategies, and educational materials. | Improved recognition within the academic community, more chances for collaboration, and the sharing of important information with a larger audience. |
| 3 | **Final Year Student** | Collaborating with peers, recording research projects, creating a professional portfolio, exchanging scholarly insights, and encouraging lifelong learning. | Heightened involvement, encouraging comments from fellow learners, and the development of a useful platform to help students through their senior year of school. |
| 4 | **Career Seeker** | Investigating resources for skill development, career guidance, and educational options. | Enhanced networking prospects, refined personal branding, and a valuable asset for other individuals seeking career opportunities. |
| 5 | **Outsider** | seek to learn new things, gather information, or locate useful resources related to their hobbies or academic endeavors. | Improved education, easier access to reliable information, and possible networking possibilities. |
| 6 | **Content Creator** | presenting insightful instructional content, interacting with the audience, becoming an authority in their field, and maybe making money off of their efforts. | enhanced awareness, audience participation, and beneficial effects on students. |
| 7 | **Editor** | ensuring content accuracy, upholding a standard editorial approach, and improving the general caliber and clarity of instructional assets. | a refined, carefully chosen platform that improves the reading experience. |
| 8 | **Administrator** | Administrators at schools or colleges looking for advice on management and policy in education. | enhanced community awareness, more effective stakeholder engagement, and more transparent communication channels. |
| 9 | **Researcher** | reading academic papers, looking up research results, and keeping up with changes in education. | enhanced recognition within the scientific community, possible partnerships, and a venue for exhibiting proficiency and contributions to the area. |
| 10 | **Parents** | seeking advice on comprehending curriculum and assisting with their child's education. | improved knowledge of the opportunities and challenges in education for their children, a network of supportive people, and well-informed parenting choices. |
| 11 | **Education Enthusiasts** | people who have a strong desire to learn and discover new educational resources. | increased depth of knowledge, enhanced viewpoints, and relationships with like-minded members of the education community. |