



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact Factor: 6.078

(Volume 10, Issue 3 - V10I3-1179)

Available online at: <https://www.ijariit.com>

Website Design and Development for Tutoring Programming Languages

Prajwal K

prajwalgowda20020@gmail.com

AMC Engineering College,
Bengaluru, Karnataka

B U Bharath

bharath20032020@gmail.com

AMC Engineering College, Bengaluru, Karnataka

Dr. Nirmala S

nirmalanptel123@gmail.com

AMC Engineering College,
Bengaluru, Karnataka

Madhushree S

tejushivana2003@gmail.com

AMC Engineering College,
Bengaluru, Karnataka

Pooja

poojabpatil@gmail.com

AMC Engineering College, Bengaluru, Karnataka

ABSTRACT

The primary focus is on website design and development, which involves various programming languages utilized for both frontend and backend purposes. For instance, languages like HTML5, CSS, and Bootstrap Framework are commonly employed for frontend development, while PHP and Java are often utilized for backend design.[3] These are useful at the backend. In recent times there are so many frameworks that are being used vastly. a framework is a standardized set of tools, libraries, and best practices that provides a structured foundation for building and managing web applications. It streamlines development by offering pre-built components and guidelines, thereby enhancing efficiency and maintainability. It is also known as MVC. A web-based application, accessible from anywhere in the world, proves incredibly beneficial for our daily tasks, enhancing convenience and efficiency in our lives. Working at Bluebird Interactive significantly enriched my career, providing valuable experience and opportunities to solve real-life problems. This gives the vision through all the details of Website Design and Development knowledge.[2]

From responsive design principles ensuring cross-device compatibility to the integration of robust functionalities, such as e-commerce capabilities and interactive elements, our focus remains on driving engagement and achieving

tangible results. Focusing on scalability, security, and search engine optimization, we aim to build a robust foundation for long-term growth and enhanced visibility in the digital realm. By aligning closely with our clients' visions and objectives, this project aims to elevate their online presence, foster meaningful connections with their audience, and ultimately drive success in the ever-expanding online landscape.

Keywords: HTML5, CSS3, JavaScript, Responsive Design, User Experience (UX), User Interface, (UI), Frontend Development, Backend Development, Full-stack Development, Frameworks (e.g., React, Angular, Vue.js)

I INTRODUCTION

Introduction to Web Apps

Web applications resemble traditional applications that you install on your device, such as Microsoft software. They are able to perform the same kinds of tasks, they look the same and they feel the same but there is one key difference - The application isn't installed on your phone or local device; it resides in the cloud. While web apps are not a new concept, they historically struggled to compete with traditional applications in handling business-critical functions or providing rich user interactions.[5] This is no longer the case. With the power of modern web technologies, we are able to

design and build performing, secure, and feature rich applications that live in the cloud and bring with them a huge number of benefits.

1. They can be accessed from anywhere.

Web applications is created using web technologies and run in browsers such as Internet Explorer, Google Chrome, and Mozilla Firefox– this allows them to be accessed from every web enabled tool. As long as you have an internet connection you can use them. It allows for remote working, it allows for rapid publishing of content, it allows in real time collaboration between teams. If you have web access, you have the ability to access your business tools.

2.They are cost effective.

Web applications are cheaper to produce and maintain than traditional applications. No matter how many platforms your business uses (Mac, Linux, Windows) web application build can be used across them all.

3.They benefit from more rapid update cycles.

A huge benefit of web applications is that when an update is released, all of your users are immediately using that version. This doesn't happen with installed applications, especially in large organizations with IT policies that restrict administrator access.

4.They are secure.

Web developers have had to become experts in security – the web is a platform designed to share everything with everyone! Consequently, web applications typically feature more advanced and comprehensive security measures compared to traditional applications.[4] They also benefit from the ability to launch updates in real-time – the application on the servers is the application people are using. The applications on people's laptops however is the version last installed. And when those laptops get left on a train it's not a concern, as nothing is stored locally.

5.They enable more computing with fewer Information.

Web applications push all of the hard work to the servers, and act as intermediaries between the user interface and the calculations happening behind the scenes.[1] This allows you to perform highly complex tasks on a tablet or phone. We built web applications that allow these people to understand the complex relationships between 250,000 pieces of art on their phones, and applications that run the business systems of one of the largest solar energy providers in the world. Often, these products were not financially feasible to develop using traditional application methods.

II PROBLEM STATEMENT

Develop an application that enables users, even those with no HTML knowledge, to create web pages online without the need to install any HTML editor software. This module is designed to reduce the process involved in managing the activity of customers and business where

the business can sell their services and the customers can buy those

III SYSTEM ANALYSIS

1. Current System

The existing reference application are based on the static document concept. And commonly these types of application are available on online.ie, online type. The content of the application is depend on the administrator, so thus make a problem that the pupation's are not made directly by user. There is also another problem behind that online concept that the personal information such like textbook name, details its documents are available on the existing system. This application can overcome this problem by using system

2. Proposed System

Now USER can overcome these problems by using system database and customize as per user requirement. The objective of this application is to allow every user to edit and find out the details and documents. It'll also facility store new documents. And it can retrieve within few seconds. Overall, it'll make an easier way to access all documents and details by using the USER application. The administrator privilege is utilized for updating dynamic documents within the application. Thus it overcome all the drawback of the current system. It make the availability of wanted documents anytime.[7]

3. System Objective:

The system's objective should be pivotal. It can be real or stated. It was not uncommon for an organization to state an objective and operate to achieve another. The users must know the primary objective of a computer application early in analysis for a successful design and conversion.

IV REQUIREMENT ANALYSIS

Hardware Requirement Specification

- MySQL
- NODEJS
- Notepad++Editor
- Processor: Intelcorei5 processor
- Memory:15.6GB
- HardDisk:40GB

Software Requirement Specification

A] Functional Requirements

- Python

- Java
- HTML
- .C#

JavaScript controls the behavior of various elements

VI WORKING PROCEDURE

The working procedure of a web development project typically follows a structured process aimed at delivering a high-quality website that meets the client's requirements and objectives. Here's a general overview of the typical steps involved:

1. Project Discovery and Planning: In this first stage, it entails grasping the client's goals, target audience, and project requirements. It includes conducting stakeholder meetings, gathering requirements, defining project scope, and creating a project plan outlining timelines, milestones, and resources.[6]

2. Design and Wireframing: In this phase, the project team collaborates with the client to create wireframes and design mockups that visualize the website's layout, structure, and user interface. Feedback is collected, and revisions are made until the design aligns with the client's brand identity and user experience goals.

3. Development: Once the design is approved, developers commence the development phase. During this stage, they transform the design into functional code utilizing programming languages such as HTML, CSS, and JavaScript, along with backend technologies like PHP, Python, or Node.js. The website's features and functionalities are incorporated based on project requirements, adhering to coding best practices.

4. Content Creation and Integration: Concurrently with development, content creation takes place, including writing copy, creating graphics, and gathering multimedia assets. Following that, content is integrated into the website utilizing a content management system (CMS) or alternative tools, guaranteeing coherence and harmony with the design and user experience.

5. Testing and Quality Assurance: Once development is complete, the website undergoes rigorous testing to identify and resolve any bugs, errors, or usability issues. This includes functional testing to ensure all features work as intended, compatibility testing across different devices and browsers, performance testing to optimize speed and responsiveness, security testing to identify vulnerabilities, and user acceptance testing (UAT) to validate that the website meets the client's expectations.

6. Deployment: After successful testing and client approval, the website is deployed to a live server or hosting environment, making it accessible to users on the internet. This involves configuring server settings, uploading files, configuring domain settings, and performing any necessary post-launch tasks.

7. Maintenance and Support: Once the website is live, ongoing maintenance and support are essential to keep it running smoothly and up-to-date. This may include monitoring performance, applying software updates and security patches, fixing bugs, providing technical support, and making periodic enhancements or optimizations based on user feedback and changing requirements.

B] Non-Functional Requirements

● Availability

The online registration system shall permit backing up of the registration database while other registration activities are going on.

● Accessibility

The system shall be accessible by people with specific vision needs to the extent such that a user shall be able to display whole user interface in a larger font without truncating displayed text or other values.

● Security

Only the system's data administrator can modify access permissions for system data. Passwords must never be visible in any point of entry or thereafter.

V DESIGN & ANALYSIS

Hypertext Markup Language, or HTML, known as a programming language used to describe the structure of information on a webpage. Together, HTML, CSS, and JavaScript make up the essential building blocks of websites worldwide, with CSS controlling a page's appearance and JavaScript programming its functionality. You can consider-HTML document as providing the bones of a webpage, while CSS provides the skin, and JavaScript provides the brains.

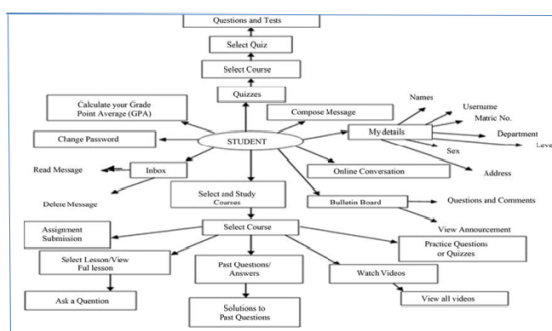


Fig: Data flow diagram of e-learning platform

The HTML file plays a couple of significant roles in a web page. First, we use the structure created by our HTML code to reference, enhance, and manipulate elements on a webpage using CSS and JavaScript

HTML provides the basic structure of sites, which is enhanced and modified by other technologies like CSS and JavaScript.

CSS is used to control presentation, formatting, and layout.

VII IMPLEMENTATION

The theoretical design is transformed into a functional system. It is also the most critical stage for ensuring the success of the newest system and instilling user confidence in its efficiency and effectiveness.

This phase encompasses various activities, including the acquisition of necessary hardware and software. If software development is required, programs are written and tested. Once the new system is fully tested, users transition to it, and the old system is discontinued.

The implementation phase is crucial for ensuring the success of the new system and building user confidence in its performance and reliability. It proceeds only after comprehensive testing confirms its adherence to specifications. This phase demands careful planning, analysis of the current system and its limitations, design methods for transitioning, and assessment of changeover strategies. Key activities involve user education, training, and rigorous system testing. The system's complexity determines the extent of effort needed for analysis and design during.

VIII RESULT

The output of a web development project can vary depending on its objectives and scope, but typically includes:

1. A Fully Functional Website: The primary output is a fully operational website that reflects the client's brand identity and meets their specific requirements. This website should be visually appealing, intuitive to navigate, and optimized for performance across various devices and browsers.

2. Source Code: The project output also includes the program code files comprising HTML, CSS, JavaScript, and alternative programming languages employed to build the website. This codebase should be well-structured, maintainable, and thoroughly documented for future reference and updates.

3. Content Management System (CMS): If applicable, the project may deliver a customized CMS that enables the client to manage and update website content seamlessly without requiring technical expertise. This CMS should offer intuitive interfaces and robust features tailored to the client's needs.

4. Documentation: Comprehensive documentation detailing the website's architecture, functionalities, technical specifications, and deployment instructions is essential. This documentation serves as a reference for developers, administrators, and stakeholders involved in maintaining and operating the website.

5. Testing Reports: The project output should include testing reports documenting the results of various tests conducted throughout the development process, including functional and performance testing, security testing, and usability testing. These reports ensure the website meets quality standards and user expectations.

IX SNAPSHOTS

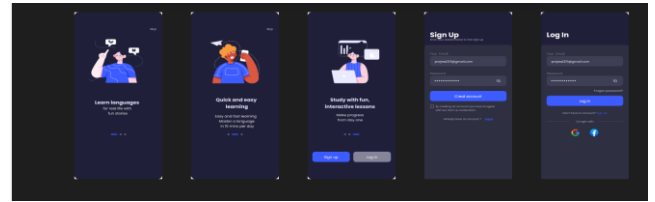


Fig.1 showing welcome, sign up and login page of the user

The above figure displays the user's welcome, sign up, and login pages, providing a comprehensive overview of the initial interface for accessing the application.

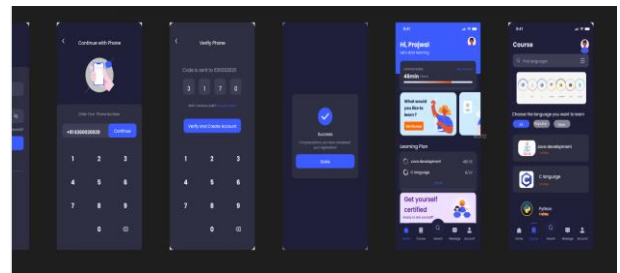


Fig.2 showing verification of user and home page

The above figure illustrates the user verification process and the subsequent display of the home page, highlighting the essential steps from authentication to accessing the main interface.

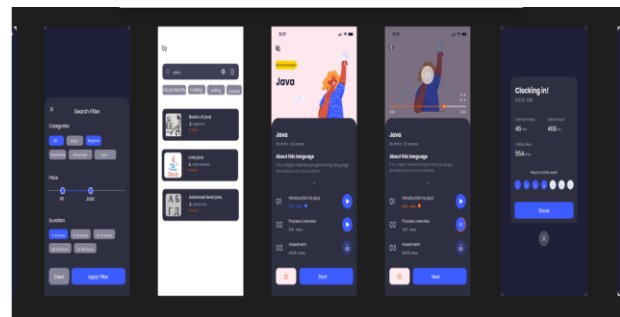


Fig.3 showing page containing course details and status

The depicted page exhibits comprehensive course details alongside individual status indicators, offering users a clear overview of their enrolled courses and progress at a glance.



Fig.4 showing user details and progress of each course

The showcased page presents detailed user information alongside the progress status of each course, facilitating easy tracking of individual course advancements within the user profile.

X CONCLUSION

The package was designed for easy future modifications. The following conclusions can be drawn from the project development:

- Automating the entire system enhances efficiency.
- It offers a user-friendly graphical interface, superior to the existing system.
- It provides appropriate access to authorized users based on their permissions.
- It effectively reduces communication delays.
- Updating information becomes much easier.
- The system features strong security, data protection, and reliability.
- The system is designed with ample flexibility for future modifications if needed.

XI FUTURE WORK

Future work for a web development project could involve several avenues for improvement and expansion. Here are some potential directions:

1. Enhanced Features:

Continuously the features related for the web development can be added to it in order to meet the user expectations

2. Performance Optimization:

Conducting regular performance audits and optimizations to ensure the website loads quickly and operates smoothly across various devices and network conditions.

3. Personalization:

Implementing advanced personalization techniques to

deliver tailored content and experiences to individual users based on their preferences and behavior

4. Advanced Analytics:

Integrating more sophisticated analytics tools and techniques to Obtain more profound understanding of user behavior and website performance, enabling data-driven decision-making.

5. Accessibility Improvements:

Making the website more accessible to users with disabilities by adhering to accessibility standards and guidelines, thus reaching a broader audience.

6. Internationalization and Localization:

Expanding the website's reach to global audiences by implementing multilingual support and localization features tailored to different regions and cultures.

7. Voice Search Integration:

Incorporating voice search capabilities to accommodate the growing trend of voice-enabled interactions and improve user convenience.

8. Progressive Web App (PWA) Development:

Transforming the website into a progressive web app to provide users with a more app-like experience, including offline functionality and push notifications.

REFERENCES

- [1] <https://www.sciencegate.app>
- [2] <https://www.researchgate.net>
- [3] <https://chat.openai.com>
- [4] <https://www.w3schools.com/>
- [5] <https://storyset.com/>
- [6] <https://www.fatbit.com>
- [7] <https://www.bootcamp.uxdesign.cc>