



DESIGNING THE NEXT GENERATION OF A COMMERCIAL WEB APPLICATION FOR TUTORING SYSTEM

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Abstract: The sponsored project examined in this study used the MEAN stack to create a cutting-edge, efficient, and dynamic website for the Priority Skill Centre. The centre's initial website needed to be replaced since it was designed using outdated technology and was ugly, sluggish, and unresponsive. The new website's usage of Angular JS, HTML, CSS, Next.js, and MongoDB resulted in a better user experience, faster speed, and a more modern and responsive UI. The report also provides performance measures and graphs to evaluate the performance of the MEAN stack when used to build single-page applications rather than traditional websites. According to the research, using the MEAN stack may considerably improve website speed, cut down on load times, and improve the user experience. In the paper's conclusion, it is emphasized that using modern technology and development processes is necessary to stay competitive in the present digital environment.

Keywords - Web development, website redesign, optimization, Angular, UI.

2. INTRODUCTION

Priority Skill Centre is a training center that provides top-notch education and training to students interested in a range of vocations. In this day and age, every firm must have a functional and up-to-date website. The institute's previous website was outdated and ineffective at meeting the needs of today's students. As a consequence, Priority Skill Centre decided to support the building of a new website that would be faster, more effective, and have a more modern user experience. The goal of this research study is to look at the technology and techniques that were utilized to create the new website, as well as to present an outline of the funded project.

2. PROJECT OVERVIEW

Redesigning Priority Skill Centre's website with the intention of making it more user-friendly and efficient was the project's main objective. The antiquated website was stagnant and lacked the functionality that current students demand. The new site was designed to be more responsive, dynamic, and fast.

The project team was made up of web designers and developers who worked closely with the institute's management team to understand their goals and objectives. The team was tasked with creating a website that would meet the following objectives:

- Provide a modern and appealing design.
- Improve website performance
- Make the website more user-friendly.
- Create a responsive website that operates across all devices.
- Create a dynamic website that is readily updated.

3. TECHNOLOGIES USED

The team used the following technologies:

- Angular JS: It is a popular framework for developing single page, dynamic Web-Apps. It was used to create the website's dynamic features, including the forms and interactive elements.
- HTML: HTML is the core element of a web page. It helped arrange the information on the website.
- CSS: CSS was utilized to design the website and give it a current appearance and feel.
- JS: JavaScript was utilized to make the website more interactive and functional.
- Next.js: Next.js is a well-known framework for creating server-side rendered web apps. It was used to improve the website's SEO and functionality.
- MongoDB: It is a NoSQL database that is used for data storage and it was used to store user information as well as other website information.

4. METHODOLOGY

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4.1 Getting to know the client

Discussing the customer's needs (or the scope of work documents if the client already knows what he or she wants). The customer informs the group of the intended outcome, the definition of done, the timetable, the budget, the critical needs, and any potential obstacles.

4.2 Project research and discovery

The discovery process includes a thorough examination of the client's business requirements and the formulation of a rudimentary solution.

- Which technological stack should be used?
- How will an application be scaled further, and does this technology stack satisfy future needs?
- Does the client's vision match up with our suggested solutions?
- Is this solution cost-effective?

If the approximate solution and budget are acceptable, the customer sends the available documents and requirements to the lead developer for additional, more extensive research and estimation. After multiple revisions, the customer and the group collaborate to establish a description of the scope of work.

4.3 Design of wireframes and prototypes

A wireframe is a rough sketch or schema for a future web page. It contains all of the blocks that must be placed on the page and creates the look of a grid on the page. The wireframes allow for a more precise estimate and sweating the nuances of the functionality.

4.4 UI design

Once the wireframes are complete, we can create a user interface with brand colours and functionalities. A designer will work on design assets until they are complete. Because the finished product must be within the client's budget, the lead developer controls the design process.

4.5 Back-end development

The first step is to install and configure the software. The required module parameters are then configured by the developers. After the pages are built and programmed and front-end developers have applied designs, back-end developers check that every website page is authorized and that the client has gone through demo versions of every feature on the website.

4.6 Front-end programming

Depending on the project, front-end and back-end development might occur concurrently or the front-end can be followed by the back-end. A front-end developer is in charge of implementing all visual elements and making sure they are pixel flawless and cross-browser compatible. Keep an eye on the front end because it influences important website metrics such as the Google ranking.

4.7 Quality control

There are no minor issues when it comes to website performance. Visitors will notice any little flaws on the website. Following the integration test, we go on to the functional and user interface tests, which are followed by manual smoke testing.

4.8 Launch

The errors found during the QA stage are being repaired, and the team is finalizing everything and establishing the final settings.

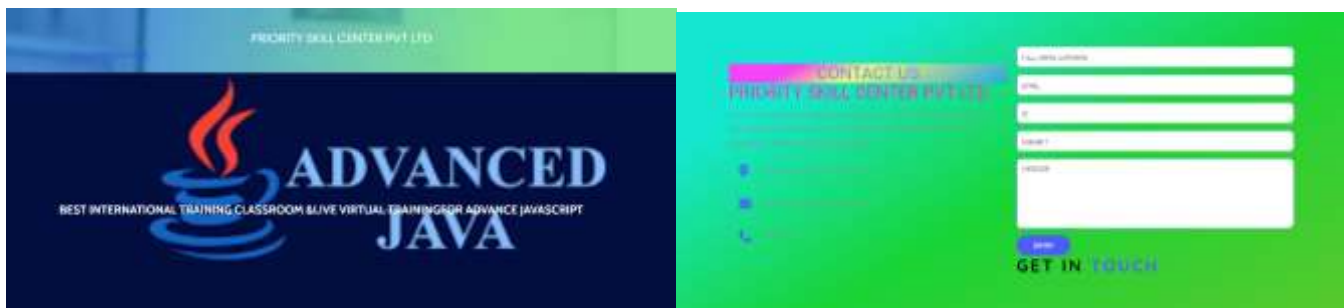
4.9 Post-launch quality assurance and maintenance

Aside from maintenance and support, the development team typically trains the client on how to run, update, and contribute content to a website.

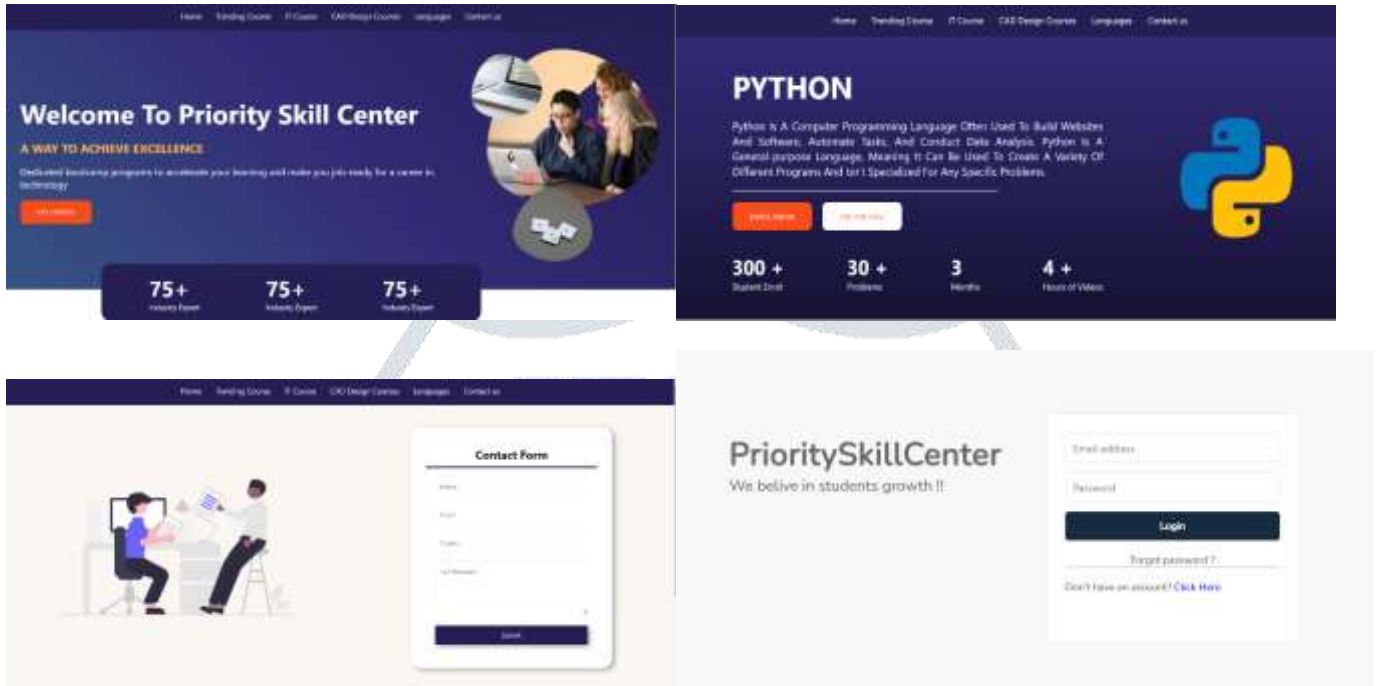
5. RESULTS

The redesigned website for the Priority Skill Centre met all of the project objectives. The website is more user-friendly than the old one, with a more modern and appealing design. The website's efficacy has also grown significantly. The new website is faster to load, more responsive, and works on all devices. The dynamic components of the website, such as the forms and interactive areas, work wonderfully. The institute's administration staff may readily add new courses and update course information on the website, which is very simple to edit.

Before:



After:



6. FUTURE SCOPE

- We will add Videos and FAQ on each Page so it will be available for user.
- We will enhance the look and feel of web application.
- Plan to include personalized dashboard for individual logins.
- For inquiries and enhanced user interaction.

7. CONCLUSION

The sponsored effort to build Priority Skill Centre a new website was a success. The project team used cutting-edge software to build a dynamic, user-friendly website, including Angular JS, HTML, CSS, Next.js, and MongoDB. The new website is more user-friendly, quicker, and more effective, which appeals to students more. The management team of the institute may easily add new courses and update course information on the website, which is equally simple to edit. The institute's public image has improved as a result of the new website, which has also assisted in bringing in additional students.

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