

Better College Based on NIRF & QS World Ranking: A Review

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ABSTRACT

India boasts the world's third-largest higher education system by student enrolment, trailing only China and the United States. The predominant concern within this system revolves around ensuring high standards in teaching, learning, and research. The assessment of Higher Education Institutions (HEIs) relies heavily on both ranking and accreditation processes, regarded as pivotal tools for evaluating the quality of education. These processes exert a substantial influence on the performance outcomes of institutions, impacting the delivery of quality education and research. Ultimately, the Caliber of education and research plays a crucial role in contributing to sustainable development. The veracity of these findings is confirmed through an examination of the QS University ranking for international institutions and the NIRF ranking for colleges in India. In this

1. Introduction: -

In an era characterized by dynamic advancements in technology and an ever-expanding array of educational options, the pursuit of higher education demands a judicious and informed decision-making process. Recognizing the need for a comprehensive and accessible resource, we present "Better College" – a groundbreaking in this we designed to redefine the way we evaluate and choose educational institutions, specifically focusing on the top 50 colleges in the domains of management and engineering. and reliable information to make informed decisions about their academic pursuits. "Better College" emerges as a pioneering initiative, leveraging cutting-edge coding languages for both front-end and back-end development, to curate an insightful platform for evaluating the top 50 colleges in the fields of management and engineering. "Better College" contains some extra and advance feature which other website does not contain like foreign collages details, scholarship details, carrier guidance

review paper we show the India's top 50 engineering colleges and management colleges based on NIRF ranking and world top 50 engineering colleges and management colleges based on QS world ranking, we provide genuine information about colleges on this website. Additionally, we offer features such as a Scholarship Portal, Personalized Dashboards, Career Guidance Resources, Study Abroad Features, and a Student Forum.

Keywords: *Higher Education, predominant, Ranking and Accreditation process, HEIs, Quality of education and research, ethical misconduct, international institutions, NIRF, QS world ranking, Career Guidance Resources, Study Abroad Features, Student Forum.*

resources on a single platform which make it unique.

2. Methodologies Used: -

The platform employs a user-friendly front-end interface, enhancing accessibility for a diverse audience. Through meticulous coding and design, users can seamlessly navigate the website, exploring detailed insights into the academic, infrastructural, and extracurricular facets of each listed institution. The intuitive interface provides a holistic view, aiding users in assessing the suitability of colleges based on their individual preferences and priorities.

A web application framework serves as a software framework specifically crafted to facilitate the creation of dynamic web applications. In the realm of open-source Java frameworks dedicated to web application development, there exists a multitude of options. These frameworks can be categorized into action-based and component-based frameworks. Action-based frameworks, aimed at

expediting web application development, primarily make use of external configuration files rather than extensive Java code. This reliance on configuration files, however, renders them less conducive to the swift development of web applications [1].

At the core of Better College lies a robust back-end system, driven by advanced coding algorithms. This system aggregates data from diverse sources, ensuring the information presented is not only accurate but also reflective of real-time updates. The incorporation of these dynamic elements allows Better College to adapt to the fluid nature educational institutions, offering users a current and relevant perspective. It aims to delve into the intricacies of the Better College in this paper, shedding light on the methodologies employed during the development phase. It explores the pivotal role of coding languages in creating a platform that seamlessly integrates user experience with data accuracy. Furthermore, it addresses the challenges encountered in the coding process, underscoring the commitment to maintaining transparency and precision in presenting information.

3. Leveraging Ranking Systems: NIRF and QS World Rankings: -

The need for a reliable and comprehensive platform for evaluating colleges has never been more apparent. "Better College" represents a pioneering endeavour, leveraging the power of advanced coding languages in both front-end and back-end development to curate a dynamic list of the top 50 colleges in the fields of management and engineering. This ambitious initiative leverages the esteemed National Institutional Ranking Framework (NIRF) for assessing Indian colleges and incorporates the globally recognized QS World Rankings for international institutions. This comprehensive approach transcends geographical boundaries, offering a holistic perspective. In India, there is a notable absence of a unified platform providing information about diverse engineering colleges and their rankings. Recommendation systems, whether in the form of software or tools, play a pivotal role in both the information and e-commerce ecosystems. These systems serve as valuable aids for users, assisting them in

identifying items that align with their preferences or needs. Functioning as a powerful method, recommendation systems help users navigate extensive information and product spaces. Diverse recommendation techniques contribute to this functionality. Better College stands as a testament to the transformative potential of technology in this realm, offering a user-friendly front-end interface that seamlessly integrates information from two renowned ranking systems, NIRF and QS World Rankings.

3.1 Emphasis on Management and Engineering Colleges: -

Emphasis on management and engineering colleges recognizes the critical role these disciplines play in shaping the future workforce and fostering innovation. By amalgamating data from NIRF for domestic rankings and QS World Rankings for global perspectives, Better College provides a nuanced understanding of each institution's standing on both local and international scales. The methodologies employed in integrating coding languages and the challenges overcome during the development phase. It aims to underscore the significance of leveraging NIRF and QS World Rankings, providing a comprehensive evaluation that spans regional and global contexts. The intersection of technology, education, and global rankings within the Better College in this paper exemplifies the potential of coding languages in reshaping how we assess and choose educational institutions, emphasizing the in this paper's role in facilitating well-informed decisions and promoting excellence in higher education.

We use following techniques: -

- A) HTML
- B) CSS
- C) BOOTSTAP
- D) Node JS
- E) PHP
- F) UX Design

A) HTML

The versatility of HTML in being cross-platform has become evident in the age of mobile Internet. It stands out as the sole cross-platform language with

widespread applicability across major platforms like PC, MAC, Android, Windows Phone, and more. HTML's alignment with the concept of "responsive web design" is underscored by its inherent cross-platform capabilities. This characteristic of the HTML language imparts distinct advantages in the realm of responsive development [2].

i. **Front-end Development:** -

Structure and Layout: - HTML is likely employed to define the structure and layout of the web pages that make up the user interface of Better College. It organizes content into elements such as headings, paragraphs, lists, tables, and more.

Forms and User Input: - If the platform includes search functionalities, filters, or any user input forms, HTML forms would be used to collect and process user data.

ii. **Dynamic Content Display:** -

Embedding Data: - HTML may be dynamically generated or modified using a backend language (such as Python, PHP, or JavaScript) to embed the college information obtained from NIRF and QS World Rankings. This could involve using HTML templates that are populated with data.

iii. **Integration with CSS and JavaScript:** -

Styling with CSS: - HTML works in tandem with Cascading Style Sheets (CSS) to define the visual presentation of the content. This ensures a consistent and aesthetically pleasing design across the platform.

iv. **Interactivity with JavaScript:** -HTML is complemented by JavaScript for creating interactive features. For instance, if the Better College platform includes dynamic elements, such as pop-ups, interactive charts, or real-time updates, JavaScript may be used to enhance the user experience.

v. **Accessibility and SEO Considerations:** -

Semantic Markup: - HTML provides semantic tags that contribute to better accessibility and search engine optimization (SEO). Proper use of tags like `<header>`, `<nav>`, `<section>`, and `<article>` enhances the structure and meaning of the content.

vi. **Responsive Design:** -

Responsive Layout: - HTML, along with CSS, is crucial for ensuring that the Better College platform is responsive, adapting to different screen sizes and devices. This is essential for providing a seamless experience across various platforms, including desktops, tablets, and mobile devices.

B) CSS: -

Previously, developers had to create distinct code for various devices to maintain uniformity in the appearance of web pages. Responsive web pages, on the other hand, possess the ability to identify screen width, dynamically adjust layout structures, and adapt image sizes based on acquired parameters.

This results in the achievement of a "one-time design, universal use" effect. Simultaneously, responsive web design receives technical backing from HTML and CSS. The CSS media query module enables the incorporation of media query expressions, allowing the specification of media types and the selection of corresponding expressions based on diverse media types. [4]. CSS is crucial for enhancing the visual appeal and user experience of a website. Let's explore how CSS may be incorporated into the Better College in this paper:

i. **Visual Styling:** -

Colour Scheme and Fonts: - CSS allows for the definition of colours, fonts, and typography, ensuring a cohesive and visually appealing design across the platform. It helps create a brand identity and a pleasing aesthetic for users.

ii. **Layout and Structure:** -

Box Model: - CSS is used to control the layout and positioning of elements on web pages. The box model, which includes properties like margins, borders, padding, and width/height, allows for precise control over the placement and spacing of content.

iii. **Responsive Design:** -

Media Queries: - CSS is employed to implement responsive design, making the Better College platform adaptable to different screen sizes and devices. Media queries enable the adjustment of styles based on factors like screen width, height, or device orientation.

CSS in the Better College is instrumental in defining the visual aspects of the user interface, ensuring a polished and user-friendly experience. It works in conjunction with HTML and possibly JavaScript to create a cohesive and responsive web application for presenting information about the top 50 colleges in the fields of management and engineering.

C) BOOTSTAP: -

Bootstrap stands out as one of the most recognized and widely utilized CSS frameworks. Operating on a grid system comprising 12 columns, it provides four display options based on the user's screen width. This allows for the seamless adaptation of the website's appearance to the visitor's device. Notably, Bootstrap includes aesthetically pleasing and easily integrable components like buttons, navigation bars, and forms. Since its third version, Bootstrap is entirely responsive, with elements adjusting to the screen width by stacking vertically as the width decreases. The framework also employs different displays for various screen sizes, particularly catering to smartphones through pre-programmed media queries. The Bootstrap site showcases numerous readily usable templates as examples. Additionally, Bootstrap is closely associated with the Less preprocessor, a language offering versatile features such as variable usage and code inclusion. This enables users to personalize their CSS file by incorporating desired elements and colours[3].

i. Responsive Design: -

Grid System: Bootstrap includes a responsive grid system that allows for the creation of flexible and responsive layouts. This ensures that the Better College platform can adapt to various screen sizes and devices.

ii. Consistent Styling: -

Pre-styled Components: Bootstrap provides a set of pre-designed UI components such as buttons, forms, navigation bars, and cards. These components ensure a consistent and visually appealing design throughout the platform without the need for extensive custom styling.

iii. Typography and Icons:

Typography Styles: Bootstrap offers predefined styles for typography, making it easy to create a harmonious and readable text layout.

iv. **Icon Fonts:** Bootstrap includes an icon font (Glyph icons or more recently, the integration with Font Awesome) that provides scalable vector icons. These icons can be used for various purposes, such as indicating features or adding visual elements to the interface.

D) Node JS: -

Node.js operates as a non-blocking, event-driven I/O platform, leveraging Google Chrome's v8 engine with a core focus on event-driven functionality. Its key feature lies in adopting an asynchronous I/O and event-driven architecture. In contrast to the traditional multi-threaded model used for high-concurrency solutions, where a system thread is assigned for each business logic and thread switching compensates for synchronous I/O call overhead, Node.js employs a single-threaded model. It utilizes asynchronous request methods for all I/O operations, steering clear of frequent context switching. The distinctive event loop mechanism capitalizes on the processing efficiency of callback functions, optimizing task access. These unique structural advantages empower Node.js to efficiently handle over 40,000 user connections simultaneously on an 8GB memory server. This stands in stark contrast to traditional server-side languages like PHP, Java, or .NET, where the conventional approach involves using a new thread for each client. Considering the estimated 2MB memory consumption per thread, these languages would be limited to handling approximately 4,000 simultaneous connections on an 8GB memory server[4]. Here's how Node.js might be integrated into the Better College in this paper:

i. Server-Side Logic:

Handling Requests: Node.js is used to handle incoming HTTP requests from clients, such as users accessing the Better College platform. It processes these requests, executes server-side logic, and generates appropriate responses.

ii. API Integration:

Connecting to Ranking APIs: If it involves fetching data from ranking sources like NIRF or QS World Rankings, Node.js can be used to make HTTP requests to these APIs, retrieve data, and process it before sending it to the front end.

iii. **Data Processing and Manipulation:**

Aggregating and Formatting Data: Node.js can be employed to aggregate data from different sources, such as ranking databases or other external APIs. It can also handle data manipulation and formatting tasks to present the information in the desired format on the Better College platform.

E) **PHP: -**

Presently, PHP stands as one of the most widely adopted programming languages, extensively employed in both the open-source community and industry for constructing sizable web-centric applications and application frameworks [5][6]. According to Eshkevar, Dos Santos, Cordy, & Antonoil, it is emphasized that PHP holds the dominant position as the most widely used scripting language for the web, constituting over 80% of all current websites. Nevertheless, scripting languages like PHP have faced criticism for their perceived limitations in adequately supporting the maintenance of extensive software in this papers[5][7]. Kyriakakis & Chatzigeorgiou aim to shed light on the evolutionary path of PHP applications. Their examination delves into various facets of the applications' history, encompassing the extent of unused code, the elimination of functions, the incorporation of libraries, the robustness of interfaces, the transition to object-orientation, and the progression of complexity. This evolutionary process is a natural outcome of the continuous development of web applications built in PHP. As these applications evolve, new program versions, interactions, and functionalities are introduced, while existing elements undergo removal or modification [5][8]. PHP, standing for Hypertext Preprocessor, is a widely employed open-source scripting language specifically designed for web development. The integration of

PHP into the Better College in this paper could proceed as follows.

i. **Server-Side Processing:**

Handling HTTP Requests: PHP scripts handle incoming HTTP requests from users accessing the Better College platform. It processes these requests, executes server-side logic, and generates dynamic content to be sent back to the client's web browser.

ii. **Database Interaction:**

MySQL Integration: PHP is often used in conjunction with MySQL, a relational database management system. It can execute queries to store, retrieve, and manipulate data related to colleges, rankings, and other relevant information.

iii. **Dynamic Content Generation:**

HTML Embedding: PHP allows for the embedding of HTML within its scripts. This feature is useful for dynamically generating HTML content based on variables, user input, or data retrieved from databases. It enables the creation of dynamic and data-driven web pages.

iv. **User Authentication:**

Login Systems: PHP can be employed to implement user authentication systems, ensuring secure access to specific features or data on the Better College platform. This includes processes such as user login, registration, and session management.

F) **UX Design: -**

The concept of UX design involves a sequential series of decisions aimed at achieving a successful outcome in the interactive realm. It emphasizes fostering a productive and gratifying process throughout the journey to this outcome. Consequently, UI/UX is frequently flipped to UX/UI, underscoring the significance of crafting the entire user experience rather than focusing solely on the interface [9]. UX design principles can be applied within a web development framework context, such as using a front-end framework like Bootstrap or a back-end framework like Laravel.

i. **Information Architecture:** Organize the content and structure of the platform within

the framework, adhering to sound information architecture principles to enhance navigation and usability.

- ii. **Form Validation:** Implement form validation using the framework's capabilities to provide real-time feedback to users and prevent errors during data input.
- iii. **Error Handling:** Design error handling mechanisms within the framework to guide users when unexpected situations arise, ensuring a user-friendly and informative experience.
- iv. **Usability Testing:** While not directly tied to the framework, integrate usability testing within the development process to identify and address potential UX issues. Continuous testing helps refine and improve the user experience.
- v. UX design itself is a process, web development frameworks provide tools and features that can be aligned with UX design principles. By utilizing both front-end and back-end frameworks effectively, developers and designers can create a Better College platform that not only functions seamlessly but also provide an optimal and enjoyable user experience.

Responsive Web Design Techniques: - The evolution of web application development has been significant since the inception of the World Wide Web. In the contemporary web landscape, HTML and CSS serve to present data and content to users, while JavaScript facilitates client-side interactions.

These technologies, collectively known as "front-end" or "client-side" technologies, focus on the user interface and experience. Conversely, "back-end" or "server-side" technologies pertain to the processes that occur on the server before sending a response to the client. These technologies handle tasks such as data storage, processing, and other server-related functionalities [10][11][12].

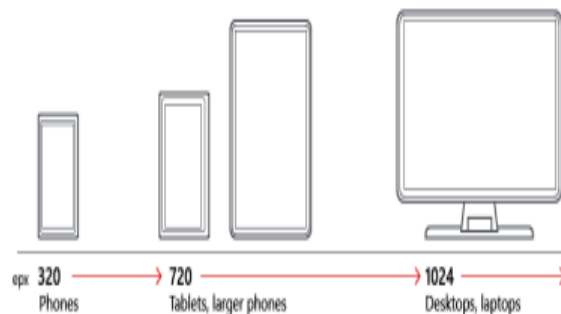


Fig.1 Responsive Web Design

During the early stages of web development, designers were less concerned about the varied appearance of their websites across different clients. This was primarily because the majority of users accessed websites from relatively similar desktop computers with comparable screen resolutions, resulting in a consistent display that closely resembled the designer's original concept. This uniformity allowed many web designers to employ static, specific dimensions in their designs. The evolution towards responsive website design introduced three common techniques:

- Fluid grid layouts (grid based on relative proportions).
- Flexible images and media.
- Implementation of media queries and consideration of screen resolutions [12].

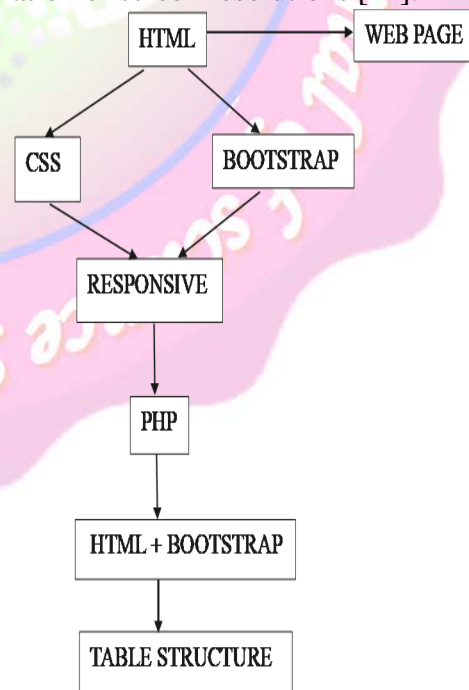


Fig.2 Flowchart of technique.

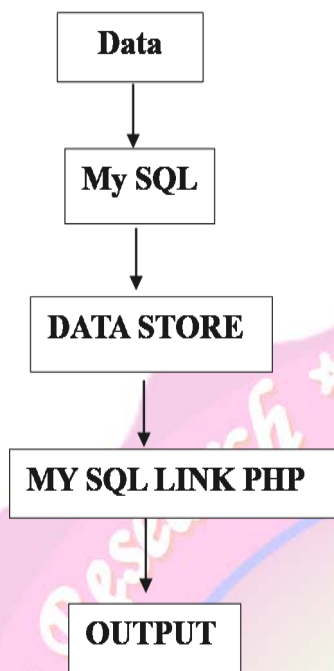


Fig.3 Storage of data

4. Ranking: -

In terms of ranking, we take only 2 types of ranking :-

- 4.1) NIRF Ranking for Indian colleges
- 4.2) QS World Ranking for all over world colleges

4.1) NIRF Ranking

In the National Institutional Ranking Framework (NIRF), institutions' performance undergoes evaluation based on five parameters, each assigned a score of 100 through sub-parameters. The parameters include:

- Teaching, Learning & Resources (TLR)
- Research and Professional Practice (RP)
- Graduation Outcomes (GO)
- Outreach and Inclusivity (OI)

The NIRF score is derived from a weighted average of these parameters, where TLR and RP contribute 30% each, GO contributes 20%, and OI and PR each contribute 10% to the total score. Subsequently, the calculated weighted averages are arranged in descending order to determine the ranking of the institutions [13].

Key features of the NIRF ranking system include:

1. **Parameters:** NIRF uses a set of parameters to evaluate institutions. As of my last knowledge update in January 2022, the evaluation criteria

encompass Teaching, Learning & Resources (TLR), Research and Professional Practice (RP), Graduation Outcomes (GO), Outreach and Inclusivity (OI), along with Perception. (PR). Each parameter is assigned a certain weight in the overall ranking. Assess how well an institution performs in each of the specified parameters. Institutions excelling in teaching, research, graduation outcomes, outreach, inclusivity, and having a positive perception are likely to rank higher.

2. **Categories:** NIRF ranks institutions in various categories such as overall universities, educational establishments such as engineering schools, management schools, pharmaceutical institutions, and other related entities. Each category has its own set of parameters and criteria for evaluation.

3. **Data Submission:** Participating institutions are required to submit data related to the specified parameters, and the rankings are based on this data. The information includes academic, research, and infrastructure-related data, as well as feedback from stakeholders.

4. **Public Perception:** NIRF includes a perception parameter that considers the opinions of various stakeholders, including academics, employers, and the public.

5. **Annual Ranking:** The NIRF rankings are released annually, providing prospective students, parents, and stakeholders with valuable insights into the performance of educational institutions across different categories.

6. **Transparency:** NIRF aims to bring transparency and accountability to the higher education system in India by providing a publicly accessible and standardized ranking framework.

It's important to note that the NIRF ranking methodology may be subject to updates, and institutions are encouraged to participate in the process voluntarily. As rankings can change annually, interested individuals should refer to the latest NIRF rankings or the official NIRF website for the most up-to-date information on rankings and evaluation parameters. rankings should be considered alongside other parameters such as infrastructure, faculty quality, industry connections, and student feedback for a comprehensive assessment. For the latest and

specific conclusions, it's recommended to refer to the most recent NIRF reports or official announcements.

4.2) QS World Ranking: -

In the contemporary era, the QS system stands out as the globally renowned university ranking, serving as the foundational gauge to determine the rightful position of any university relative to its peers. This ranking is derived through the assessment of six distinct metrics, each highlighting specific aspects of university performance. In evaluating the research quality of institutions, particularly concerning authors, the QS system employs the output of publications. This assessment is quantified through the metric of citations per faculty (CPF), a method intricately designed to consider the institution's size. Notably, CPF holds a weightage of 20% in determining the overall ranking [14][15]. From these perspectives, the central concept revolves around identifying the factors contributing to the augmented publication outputs of existing authors. Once these factors are discerned, they can be leveraged to enhance the research capabilities of authors and implement suitable measures to boost their scholarly citations. This objective is underscored in one of the analytical studies detailing global university rankings [14][16], Pavel has discerned distinctions among them, particularly in relation to research, utilizing open-source information gathered from their respective websites. The findings indicate that renowned global university rankings, including QS, exhibit a greater emphasis on the research domain, while allocating comparatively lesser attention to the teaching and learning milieu. Based on these outcomes, the authors advocate for a collective effort from all universities to enhance their research methodologies, ultimately fortifying their overall standing. This sentiment is echoed in an additional analytical study. [14][17], Frenken et al conducted a study investigating the impact of structural variables, as well as personal, workplace, and organizational factors, on the research performance of universities. Their findings revealed that variations in research performance across universities are contingent upon various factors, with size being a particularly significant variable. The study highlighted the importance of size across all performance indicators, suggesting that universities must excel in global co-

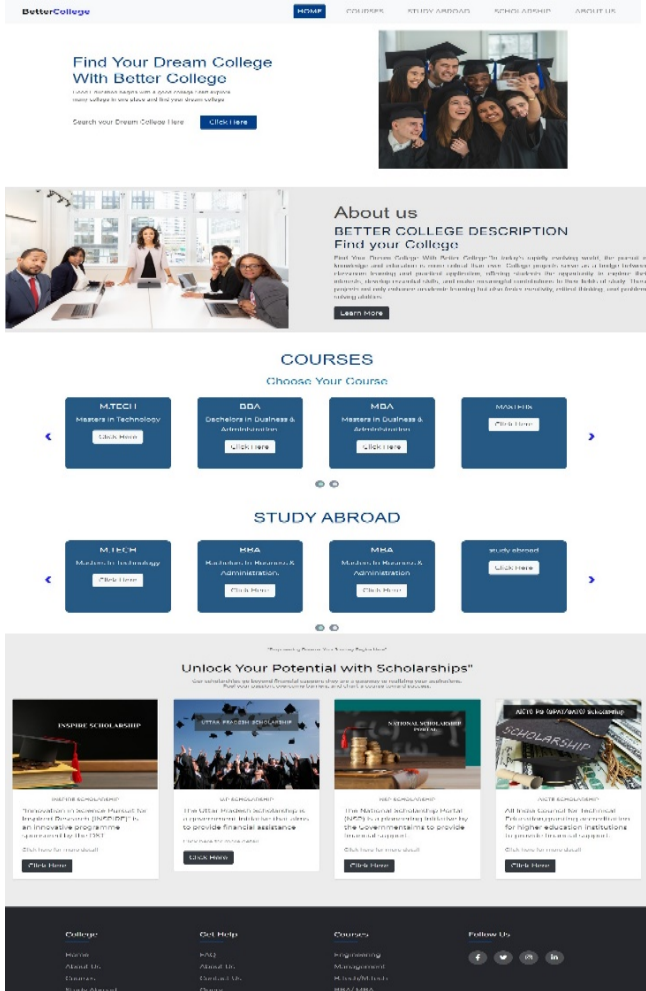


Fig.4 First impression of our web page

DATA TABLE: (Engineering)

Sr. No.	Name of College	Annual Fee	Entrance Exam	City	State	Average Package (IN LPA)	Official Link	NIRF Rank	View Details
1	Indian Institute of Technology Madras	19,850	GATE	Chennai	Tamil Nadu	14	https://www.iitm.ac.in/	1	View Details
2	Indian Institute of Technology Delhi	55,300	GATE	New Delhi	Delhi	17.7	https://home.iitd.ac.in/	2	Fee structure Academics details Exam Link
3	Indian Institute of Technology Bombay	59,300	GATE	Mumbai	Maharashtra	21.82	https://www.iitb.ac.in/	3	View Details
4	Indian Institute of Technology Kanpur	28,700	GATE	Kanpur	Uttar Pradesh	28.7	https://www.iitk.ac.in/	4	View Details
5	Indian Institute of Technology Roorkee	40,100	GATE	Roorkee	Uttarakhand	71	https://www.iitr.ac.in/	5	View Details
6	Indian Institute of Technology Kharagpur	27,650	GATE	Kharagpur	West Bengal	15.45	https://www.iitkgp.ac.in/	6	View Details
7	Indian Institute of Technology Guwahati	67,350	GATE	Guwahati	Assam	41	https://www.iitg.ac.in/	7	View Details
8	Indian Institute of Technology Hyderabad	53,550	GATE	Hyderabad	Telangana	20.07	https://www.iith.ac.in/	8	View Details
9	National Institute of	1,17,000	GATE	Tiruchirappalli	Tamil Nadu	10.8	https://www.niit.edu/	9	View Details

Fig.5 Colleges based on NIRF rankings

publications to achieve notable advancements in their global rankings.

Furthermore, in this research exploration. [14][18], Khor et al. delved into an examination of how global co-authorship affects university research. Their primary focus was on analysing various indicators, particularly the citation per paper difference observed between authors with and without global co-authorships. This specific metric demonstrated a notable impact, as the results revealed a positive difference, indicating an increase of up to 5.0 citations per paper.

Consequently, global co-authorship positively contributes to the field-weighted citation impact of universities. This implies that universities can leverage international co-authorship to enhance the citation impact of their research. The QS World University Rankings stand as one of the most widely acknowledged and influential global university ranking systems. Here are some salient aspects regarding the QS World University Rankings.

Parameters: The QS World University Rankings evaluate universities based on several key performance indicators, which are grouped into six broad categories: Academic Reputation, Employer Reputation, Faculty/Student Ratio, International Faculty Ratio, International Student Ratio, and Citations per Faculty.

1. **Academic Reputation:** This parameter is based on a global survey of academics, asking them to identify the institutions where they believe the best work is currently taking place within their field of expertise.

2. **Employer Reputation:** This parameter gauges the opinion of employers worldwide, reflecting the employability of graduates from each university.

3. **Faculty/Student Ratio:** This ratio assesses the number of academic staff per student, providing an indication of the level of personalized attention and interaction students can expect.

The screenshot displays the BetterCollege website interface. At the top, there is a navigation menu with links for HOME, COURSES, STUDY ABROAD, SCHOLARSHIP, and ABOUT US. Below the navigation is a header for 'Good Education be' and a large banner image of a modern building with the text 'Study Abroad Programs'. Underneath the banner is a section titled 'TOP COURSES' with a sub-note: 'Institutions like Harvard University, Stanford University, Massachusetts Institute of Technology (MIT), and Oxford University are often considered among the best.' The main content area features four course cards, each with a thumbnail image and a 'Click Here' button:

- Bachelors In technology**: Engineering & Technology. Explore elite colleges for Bachelors—your gateway to excellence. Invest your education, shape your future. Unlock exceptional graduation programs at top-tier colleges. [Click Here](#)
- Masters In technology**: M.S (Masters of Science). Explore elite colleges for masters—your gateway to excellence. Invest your education, shape your future. Unlock exceptional masters programs at top-tier colleges. [Click Here](#)
- Bachelor of Business Administration**: BBA (Bachelor of Business Administration). Explore elite colleges for Bachelors—your gateway to excellence. Invest your education, shape your future. Unlock exceptional graduation programs at top-tier colleges. [Click Here](#)
- Masters In Business Administration**: MBA (Masters in Business Administration). Explore elite colleges for masters—your gateway to excellence. Invest your education, shape your future. Unlock exceptional masters programs at top-tier colleges. [Click Here](#)

At the bottom, there is a 'Featured' section with the text: 'Find the top College with BetterCollege. With supporting text below as a natural lead-in to additional content.' Below this is an 'Explore' button and the text: 'Top College based on their ranking.'

Fig.6 Study abroad program

Website	“BETTER COLLEGE” WEBSITE	OTHER WEBSITE
Scholarship Portal:	"Better College" proudly presents a dedicated scholarship portal, offering a curated directory of scholarships from various sources, including opportunities for international education.	Most of the website does not show it specifically.
Personalized Dashboards:	The platform provides personalized dashboards for users, allowing them to customize their experience and access relevant information with ease. Whether their educational journey leads them to a local institution or one in a foreign country, the experience is tailored to meet their unique needs.	Now a days it is a very common feature in websites, they show the login page and provide the personalized dashboard.
Career Guidance Resources:	Acknowledging the importance of career guidance, "Better College" offers resources to help students make informed decisions about their academic and professional future.	This feature is sometimes available and sometimes not, it depends on the website and developer.
Study Abroad Features:	In recognition of the unique needs of students considering international education, "Better College" integrates a specific set of features for studying abroad.	Most of the website does not contain this feature.
Student Forum:	To foster collaboration and knowledge sharing, we include a student forum where individuals can engage in discussions, share experiences, and seek advice from peers.	Now a days it is a very common feature in websites, it shows the comment or feedback box.

Table 1 Comparison Between “Better College” Website and other Website

5. Conclusion:

This paper represents a significant stride towards enhancing educational transparency and aiding informed decision-making in the realms of management and engineering. By synergizing advanced coding languages, innovative frameworks, and comprehensive ranking systems, the in this paper has successfully created a dynamic platform that empowers users with valuable insights into the top 50 colleges. The integration of

National Institutional Ranking Framework (NIRF) data for domestic assessments and QS World Rankings for global perspectives adds a nuanced dimension to the evaluation process. This dual-ranking approach not only caters to the local context but also positions the in this paper on an international stage, providing users with a holistic view of the academic landscape.

6. REFERENCES:

1. V. Okanovic “Web Application Development with Component Frameworks”. doi:10.1109/mipro.2014.6859693
2. Nian Li, Bo Zhang “The Design and Implementation of Responsive Web Page Based on HTML5 and CSS3”. doi:10.1109/MLBDBI48998.2019.00084

3. Majida Laaziri, Khaoula Benmoussa, Samira Khouli, Kerkeb Mohamed Larbi, Abir El Yamami “Analyzing bootstrap and foundation front-end frameworks: a comparative study”. DOI: 10.11591/ijece.v9i1.pp713-722
4. Xiaoping Huang; (2020). *Research and Application of Node.js Core Technology*. 2020 International Conference on Intelligent Computing

and Human-Computer Interaction (ICHCI), (), – . doi:10.1109/ichci51889.2020.00008

5. Alinaswe Siame, Douglas Kunda, “Evolution of PHP Applications: A Systematic Literature Review” DOI:10.3991/ijes.v5i1.6437

6. Hills, Mark; Klint, Paul (2014). [IEEE 2014 Software Evolution Week - IEEE Conference on Software Maintenance, Reengineering and Reverse Engineering (CSMR-WCRE) - Antwerp, Belgium (2014.02.3-2014.02.6)] 2014 Software Evolution Week - IEEE Conference on Software Maintenance, Reengineering, and Reverse Engineering (CSMR-WCRE) - PHP AiR: Analyzing PHP systems with Rascal. (), 454457. doi:10.1109/csmrwcrc.2014.6747217

7. D. Letarte and E. Merlo, "Extraction of inter-procedural simple role privilege models from php code," IEEE Computer Society, p. 187–191, 2009. <https://doi.org/10.1109/wcre.2009.32>

8. E. Merlo, D. Letarte and G. Antoniol, "SQL-Injection Security Evolution Analysis in PHP," IEEE, pp. 45-49, 2007. <https://doi.org/10.1109/wse.2007.4380243>

9. Roth, R. E. (2017). User Interface and User Experience (UI/UX) Design. The Geographic Information Science & Technology Body of Knowledge (2nd Quarter 2017 Edition), John P. Wilson (ed.). doi: 10.22224/gistbok/2017.2.5.

10. Waseem I. Bader, Abdelaziz I. Hammouri “Responsive Web Design Techniques” DOI:10.5120/ijca2016911463

11. Dragos-Paul Pop, Adam Altar, “Designing an MVC Model for Rapid Web Application Development” presented at the 24th DAAAM International Symposium on Intelligent Manufacturing and Automation, 2013

12. J. Liberty, D. Hurwitz, Programming ASP.NET, 3rd ed. O'Reilly Media. California, United States of America. (2006).

13. Amit Kumar* , Kuldeep Singh and Anil Kumar Siwach “NIRF India Rankings 2020: Analyzing the Ranking Parameters and Score of Top 100 Universities”. DOI : 10.14429/djlit.41.5.16452

14. Qusai Q. Abuein , Mothanna H. Almahmoud, Omar N. Elayan, “Improving QS Rank Based on The Classification of Authors Research

Collaboration Using Machine Learning Techniques”

DOI:10.1109/ICICS52457.2021.9464603

15. Peters, M. A. (2019). Global university rankings: Metrics, performance, governance. DOI:10.1080/00131857.2017.1381472

16. Pavel, A. P. (2015). Global university rankings-a comparative analysis. Procedia economics and finance, 26, 54-63. doi: 10.1016/S2212-5671(15)00838-2

17. Frenken, K., Heimeriks, G. J., & Hoekman, J. (2017). What drives university research performance? An analysis using the CWTS Leiden Ranking data. Journal of informetrics, 11(3), 859-872.

18. Khor, K. A., & Yu, L. G. (2016). Influence of international co-authorship on the research citation impact of young universities. Scientometrics, 107(3), 1095-1110.