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RESEARCH ARTICLE OPEN ACCESS

"Automating Event Registration: A Case Study of INTERACTION 2024 Website Development"

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ABSTRACT:
This paper presents a case study of the development process of the **INTERACTION 2024** website, aimed at automating the event registration process for the **Modern College of Arts, Science and Commerce (Autonomous), Ganeshkhind,Pune-16 Computer Science Department**. The paper discusses the team formation, technology stack selection, challenges faced, and solutions implemented during the development and launch phases of the website.

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I. Introduction:

For more than 21 years, our Computer Science Department has been hosting a special event called **INTERACTION**. This event brings together students to showcase their technical and non technical skills and learn from each other. This year, for **INTERACTION 2024**, we decided to make things easier by creating a website for event registration. A group of talented students worked together to make this website happen. This paper tells the story of how we made the website and the challenges we faced along the way.

II. Methodology:

· **Team Formation**: A project head was selected based on leadership qualities, with input from **HOD and Coordinators**. Team members were chosen for technical proficiency and awareness of challenges. Collaborative decision-making ensured alignment with project goals. Challenges were identified and addressed proactively, with strategies developed. The team, named **"Interactors"** was tasked with managing the event. Emphasis was on aligning skills with objectives for maximum efficiency. The process resulted in a cohesive team ready to enhance the event experience.

· **Technology Stack Selection:** We chose our technology stack based on developers' comfort and expertise to ensure efficient and effective development. The selected technologies aligned with project goals and developers' proficiency, minimizing learning curves and maximizing performance.

· **Development Approach:** The development process followed an **Agile Methodology,** involving continuous site updates and adjustments to meet requirements. Regular communication with coordinators facilitated suggested changes and ensured alignment with the proposed system design.

· **Timeline and Milestones:** The objective was to develop the website securely within a **2.5 - Month** timeline, ensuring all components were functional and operational. This timeline included tasks such as design, development, testing, and implementation, with milestones set to track progress and ensure timely completion.

· **Collaboration and Communication**: With no space and internet connectivity issues, communication predominantly occurred through phone calls and online meetings. With everyone working remotely from home, collaboration was facilitated using VS Code software, enabling developers to connect their devices and work together on the development of the project."

· **Testing Procedures:** Due to time constraints and limited expertise in testing, a professional tester was hired to ensure the website's security and flexibility. They conducted thorough testing and provided a comprehensive report along with a certification.

· **Feedback and Iteration:** 1) Data Transfer Speed Improvement: Initially, slow data transfer speed led to students clicking multiple times, resulting in messages indicating they were already registered. This caused tension and panic among students. To address this issue, we improved the

data transfer speed and implemented a limit on the number of clicks, ensuring a smoother registration process and alleviating student concerns.

2) Event Name Clarification: This year, changes were made to the event names, leading to confusion among students during event selection. To mitigate this confusion, we provided explanations by including the old event names, which helped students understand and select the appropriate events. As a result, the registration count increased, indicating improved clarity and participation.

· **Quality Assurance:** Security measures were implemented by creating a user with specific privileges and setting views of columns as needed. Additionally, best coding practices such as using parameterized queries were followed. Framework was utilized for page routing, enhancing security and efficiency.

· **Deployment Strategy:** Initially, attempts were made to host the website on the college domain, but miscommunication led to a delay of 14 days. Due to time constraints, a new domain and hosting service were purchased, and the registration process continued. The decision was made to deploy the website on this new service to expedite the process. Additionally, the limitation with college hosting was the requirement to seek permission from the hosting company for any updates or installations.

· **Documentation:** Highlight the importance of documentation throughout the development process. This may include technical documentation for codebase, user manuals, and any other relevant documentation produced by the team. Screen shots are shown in fig.1.

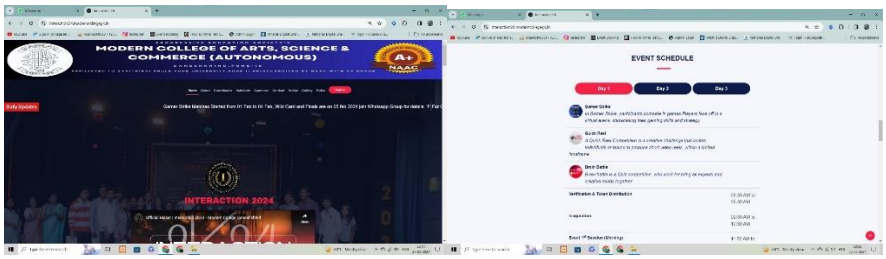

Fig.1-Dashboard and Event schedule

Challenges Faced and Solutions Implemented:

· **Hosting Issues**: To address hosting issues, the team proactively sought alternative hosting solutions outside of the college hosting platform. This involved researching and selecting a reliable third-party hosting service that offered the necessary resources and support for hosting the website. By transitioning to a new hosting provider, the team successfully mitigated the technical limitations and downtime associated with the college hosting platform.

· **Testing Complexities:** To overcome testing complexities, the team has hired a professional tester to improve the quality and security.

· **Payment Integration Hurdles:** In response to payment integration hurdles, the team devised a creative solution by implementing QR code-based payment functionality. By generating QR codes linked to payment gateways, users were able to conveniently scan and complete transactions using their mobile devices, bypassing the need for complex payment integrations. This streamlined the payment process and enhanced user experience while circumventing potential technical challenges associated with traditional payment gateways.

· **Exams Scheduled:** During the development period, practical and theory exams were also scheduled concurrently, requiring the development team to manage both tasks effectively within the allotted time frame.

III. Results and Impact:.

1. Improved Registration Process : The implementation of the **INTERACTION 2024** website resulted in a significant improvement in the event registration process. With the introduction of an online registration platform, participants experienced streamlined and hassle-free registration procedures, reducing manual paperwork and administrative overhead for organisers.

2. Enhanced User Experience : The website's user-friendly interface and intuitive navigation contributed to an enhanced user experience for participants, faculty, and staff involved in the **INTERACTION** event. Participants were able to easily browse event details, register for activities, and receive event updates, leading to increased engagement and satisfaction.

3. Increased Efficiency : The automation of event registration processes through the website led to increased efficiency in managing event logistics and participant data. Organisers were able to track registrations, manage participant information, and communicate event details more effectively,

resulting in smoother event coordination and reduced administrative burden.

4. Wider Reach and Accessibility : Website facilitated broader reach and accessibility for participants within our state. This approach ensured that students from diverse geographical locations within the state could conveniently register for the event, enhancing participation and representation from different academic institutions. Additionally, restricting access to our state ensured that only students able to attend the event physically were able to register, aligning with the logistical constraints of the event.

5. Data Insights and Analytics : The incorporation of data visualization tools such as Tableau enabled organisers to gain valuable insights into participant demographics, event preferences, and registration trends. This data-driven approach empowered organisers to make informed decisions, tailor event offerings to participant interests, and enhance the overall event experience.

6. Positive Feedback and Satisfaction : Feedback from participants, faculty, and staff indicated high levels of satisfaction with the INTERACTION 2024 website. Participants appreciated the convenience and ease of use offered by the online registration platform, while organizers lauded the website's efficiency in managing event logistics and data.

7. Increased Engagement and Participation : The introduction of the INTERACTION 2024 website contributed to increased engagement and participation in the event. The user-friendly interface, comprehensive event information, and online registration capabilities incentivized participation among students, resulting in a higher turnout and active involvement in various activities.

8. Streamlined Communication : The website served as a centralised platform for event-related communication, facilitating seamless interaction and information dissemination among participants, faculty, and organisers. Real-time updates, event announcements, and important notifications were effectively communicated through the website, enhancing overall communication efficiency.

Lessons Learned:

· **Patience and Persistence**: One of the most significant lessons learned from the **INTERACTION 2024** website development project was the importance of patience and persistence in tackling complex challenges. The project presented numerous hurdles, including technical issues, resource constraints, and unexpected setbacks. However, through perseverance and a steadfast commitment to overcoming obstacles, the team was able to navigate through challenges and ultimately achieve success. This experience underscored the importance of resilience and determination in the face of adversity, highlighting the need for patience and persistence in the development process.

· **Effective Communication and Collaboration:** Another important lesson learned was the critical role of effective communication and collaboration in project success. The interdisciplinary nature of the project required seamless coordination among team members, stakeholders, and external partners. Clear communication channels, regular progress updates, and collaborative decision-making processes were instrumental in overcoming challenges, resolving conflicts, and driving the project forward. This experience emphasised the significance of fostering open communication and fostering a collaborative environment to facilitate smooth project execution.

· **Adaptability and Flexibility:** The development of the website also highlighted the importance of adaptability and flexibility in responding to changing requirements and evolving circumstances. Throughout the project lifecycle, the team encountered unforeseen challenges, shifting priorities, and new insights that necessitated adjustments to the project plan and approach. By embracing adaptability and flexibility, the team was able to pivot when necessary, iterate on solutions, and effectively address emerging needs, ultimately ensuring the successful completion of the project.

· **Technical Proficiency and Continuous Learning:** The project provided valuable opportunities for technical skill development and continuous learning. As the team navigated through various technical challenges and implemented innovative solutions, members gained hands-on experience and expanded their proficiency in frontend and backend technologies, database management, and software development best practices. This experience underscored the importance of continuous learning and staying abreast of emerging technologies and industry trends to effectively address complex challenges and deliver high-quality solutions.

· **Project Management and Planning:** The development of the **INTERACTION 2024** website underscored the importance of effective project management and meticulous planning in ensuring project success. Clear project objectives, realistic timelines, and well-defined roles and responsibilities were essential components of the project plan. Additionally, proactive risk management, regular progress monitoring, and

agile project methodologies enabled the team to effectively mitigate risks, address issues promptly, and maintain project momentum. This experience highlighted the significance of robust project management practices in driving project success and achieving desired outcomes.

IV. Future Recommendations:

- **Automated Tasks:** Manual tasks such as mail sending, data sorting, and certificate distribution should be automated through the website.
- **User Authentication:** Users should be provided with login credentials to access the account, change their event, ensuring security and accountability.
- **Automatic Payment Receipt Generation:** Implementing automatic payment receipt generation involves setting up a system within the admin panel that generates and sends payment receipts to users immediately after a successful transaction.
- **Category Section Enhancement:** Expand the category section to include distinctions between undergraduate (UG) and postgraduate (PG) activities or content.
- **Integration of Payment Gateway:** Incorporate a payment gateway within the registration process, facilitating seamless transactions for users.
- **Team Event Management:** Implement a system for managing team events, including the registration of team names and grouping them.
- **Regular Event Notifications:** Enable automatic notifications to inform users about upcoming events and important updates.
- **Token Generation**: Develop a feature to generate tokens as per specific requirements, enhancing the functionality of the admin panel.
- **24 X 7** chat support for query solving.

V. Conclusion:

The website development project successfully streamlined event registration processes, enhanced participant experiences, and fostered community engagement within the Computer Science Department. Through proactive problem-solving, effective communication, and innovative solutions, the project achieved its objectives and demonstrated the department's commitment to excellence and innovation. Moving forward, the lessons learned and recommendations outlined in this research paper provide valuable insights for future initiatives, driving continuous improvement and growth within the department.

References:

[1]. https://youtu.be/veCDcGmMPQg?si=0U9EXxc2onL0-Swx
[2]. https://dev.mysql.com/doc/
[3]. https://www.canva.com/
[4]. https://leonardo.ai/
[5]. https://nodejs.org/docs/latest/api/