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EduNexus: Enhancing Campus Dynamics Through a Diverse Student Community

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Abstract: Students in higher education often have a wide range of inquiries concerning various academic subjects and aspects of campus life. In response to these needs, the Student Community Mobile App offers a groundbreaking solution by providing a dynamic platform that enables college students to access a wealth of knowledge and receive answers to their questions on diverse topics related to academic and campus life. By offering a centralized space where students can engage with peers, access valuable information resources, and obtain reliable responses across a broad spectrum of academic subjects, the Student Community Mobile App aims to empower learners. Leveraging the collective knowledge of the student body, this project strives to promote lifelong learning and a strong sense of community among students.

Keywords: Forum, Student community, Informative interaction, Query resolution, Academic resources.

1. Introduction:

The Student Community Mobile App is a concept designed to streamline the college experience by providing a centralized platform through which students can access information, collaborate with peers, and participate in extracurricular activities. This app has the potential to revolutionize how students navigate their college lives, making it easier for them to find answers, connect with others, and engage in campus events. A thirst for knowledge, the drive for academic excellence, and an interest in a wide range of social and recreational activities are common traits of college life. However, students often face doubts, uncertainties, and the need for guidance. Traditional problem-solving approaches—such as consulting academic counselors, instructors, or textbooks—often come with limitations in terms of time and accessibility. This indicates that students cannot rely solely on individual sources for support, and that a structured approach to addressing different areas of uncertainty is required, especially given the limited access some students may face [1].

Some existing apps already serve similar purposes. For example, the EventBeep app provides a platform for students to connect, explore opportunities, and realize their potential. It enables students to exchange ideas within a transparent community of peers from across India and enjoy their college experience more fully. Additionally, apps like Canvas Student allow students to access grades and course materials, submit assignments, manage coursework with to-do lists and schedules, communicate through messages, and more. The note-taking app Notion is also notable for its flexibility, enabling students to plan trips, organize tasks, maintain diaries, and manage projects [2]. The Student Community Mobile App could integrate features from these existing platforms while also introducing new elements tailored to the specific needs of its user base. By offering a one-stop solution for academic and extracurricular needs, such an app could significantly enrich the student experience. In today's dynamic educational environment, students must navigate a complex web of academic challenges, extracurricular commitments, and questions about campus life. In this context, the Student Community Mobile App stands out as a valuable source of information and connectivity. This innovative project seeks to transform how students obtain information, collaborate with peers, and manage their college experience through the convenience of a single mobile application.

2. Literature Survey

C. Jovenn, K. Subaramaniam, and A. Jalil highlighted the need for a mobile forum application for university students. Their study demonstrated that students cannot depend on a single individual for assistance and emphasized the need for a structured approach to address various uncertainties, especially when student access is restricted [1].

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P. Johri and S. P. Singh proposed a mobile learning app called EEapp, which is designed to be student-centered and deliver personalized learning experiences. Their article discusses features such as tracking student progress, providing personalized feedback, and incorporating gamification. The app aims to offer a customized learning environment based on student-centered design [2].

Baloian and Zurita (2012) proposed a novel system to support knowledge construction in cooperative learning environments. Their research focuses on the design, implementation, and evaluation of the Mobile Collaborative Knowledge Construction (MCKC) system, which is intended to be user-friendly and facilitate idea generation and other forms of knowledge development [3].

Forment, Guerrero, and Poch (2012) discussed the importance of integrating mobile learning (m-learning) apps with Learning Management Systems (LMS) for the future of e-learning. Their study examines the technical challenges, various integration methods, and ongoing research and development projects that could enhance interoperability between m-learning apps and LMS platforms [4].

In their study, Pendry and Jessica explored the connection between forum identity and life satisfaction, as well as the anticipation of forming new relationships. Forum identity refers to the extent to which a user feels a sense of belonging within an Online Discussion Forum (ODF). The study aimed to examine the personal and social benefits of ODFs for individuals who identify with stigmatized groups [5].

Meirelles et al. (2019) reported that most students prefer native development over cross-platform alternatives. However, students with limited time or budget might find cross-platform development more suitable. Their study explores the trade-offs in terms of performance, development time, maintenance, learning curve, and cost, based on surveys conducted with students experienced in both approaches [6].

T. F. Bernardes and M. Y. Miyake concluded that no single "optimal" method exists for developing cross-platform mobile apps. The most suitable approach depends on the project's specific requirements. Their study provides a comprehensive review of various cross-platform development techniques, detailing their pros and cons and the key factors to consider when choosing a strategy [7].

Luis Corral, Andrea Janes, and Tadas Remencius found that multiplatform development frameworks offer benefits such as higher developer productivity, greater code reuse, and lower maintenance costs. Their paper discusses the advantages and limitations of these frameworks and promotes discussion about platform-agnostic approaches in mobile app development [8].

Chung and Choi (2023) explored the use of Mobile Instant Messaging (MIM) in English Language Teaching (ELT) in South Korea. Polling 979 students, the study examined how MIM tools were used in virtual classrooms and measured student satisfaction. It concluded that MIM platforms play a key role in creating engaging online learning environments, especially during the pandemic [9].

Houston Heflin, Jennifer Shewmaker, and Jessica Nguyen investigated the effects of mobile technology on students' attitudes, participation, and learning in cooperative settings. They found that while mobile tools can enhance attitudes toward collaboration, they may also lead to lower engagement and reduced critical thinking [10].

Features	Quora	Twitter	Tapatalk	Discord	Proposed system
Category	General	Social-media	General	Gaming	General
Access to students only	✗	✗	✗	✗	✓
Mobile app	✓	✓	✓	✓	✓
Edit user profile	✓	✓	✓	✓	✓
Categorized domains	✓	✓	✗	✓	✓
Allow upvote/downvote	✓	✓	✓	✗	✓

Fig. 1. Comparison between existing systems and proposed system

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3. Methodology

A multi-phase approach was adopted in the development of the *Student Community Mobile App*, each phase playing a vital role in the overall success of the project. The process began with a thorough requirements analysis, during which the app's functional and non-functional specifications were identified and documented. To initiate the development process, the preferences and requirements of college students were gathered through surveys and interviews. Understanding the users' needs during this phase was essential, as it informed the core features and functionalities of the app. Once the requirements were defined, the focus shifted to designing the user interface (UI). Emphasis was placed on simplicity and intuitiveness to ensure that users could navigate the app effortlessly. A clean and user-friendly interface enhances the overall user experience and encourages regular engagement.

Following the design phase, the development stage commenced, aiming to implement the app's functionality in line with the established design requirements. Key tasks included setting up user authentication and authorization modules, configuring the development environment using Android Studio, the Java Development Kit (JDK), and the necessary Software Development Kits (SDKs). Frontend components were developed using XML layouts and Kotlin or Java, while backend services were integrated using Azure Data Studio for database management and querying. Android Studio served as the primary Integrated Development Environment (IDE) for building the Android app. It provides developers with essential tools to design, develop, test, and deploy mobile applications. XML layouts offered a structured way to define the UI's layout, style, and behavior. Java, known for its robust object-oriented architecture and broad ecosystem, provided a reliable and flexible framework for building scalable mobile applications. Azure Data Studio, a cross-platform database management tool, supported seamless database development, administration, and querying.

As development progressed, the integration of core features was carried out. This involved connecting various components to create a cohesive and smooth user experience. Students were provided with a comprehensive platform offering key features such as query submission, resource access, and forum participation. Security considerations were also integral to the development. Basic user authentication mechanisms—such as email/password login and social media login options—were implemented to safeguard user data and account access.

4. Results and Discussion

The forum mobile app project ultimately delivered a robust and user-friendly platform for community interaction and information sharing among college students. The app successfully met its intended objectives and specifications, providing students with a practical and engaging way to ask questions, share answers, and collaborate on academic and extracurricular topics. The platform exhibited a high level of user engagement, as students actively participated in discussions, posted queries, and provided responses within their respective fields of interest. Features such as the voting and rating system promoted meaningful interactions by encouraging peer recognition and highlighting high-quality contributions. Feedback indicated that the app was an effective tool for facilitating information exchange and resolving queries among students. The categorization of questions into specific topics allowed users to locate relevant content efficiently, promoting focused and organized discussions. The upvoting and downvoting mechanism further ensured that valuable contributions were appropriately acknowledged, thereby enhancing the overall quality of content on the platform.

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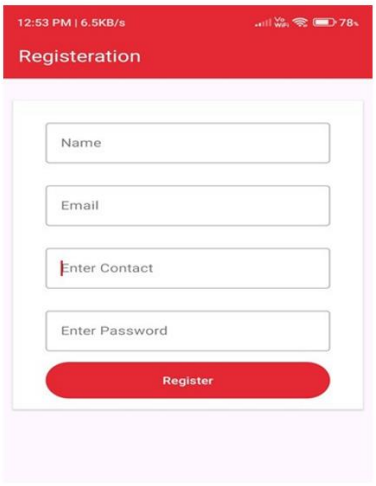

Fig.3. Register page

Fig.5. Home page

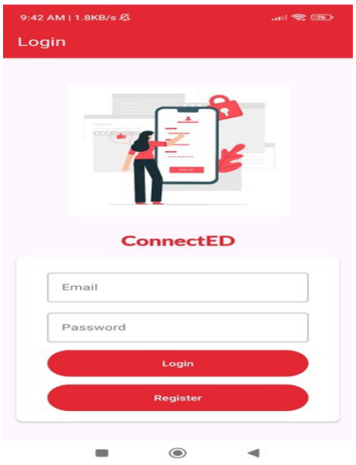

Fig. 4. Login page

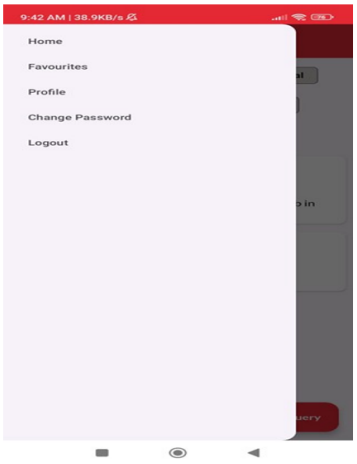

Fig.6. Menu Page

App Features

User Signup: Any user who wishes to use the app must first create an account. New users can register by providing their email address, a chosen username, and a password. Once registered, the user's information is securely stored in the database.

User Login: To access the app, users must log in using their registered email address and password. If a user does not have an account, they are required to sign up first. Upon successful authentication, access to the app's features is granted.

Home Page: The home page displays various **domains** (topics or categories) where users can post their queries. It includes an **"Add Query"** button. When clicked, a new screen appears, allowing users to enter the content of their query and select the appropriate domain.

Menu: The app includes a **navigable main menu** offering various options to access different functionalities. Users can navigate to sections such as **Home**, **Favorites**, **Profile**, **Logout**, and more using this menu.

Add Query: Users can submit questions by clicking the **"Add Query"** button on the home page. A dedicated screen will appear, prompting them to enter their query along with its corresponding domain. Once filled, the query can be submitted and will be posted under the specified category.

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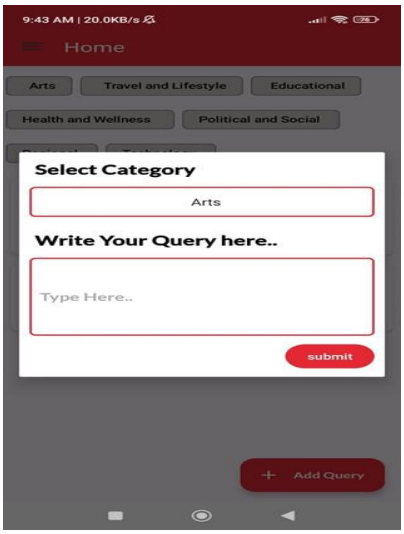

Fig. 7. Add query popup

Functionality	Description	Yes/No
Login	The user can login to the app using mail and password	Yes
Browse query according to category	The user can search for the query from the list of categories and check the question from the desired category	Yes
Edit profile	The user can edit their data	Yes
Upvote replies	The user can upvote/downvote	Yes
Add a query	User can add their queries	Yes
Reply to a query	User can reply to others queries	Yes
Register	The user can sign-up using mail, password, username	Yes
Favourites	The user can add a query to their favourites	Yes

Fig. 8. Results of System Testing

A. System Testing

System testing is a comprehensive evaluation of a software application to ensure that it meets its design specifications and performs as expected. This phase involves testing both functional and non-functional aspects, including usability, performance, and integration. Key tasks in system testing include verifying that all features operate as intended, assessing the system's behavior under different scenarios, involving end users to validate the system's relevance, and ensuring that updates do not introduce unexpected issues. System testing is essential for confirming the software's quality and functionality before deployment.

5.Conclusion

Consequences encompass enhanced avenues for communication via functionalities such as alerts and direct messages, cultivating a networked and knowledgeable student population. Collaborative tools, such as shared resources and group conversations, have encouraged knowledge sharing and teamwork. The program made it easier to access resources, manage academic papers and materials effectively, and helped create a well-organized learning environment. Features related to event management made it easier to organize and take part in extracurricular activities, thereby improving campus life. Feedback systems drove continuous improvement by

utilizing student insights for incremental enhancements. In the future, there will be opportunities for further research and development in areas such as improving personalization features, connecting with learning management systems, ensuring accessibility and inclusivity, and addressing growing cybersecurity concerns. Notwithstanding its achievements, there is a need for continued improvement of the project to better serve the evolving demands of the student body. Study resources for students are not provided in most of the existing solutions. With students expecting more individualized and engaging learning experiences, the traditional educational system is becoming increasingly less relevant. One way to address this issue is through mobile learning, which gives students the freedom to study whenever and wherever they choose.

6. Future Works

The potential for developing a peer-to-peer support system and an app for student communities that facilitates question-sharing, discussions, and updates is quite significant. Here are a few prospective areas for future development: Using AI algorithms to provide intelligent content curation, automated answers to frequently asked questions, and personalized learning recommendations can improve user experience and engagement. Adding gamification components, such as leaderboards, points, and badges, can encourage user participation and foster a sense of community. Providing webinars, workshops, and virtual events on a range of topics that students find interesting can enhance the educational experience and promote knowledge sharing. Setting up online discussion boards, study groups, and collaborative project spaces can help students learn from one another and work together more effectively. Students can better prepare for their careers by gaining access to tools such as internship opportunities, resume-building advice, and career counseling services. You can make the app more inclusive and accessible to a broader range of users by implementing features like text-to-speech, screen readers, and language translation. Collaborating with academic institutions, student associations, and industry partners can open up new markets for the app and provide users with access to additional resources and expertise. To stay relevant in the ever-changing world of education, it is imperative to seek user feedback and iterate the app based on their ideas and preferences.

8. References

[1] Jovenn, C., Subaramaniam, K., & Jalil, A. (2019). The development of a forum mobile application for students. *2019 IEEE 9th International Conference on System Engineering and Technology (ICSET)*, 90–95. https://doi.org/10.1109/ICSEngT.2019.8906430

[2] W. H. S. K., W. B. N. R., Johri, P., Singh, S. P., & S. S. G. (2018). EEapp: An effectual application for mobile-based student-centered learning system. *2018 4th International Conference on Computing Communication and Automation (ICCCA)*, 1–4. https://doi.org/10.1109/CCAA.2018.8777733

[3] Baloian, N., & Zurita, G. (2012). Ubiquitous mobile knowledge construction in collaborative learning environments. *Sensors*, 12(6), 6995–7014. https://doi.org/10.3390/s120606995

[4] Forment, M. A., Guerrero, M. J., & Poch, J. P. (2012). Towards mobile learning applications integration with learning management systems. In I. Management Association (Ed.), *Virtual learning environments: Concepts, methodologies, tools and applications* (pp. 726–738). IGI Global. https://doi.org/10.4018/978-1-4666-0011-9.ch405

[5] Pendry, L. F., & Salvatore, J. (2015). Individual and social benefits of online discussion forums. *Computers in Human Behavior*, 50, 211–220. https://doi.org/10.1016/j.chb.2015.03.067

[6] Meirelles, P., Aguiar, C. S. R., Assis, F., Siqueira, R., & Goldman, A. (2019). A students' perspective of native and cross-platform approaches for mobile application development. In S. Misra et al. (Eds.), *Computational science and its applications – ICCSA 2019*. *Lecture Notes in Computer Science* (Vol. 11623). Springer. https://doi.org/10.1007/978-3-030-24308-1_47

[7] Bernardes, T. F., & Miyake, M. Y. (2016). Cross-platform mobile development approaches: A systematic review. *IEEE Latin America Transactions*, 14(4), 1892–1898. https://doi.org/10.1109/TLA.2016.7483531

[8] Corral, L., Janes, A., & Remencius, T. (2012). Potential advantages and disadvantages of multiplatform development frameworks–A vision on mobile environments. *Procedia Computer Science*, 10, 1202–1207. https://doi.org/10.1016/j.procs.2012.06.173

[9] Chung, S.-J., & Choi, L. J. (2023). The use of mobile instant messaging in English language teaching: The case of South Korea. *Education Sciences*, 13(2), 110. https://doi.org/10.3390/educsci13020110

[10] Heflin, H., Shewmaker, J., & Nguyen, J. (2017). Impact of mobile technology on student attitudes, engagement, and learning. *Computers & Education*, 107, 91–99. https://doi.org/10.1016/j.compedu.2017.01.006