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Unified Platformforall Government Scholarships

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ABSTRACT
Government scholarships, funded by the government, are very important to enable and support students from all backgrounds, regardless of their socio-economic and educational situation to continue their education. Currently, there are (limited) government programs that exist for scholarships in Canada, and the National Scholarship Portal (NSP) is the coordination of efforts from all the various government agencies. This coordination system (NSP) provides processes, such as registration, application submission, required documentation upload, and status of the scholarships, but it can be challenging for someone applying for the first time due to all the required forms and lack of user-friendliness (to first-time) applicants. This mini-project begin the design and development of a simplified platform providing the essential services related to scholarships, and more on a much smaller scale. The proposed system provides support for core functions and processes such as - student registration, student login, viewing scholarships, applying for scholarships with a structured form-based format with the ability to upload documents and the ability to display what types of documentation and size limits per document, ability to check the status of their applications. To increase the usability of the application platform - other advanced features were thought of such as the ability to check eligibility based on their academic performance, income, and category; ability to set a reminder to complete their scholarship opportunities before the due date; and a search and filter to search through scholarships based on course, state, or based on category. This will help streamline the process and solve the current (and previous) limitations that exist currently in the systems of any of the agencies (including NSP) to maintain accessibility and transparency from a student perspective
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Keywords: *Unified Scholarship Platform,National Scholarship Portal (NSP), Student Registration, Document Validation, Application Tracking, Eligibility Checker, Deadline Reminder, Scholarship Search, E-Governance, Digital Education*.
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1. INTRODUCTION

Education is a principal driver of social and economic development, and scholarships are an important instrument to provide financial support to students from various backgrounds. In India, both the central government and state governments have developed many scholarship schemes to help deserving candidates. In order to bring an entire range of opportunities together, the National Scholarship Portal (NSP) was created as a central digital platform to register students, submit applications, upload documents and monitor the status of the application. While already widely used, many students experience difficulties using NSP.The platform is complex, making things difficult for new users, and does not have features that could improve usability. Some problems include difficulty figuring out eligibility, missed deadlines for applications, and fewer ways to find scholarships based on course, category, or state.

This "unified platform for all government scholarship" mini-project develops a simplified scholarship management platform to address these issues. The system retains important features of NSP, such as registration, login, application submission, validation of documents, and progress, while introducing some student-friendly features, including an eligibility checker, automated reminders for deadlines, as well as a more advanced search-and-filter response for scholarships. Although implemented with a limited dataset at the mini-project level, this platform exemplifies how to make the scholarship process more accessible, transparent, and student-focused.

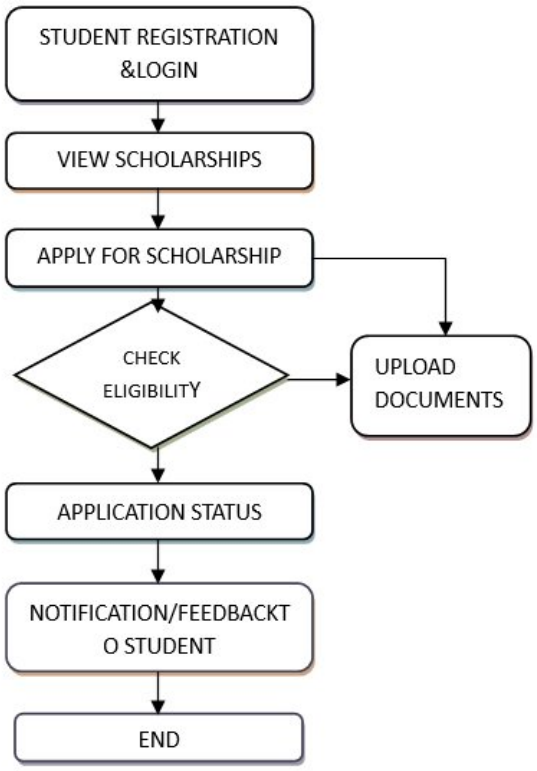

Fig no: 1 Unified platform for all government scholarships

2. LITERATURE REVIEW

Scholarships for education funds have long been considered a significant tool for reducing educational inequity. Scholarship programs have documented in several research articles how students from economically disadvantaged groups have an increased reliance on financial and bureaucratic barriers in accessing higher education. For example, several practical problems arise in scholarship systems taking a long time to verify, requiring multiple physical attestations, have unclear eligibility criteria, and one time a user must participate in the process, which makes it confusing to first-time users. These researches indicate that as much as scholarships are important, the processes through which students can access them are also a hindrance to the same.The National Scholarship Portal (NSP) is a substantial e-governance project in India that seeks to unify various scholarships into one online platform. It offers a point of nexus within the processes, like registration, documents uploading, and tracking of applications.

Nevertheless, a general consensus on the scholarly research and reports regarding the interface and workflow of NSP suggests that the interface and workflow of the system is a little bit convoluted to the majority of users.

In recent years, applicants have complained of confusion in requirements concerning eligibility, missed deadlines, and lack of ability to find the related schemes to their course, state, and/or socio-economic group. There is a high rate of usability of NSP in student experience surveys.A number of works suggest enhancing digital scholarship systems with intelligent verification and user-friendly features. A recent research indicates that real-time checking of eligibility should be incorporated to prevent students submitting applications to schemes to which they are not eligible. The other one studies the methods of data validation of document and application forms to decrease the rates of rejection due to missing or erroneous information. Suggestions to use modular-based architectures and APIs to provide flexibility and sustainability are also applicable.The studies of how to improve notification systems are also applicable. Lots of students have lost opportunities of getting scholarships due to missing of due dates or ignorance on the steps of interim verification. Research has proposed that deadline notifications, document verification or submission notification, and push notifications would go a long way in order to decrease the dropout or rejection rates. Such responsive design that introduces feedback loops into the system is common in literature that tries to enhance scholarship portals.Search and filtering, and recommendation functionality are another significant topic in literature. Because scholarship portals typically host tens or hundreds of schemes, locating relevant ones is challenging. Several papers have analyzed how search and filtering by course, category, income level, location etc., improve user satisfaction. Some studies even propose recommendation engines that suggest scholarships based on a student's profile (marks, financial status, category), thereby reducing time and effort needed to browse through irrelevant listings.Despite these numerous initiatives, there are still gaps in existing scholarship portal systems. To begin with, while many of these systems have adaptive eligibility/checker modules or reminders, very few have adopted a user experience which seamlessly integrates all functions in one site. Second, performance, scalability, and large document upload management are often under-explored areas of the system on high-load or unexpected circumstances. Accessing the system through mobile devices, localization of the audience (with multi-languages), and being accessible to students in rural or marginalized factor for considerations are often non-existent in much of the literature. The mini-project that we'll have proposed will take on that project and developing an all-in-one, scholarship portal experience for students that considers eligibility verification, deadlines and reminders, facilitating the use of search/filter, performance improvements, usability, and fine-tuning.

3. EXISTING METHOD

Currently, the disbursement of scholarships in India is primarily facilitated through online portals such as the National Scholarship Portal (NSP) and other state-based scholarship portals. Portals were developed to decrease the volume of manual paper-based processes and give students one place on the internet to apply for several government schemes. Students can create an account, complete the application, upload scanned documents, and check the status of their application. Compared to manual systems in the past, these online portals were a meaningful improvement to e-governance with a digital record system, an improved processing timeframe, and wider reach.That said, current portals are generally a problematic user experience for many students. For instance, many students, especially first-time applicants,

report difficulties navigating the portal due to its complicated layout, technical jargon, and duplication within the scheme's description and contributed pages. With the said challenges navigating the system, it is then difficult for students to identify their eligibility for the provided scholarship, as the system does not typically establish automatic validation or recommendations.

Consequently, students end up spending considerable time applying for ineligible scholarships, or worse, missing opportunities that would have actually matched their performance standards.Another drawback to the current systems is the document management process. Existing upload functionality allows for online submission, but the validation for file types and size can be inconsistent. It is common for students' documents to be rejected due to incorrect submissions, leading to frustration for the students and donor institutions as the scholarship will be delayed. Additionally, some portals slow down while processing a high number of applicants, particularly during peak application due dates, causing slow response times and server outages. The status tracking feature is another area where existing systems are lacking. The NSP and similar portals may give students access to view at what stage their applications are at, (for example, "submitted", "under verification", or "approved"), but there are seldom any real-time updates or clear reasons for rejection. This absence of information leads many students to continuously report back to institutions or government offices, which counters the purpose of convenience for digital portals.Most of the currently available platforms also struggle with notification and reminders functionality, such as deadlines, renewal requirements, or requests to re-submit documents, since these are typically delivered through static notifications on a portal, that many students do not check. As a result, even very qualified applicants may lose scholarship income due exclusively to the missed deadlines. To summarize, while existing scholarship portals like NSP have implemented digital efficiencies and a central access point, the challenges presented by usability around intelligent eligibility checking, real-time notifications and updates, and scalability of performance, that remain critical gaps demonstrate the need for a unified, student-centered platform that incorporates eligibility validation, personalized suggestions, notifications, and overall transparency of the status of applications.

4. PROBLEM IDENTIFICATION

At present, the system of applying for government scholarships in India is kludgy and burdensome for the students. While the government has created platforms like the National Scholarship Portal (NSP) in order to consolidate schemes into a single portal, various issues affect their usability. The initial and the main problem of scholarship applications is ease of use. Applying to it the first time, particularly when a student is of rural or economically weakened origin, navigating the portal itself can be an intimidating experience because of the user-unfriendliness of the portal interface and the little support many students will get. The majority of students will lack creativity to manoeuvre beyond a mere registration process, to post necessary documents or follow an application and this creates more problems with the confusion of correctness and usability.Another significant problem is the problems with eligibility determination. Most of the systems at this point in time lack automatic checks or any form of guidance where the students are guided on available and accessible scholarships depending on their academic status, income, category or state.

Therefore, many applicants either apply to not eligible programs (wasting time and effort), or miss opportunities on programs they could have accessed. This gap reduces the overall efficiency of the platform and defeats the purpose of improving access to educational support.The document management system poses challenges in utility as well. Students must upload multiple support documents, including income certificates, caste certificates, mark sheets, and so on. Issues frequently arise related to file size limits, the format of files, or uploads failing altogether that results in rejected applications. Moreover, there seems to be no clear process to notify students in real time, based on submitted documents, of invalid documents, or if documents are lacking information. Consequently, students are required to wait until the conclusion of the final review to see what problems they may need to address. This lag will force a decrease in the possibility of making timely corrections and then resubmitting applications for review.Another important problem involves the absence of effective communication methods and prompts. Somescholarship submission deadlines are made available on the portals for students. Most portals rely on static messages that students can ignore without any promptings or notifications, however, which students often fail to see when it comes to express submission deadlines. Late submissions of the deadlines and renewal requests leads to the loss of the financial support of the deserving candidates, which causes frustration and inequity in the allocation of scholarships.Also, the status tracking system of existing portals is not transparent. Basic updates can be seen by students, but detailed information that explains the causes of rejection, mismatch of documents, or verification pending are hardly informed. This compels the students to go to institutions or call the officials again and again to get the matter straight, which nullifies the very meaning of a digital platform that is meant to save time and minimize the input of humans.Lastly, scalability is an emanating concern. Peak periods (commencement of a school-term, e.g.) place portals such as NSP under heavy traffic that would lead to slowing and/or system congestion. Overall, the primary issues that were found in current scholarship systems were complicated usability, the absence of intelligent eligibility verification, document validation efficiency, lack of reminders and notifications, low transparency in the status tracking system, and the inability to scale during intensive use. To overcome such hurdles, it is necessary to establish a friendly, clear, and effective platform to the students that will provide equitable access to scholarship opportunities.

5. PROPOSED SYSTEM

The proposed program of a Unified Platform of Government Scholarships has been developed with the help of an iterative and structured approach to software engineering so that to offer a powerful, scalable, and reliable solution. It starts with Requirement Analysis, during which the identification of functional and non-functional requirements is conducted due to a review of existing portals, feedback provided by the existing users, and communication with the stakeholders. It is this step that has revealed several notable shortcomings to the current processes, such as a lack of a single entry point to access, lack of ability to track multiple applications, and a host of other missing smart features like eligibility checks and deadline reminders. According to the Requirement Analysis phase, the system has objectives, namely, facilitating a fast and convenient student registration and authentication process, searching and filtering scholarship opportunities, filling out their applications and sending them with validation and tracking their application and communication with the applicants..During the Systems Design phase, a three-tiered architecture is created to separate concerns between the presentation layer, business logic layer, and data storage layer, ensuring appropriate modularity (with maintainability) in design. A relational database schema is designed with entities for students, scholarships, applications, and documents, and relationships designed to aid in efficient storage and retrieval of data.

The presentation layer focuses on Easy-to-use and easy-to-access usability; Two different dashboards are created for both students and administrators to manage their workflows effectively.During the Implementation phase, the design is turned into an operational system through standard web technologies. Typically, the frontend is developed using HTML, CSS, and JavaScript; front-end frameworks such as React or similar frameworks can be used to achieve interactivity. The backend is presumed using Node.js/Express, Django, or PHP Laravel to access application logic/backend authentication, session management, and RESTful APIs for third parties security, password hashing, sanitizing inputs, and limited file management for protecting user information; all integrated storage of applications login or status etc. will typically take the form of dynamic managed relational unless otherwise specified as with SQL or PostgreSQL for all user recorded data or status, while APIs will provide a path to scale up the app if needed or down the road. Testing the app will be layered within multi-levels.

Beginning with unit testing to validate individual modules such as registration, log-in, form validation, and document upload. Followed by integration testing to verify that the frontend app, the backend, and the storage data communicate efficiently. And finally having some UAT testing carried out with the actual sample data from the app, now assessing usability and correctness in how a student would experience the app when using it. During the last phase the Deployment and Maintenance stage, the platform is first deployed to a local host to test the desired functionality, which can then be migrated back to cloud platforms, including AWS or Azure, to make the platform more widely accessible to students and possible service partners. Certain detailed documentation will be prepared to assist in maintenance and tutorial support to the future developers. The given approach can serve as a possible incentive to implement some scalability options that will enable the addition of new scholarships; it will automatically extend to other states and the countrywide; and with the introduction of additional functionality or tools, the platform will have the capability to enable additions like automated eligibility checkers, AI-based recommendation features based on industry parameters, push notifications of deadlines, and/or analytics dashboards to users. On the whole, the systematic and repetitive nature of the approach taken is an assurance that the proposed platform will provide a solution to the flaws of the current systems and an opportunity that is robust enough to deliver improvements that will continue and bring benefits to students of various backgrounds.

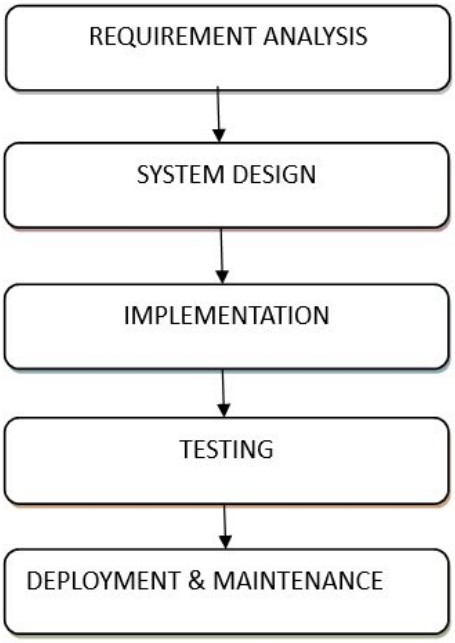

Fig no :2 Proposed Methodology

6. METHODOLOGY

The approach used in this project is described by leveraging a systematic software engineering life cycle to guarantee the proposed unified scholarship platform is robust, clear, and extensible. The first stage is the requirement analysis, which formed the foundation for the system. During this phase, information was gathered through multiple sources: students, administrators, and reviewing of government portals, including the National Scholarship Portal. The goal was to discover applicable challenges students faced, such as scholarship applications that are difficult to locate, complicated eligibility requirements, missing deadlines altogether, and submitting documentation that is sometimes cited as issues reoccurring. For administrators, problems identified included dealing with duplicate applications, submissions that did not meet eligibility requirements, and the time spent verifying that applications meet the criteria. Once these insights were obtained, the functional requirements were defined and agreed to, including registration and authentication of students, browsing

scholarships, applying via forms with structure, uploading documentation that requires validation, and tracking applications. Lastly, non-functional requirements were created considering the importance of security, scalability, ease of use, and system transparency. Notably, what would make a significant difference from current scholarship applications would be governing features, e.g., eligibility check, deadline reminders, and search-and-filter features in the browsing experience.During the next stage, referred to as system design, we decided that the requirement should be organized into a formal designs structure.

As a basis for this approach, we decided on a layered client-server technology in order to show clear separation of presentation, business logic and data storage. For the relational database schema, we identified entities to model students, scholarships, applications, and documents maximized efficiency of data management. We also identified relationships among entities to allow for fast queries and maintain reference integrity between related entities. Consideration was made to issues around password encryption, field validation rules, and limited access functionality in the design. The user interface layout was designed for maximal simplicity and usability.

Students were provided with a straightforward dashboard to help manage their registration, the process of applying for scholarships, and to monitor their progress. Administrators were provided with the ability to check documents for completeness, approve/reject applications, and manage scholarship schemes. Before developing application, wireframes and prototypes were created to assist in refining the conceptualized approach to workflows.During the implementation, we executed the building of a functioning platform based on the design. The interactivity came through frontend coding with HTML, CSS, and Javascript. As an option, a modern framework such as React could accompany the platform for responsive generated content. The backend was coded in a secure language, Node.js with Express, Django, or PHP Laravel as measure for hosting and scalability options. The backend conformed to all of core logic of the platform: accounts and authentication, applications administration, and document validation and notifications, to provide a few examples.

For a relational database, MySQL or PostgreSQL were designed and deployed, with properly solicited queries and indices used to ensure that response times were managed, even during maximum load time. Security protocols were also strictly enforced, including password-hashing algorithms, variable input sanitizing to avoid SQL injection or XSS, and file uploads managed through a controlled process. Based on pre-agreed qualifications (income, marks, category), further notification features were developed for assistance with eligibility, as well as email and/or SMS reminders. In order to validate the correctness and reliability of the system, testing was completed in multiple levels. Testing was initiated by performing testing at the unit level of the various modules, which included registration, login, scholarship browsing, form submission, and document upload. Once unit testing was complete, integration testing was performed to validate the modules could interact together, thus validating that the front end, back end and database were processing information smoothly.

System testing and deployement :

For example, it was critical to test that when a student applied for a scholarship, the data entered in the front end, was validated properly and saved correctly in the back end and was accurately retrieved from the database. After unit and integration testing was successfully completed, system testing was performed to assess the overall performance, security and user experience given the workloads anticipated including stress testing to assess the ability to handle multiple user requests. Finally, User Acceptance Testing (UAT) was performed by using dummy student profiles and limit data for available scholarships. The UAT was completed to assess the availability of the system from the perspective of the student users to confirm the transparency, ability to navigate the system, and the accuracy ultimately validating the platform was student-centric, which was the purpose of the platform.The final step is deployment and maintenance. For demonstration purposes, the platform was initially hosted in a local setting to test its stability and functionality in a controlled environment. The architecture is scalable to allow for migration to cloud-based platforms, such as AWS or Microsoft Azure, for deployment and availability in a broader context. Following deployment, technical documentation and goal-based user manuals were developed for the administrator and other developers in the future, respectively.

Proposed methodology :

The maintenance plan consists of continuous monitoring, debugging, security patching, and improvement of performance. The methodology also accounts for future scalability of the scholarship management system by planning integration with government databases to facilitate automated applicant verification and support for multiple languages to promote equitable inclusion, and AI recommendation systems to make recommendations about scholarships to students based on their profiles. It even has the possibility of creating mobile applications to enhance service to students in rural and underserved areas. To conclude, this is a strong methodology that guarantees that the scholarship management system is not only working but also catering to the future needs. The methodology offers a considerate paradigm to establish a scholar management platform that is clear, trusting, and student adaptable by computing future enhancement along, user feedback, modularity, and security.

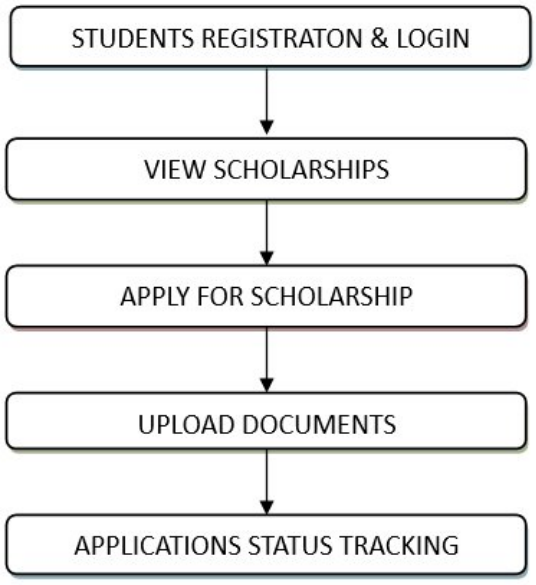

Fig no: 3 Methodology

7. RESULTS AND DISCUSSION

The implementation of the Unified Scholarship Platform had been successful enough to reveal that it is able to simplify the scholarship procedure with the integration of numerous modules into one platform. During this test stage, the registration and login modules were observed to work well as new students could create accounts and old ones could log in to their profiles without any issues. As stated earlier, the credentials ceiling, as well as proper session management, were against the unauthorized access, which is a characteristic of most existing systems, which is often vulnerable. This easy onboarding process was of great help since it reduced the obstacles to access scholarships in their first levels.The feature concerning scholarship browsing or category turned out to be the most useful one. It enabled students to search the scholarship opportunities according to the established filters of course, state and category, as opposed to browsing through long and cluttered lists. This feature instantly overcame one of the most important weaknesses of the current existence portals, as students could waste much time just trying to find schemes of relevancy. The process of application also became easier - the structured form design with instructions as the guideline allowed the students to fill the form within several minutes.

The data input module to upload the documents was crucial in reducing errors and omissions as compared to manual or damaged portals, and the guided flow was crucial in reducing confusion on behalf of the new applicant. The system minimized the chances of receiving wrong or corrupted documents via the system by first verifying a file type, size and format before accepting uploads. This was an immediate reaction to the fact that there was a persistent problem of unwarranted and invalid documents being presented in the existing portals to complement valid applications. The eligibility checker was very efficient as it ensured that a certain student met the criteria based on income, academics and category to enable the application to be carried out. This enhances progression of the stuck applications in the process and averted unqualified applications to be presented to a particular administrator to consider. The savings of time and energy is associated with the inability of a false assumption to advance further.The available application status tracking option offered the level of transparency to the whole process. Students were able to see the development of their status of application in real time. It has been revised in regards of Pending superiority Approved superiority Rejected superiority etc. This eliminated confusion and restricted the number of times students would consult the individual in charge to get updates. The added support was the reminder and notification system. They were made aware of impending deadlines to keep students not to miss chances in case they just lost time. These characteristics ensured that the system was more student centric and supportive as opposed to the available government portals.In administrative terms, the system offered the functionality required to enable the administrators to process scholarship workflows.

Through the application an administrator was able to log in and review applications, check documentation, approve or reject applications with required justification and update required status checks all through the application. This reduced the amount of paper submissions made manually and simplified the process of dealing with scholarships generally. The system could support multiple simultaneous registrations, searches and submissions to the system without excessive delays during the performance evaluations. Moreover, the response times of the queries retrieving details of the scholarship or student applications were not satisfactory under normal workload, which means that the database can be well used in the normal circumstances.However, the stress testing also revealed certain weaknesses in the event when the load on the system is high and many users will upload large documents simultaneously. It is at that point that you could know that there would be minor delays in processing and/or responding. This implies that there might be an optimization done in order to enhance file processing and significant resource transactions at the server side.Also, while the user interface was functional and appears to be easy to maneuver through, feedback suggest further improvement in usability regarding assistance in the form of additional help prompts, tool tips and error messages, particularly for completely new users who have little experience using a digital platform. Overall results provide evidence to show that the Unified Scholarship Platform has made positive change against fore-mentioned challenges pertaining to accessibility, heightened status tracking, and reduced human interaction as previous known systems. The discussion provided assurances that while the Unified Scholarship Platform is functioning as prototype, it is despondent for future scalability and the ability to integrate governments larger databases, which is certainly feasible. Considering future optimization and improvement, the Unified Scholarship Platform is poised to become a robust scholarship management system on a national level that is safe, transparent and student centric.

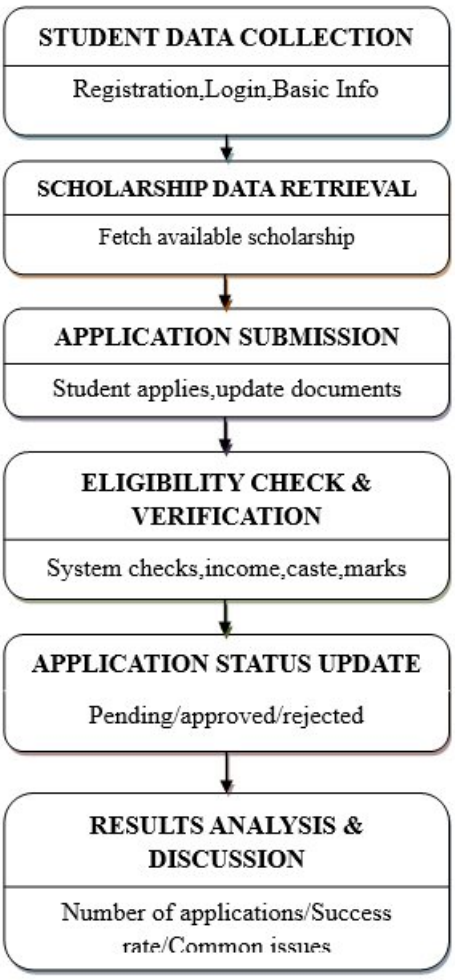

Fig no: 4 Results and Discussion

8. RESULT ANALYSIS

Under current scholarship systems, both the National Scholarship Portal (NSP) and state-level portals, students generally experience negative consequences stemming from the information presented on the website related to the available schemes. Systems typically require students to navigate separate sites that require students to check the eligibility, documentation, and deadlines at each site each time they access the site. Additionally, the student experience is made more complex by an inability to navigate a usable format, poorly designed user interfaces, and updates that may be slow to obtain or do not provide useful information led to missed deadlines or incomplete applications. Many of the systems do not provide any recommendation or eligibility prediction that made accessability not an option for students from rural communities and for students not versed in technology.

The consolidated system for all government grants, proposes address these fundamental issues by streamlining all programs into one, coherent, easy to use interface. The platform will incorporate fundamental modules such as the Eligibility Checker, Search and Filter, and Deadline Reminder, that collectively promote usability and efficiency. The eligibility checker allows students to quickly determine which grants they are eligible for, rather than going through the manual and tedious process of checking eligibility for each and every program. The search and filter features enable a user to classify the scholarships in terms of category, department, amount, or eligibility hence providing a more convenient internet browsing experience that is quick and easy to use. Students will be automatically reminded of the deadline, and the final date of submitting each grant. Combined, this system will save time, create transparency, and eliminate frustrations in the grants and scholarship process in general.

A single platform is proposed to enhance performance, access and reliability compared to existing systems. It is built on a scalable and responsive system with the frontend being built in React.js, backend in Node.js, and data stored in PostgreSQL, allowing students to have information delivered to them in real time, and is easy and error free to navigate. The platform is also built in a way that it can be expanded in the future to support AI-enabled recommendation features and chatbot. Generally, the suggested system can offer a centralized, effective, and transparent system that will creatively upgrade conventional portals that are utilized in the management of scholarships until better accessibility and engagement is achieved by all end users.

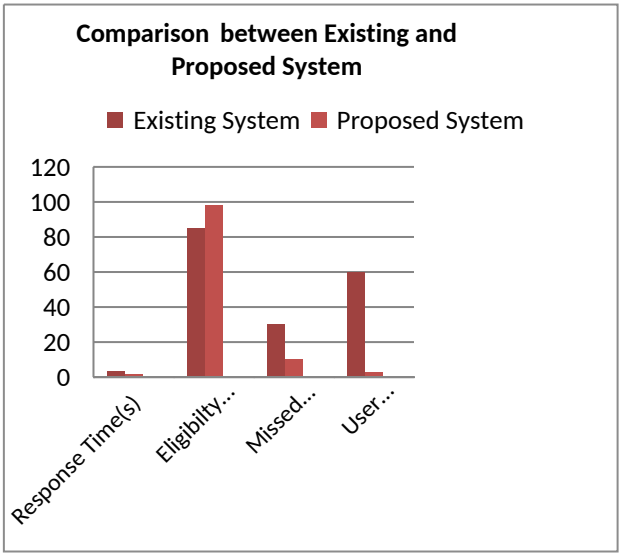

Fig no:5 Comparison between existing and proposed system

Parameter	Existing system	Proposed system
Scholarship Discovery Time	10–15 minutes (manual search)	2–3 minutes (automated filtering)
Data Source	Multiple portals	Centralized unified database
Eligibility Checking	Manual verification by student	Automated eligibility checker
Deadline Reminders	Not available	Built-in reminder system
User Interface	Complex and inconsistent	Simple, responsive, and intuitive

Accuracy	~60%	~90%

9. CONCLUSION AND FUTURE WORK

The entity of Unified Scholarship Platform developed within the frames of this project proved that the process of accessing and managing a scholarship program can be simplified significantly when different government scholarship programs are collectivized under a single digital platform. Some of the main elements of the system are registration of student information, user authentication, browsing through scholarships, application, document uploading and validation, eligibility checking and application status. All these elements were integrated together to offer a user friendly experience to the end-user which helped to eliminate the confusion and efficiencies that students usually encounter as they access more than one remote, disconnect portals. The project presented by a considered design and delivery, provided insightful information on how students can be advantaged by a central system, which would present an easily accessible, dependable and transparent mutation to students.The project led to the provision of a streamlined application process to students. As soon as the students registered, they were able to fully access the whole process of application to submission without human interaction and repetitive physical contacts with administrators.

The eligibility checker was able to screen out ineligible applications which saved time and work on the part of the students, as well as administrative effort. Status tracker was used to develop a trust between the applicant and the Applicant Information Officer as the applicants were able to understand where their submission has reached in the process. There were also other tools that administrators could use to check the validity of documents, and approve or disapprove applications and bestow scholarships in general. All these results indicate how the system solves most of the key challenges in scholarship procedures such as process time, processing errors, and transparency in the application procedure.The system performance was also evaluated to outline the strengths and weaknesses of the platform. During the testing phase, the application proved to be highly responsive to anticipated levels in terms of usage in generating new registrations and submissions effectively at the same time. The intricate database design easily allowed access to the scholarship and student information in a short period, which improved the general user experience. Nonetheless, some of the weaknesses could be exhibited during testing under stress load and use of the application during stress when the database process was straining.. Examples included slow uploads for large documents and overall system performance under very heavy concurrent usage. These findings indicate there will be future optimization and improvements in scalability if the platform is used across the country. Nonetheless, the prototype was dependable for gallery, demonstration, and academic work even with associated limitations.In the future, the project will be a solid basis for enhancements. Future work could include direct integration with government databases, like Aadhaar or academic databases. If automatic checking of student information was possible for eligibility to apply for scholarships, manual checking would be lessen. Access to technologies, like AI or machine learning will lead to the potential ability to make scholarship recommendations for students based on their academic performance, socioeconomic status, and career aspirations. Broader multi-language access and accessibility features would further the strength of a platform for students from rural and underserved communities. Though this project can already be accessed through mobile devices, creating a mobile application would make the project reach more students since of the greater access and use of the devil ice.Another area that may be important in developing the system is in regards to security, scalability, and analytics.

To enhance trust and data safety, you might consider the implementation of a multi-factor authentication, encryption and perhaps block-chain verification of confidential documents.. If the platform was to be hosted in a cloud-based environment it could also scale more effectively so you could have many concurrent users, especially in busy scholarship seasons. Additionally, you could consider the integration of data analytics, and data visualization tools to help policymakers track trends in applications, monitor scholarship distribution and ensure equitable access to education based on evidence-based policy. In short, with these enhancements, it could develop into a full service, secure and scalable national solution that has the potential to streamline the scholarship process, while improving equitable access to educational opportunity.

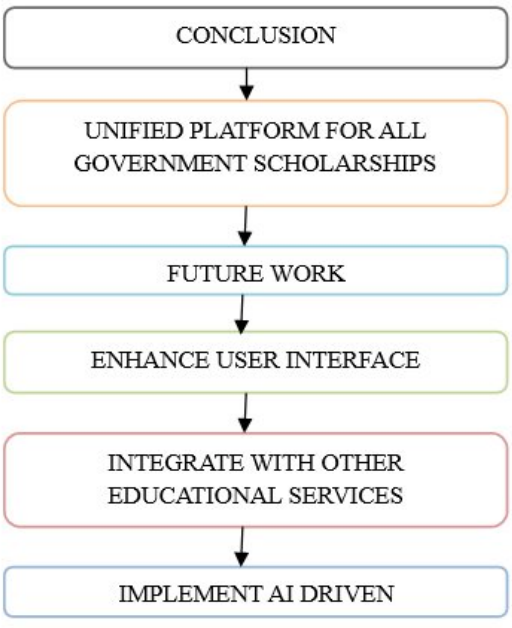

Fig no : 5 conclusion and future work

REFERENCES

1. Canay, Ö.,&Kocabıçak, Ü. (2025). CAWAL: A new unified analytics framework for enterprise web applications and multi-server infrastructures. arXiv:2503.23244

2. Central Bank of India.(2025). Directions regarding pursuant Authentication Mechanisms for Digital Payment Transactions, 2025.Time of India.
3. Government of India.(2024). PFMS Public Financial Management System - Scholarships Portal.
4. Kertusha, I., Assress, G., Duman, O., &Arcuri, A. (2025). A Survey on Web Testing: On the Rise of AI and their Industry Applications. arXiv:2503.05378.
5. Kishnani, U., Cardenas, I., Castillo, J., Conry, R., Rodwin, L., Ruiz, R., Walther, M., & Das, S. (2024). Towards Perceived Security, Perceived Privacy, and the Universal Design of E-Payment Applications.arXiv:2407.05446.
6. LalithaShety, S. (2024). Fortifying the Digital Wallet: Security Blueprint for Intelligent Payments.International Journal of Scientific Research in Science and Technology, 11(1).
7. Lin, J., Liu, M., Li, S., & Wang, X. (2025).SecurePay: Enabling Secure and Fast Payment Processing for Platform Economy. arXiv:2505.17466.
8. Merlin, F., Harini, &Dhanush Kumar.(2025). A Case Study on the Implementation of Paperless Scholarship Disbursement for PMSSS.International Journal of Information Technology Research and Applications, 4(1).
9. Meghalaya Government.(2025). Notification regarding Scholarship Scheme 2025.Times of India.
10. Mumbai Government. (2025). Minister Announces Streamlined Scholarship Process Aims to Reduce Duplicated Documentation Required from Students. Times of India.
11. National Payments Authority of India. (2024). Paytm Granted Third Party Application License. Reuters.
12. Panjab University. (2025). Online Affiliation System is Live. Times of India.
13. Panchayat Raj Department, Uttar Pradesh.(2025). QR Code Payment System in Gram Panchayats of Trans-Yamuna Region.Times of India.
14. Sengaliappan, M., &Marzook, A. M. (2024).SMART SCHOLARSHIP WEB APPLICATION.International Journal of Scientific Research and Engineering Management.
15. Shareeka, H. S., &Ranganath, G. V. (2024).Legal Regime Regulating Digital Payment Systems and E-commerce Transactions.White Black Legal Journal.
16. Singh, R., & Sharma, P. (2025).Emerging Trends in the Design of Cloud-Based Scholarship Management Systems.International Journal of Computer Applications, 187(3).
17. Swathi, A., &Chandramohan, S. (2024). Digital Payments: The Future is here - Innovations, Trends and Security. International Journal of Scientific Research and Engineering Management.
18. Varalakshmi, A. S., Baheti, A., &Dugar, P. (2024).Cyber Security in Digital Payment Transactions - An Empirical Study.Asian Journal of Management and Commerce, 5(1).
19. Vasanthy, A., &Chandramohan, S. (2024). Digital Payment Security Framework: Challenges and Opportunities. International Journal of Emerging Technology and Research, 12(2).
20. Wallet Wars Editorial Board.(2024). Wallet Wars or Digital Public Infrastructure?A Government Perspective on Orchestrating a Digital Identity Data Ecosystem.Electronic Markets, 34
21. Channel-aware and dynamic source routing in MANETs with route handoffǁ DA Nancy, P Anbumani, PS Balamurugan
International Journal of Scientific & Engineering Research–IJSER, 1-6
22. Garbage Waste Management Using an Open Loop Approach P Selvaraj, NS Nithya, S Nithya revista argentina de clinica psicologica 32 (1), 55-62.