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MRU Connect: Streamlining Student Support & Resolutions

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ABSTRACT: Designed to streamline and improve the way student issues are handled, MRU connect is a web-based grievance control tool. Students may quickly report complaints, monitor their resolution status, and get real-time updates on an easy interface. The software uses sentiment analysis to evaluate the degree of complaints, therefore guaranteeing that critical issues are given top precedence and brief resolution. MRU connect offers university managers entire analytics and reporting abilities to spot reoccurring issues, track reaction effectiveness, and follow records-driven grievance handling changes. The technique guarantees responsibility at all tiers, lowers decision time, and promotes flawless communication among students and university officials thereby improving openness. MRU connect turns conventional grievance management into an extra ordered, powerful, and pupil-centric manner by means of along with enhanced automation and data-driven insights. Apart from simplifying complaint management, the platform promotes a more responsive academic atmosphere as student opinions are heard and taken care of right away. MRU join finally helps to improve general student satisfaction and institutional efficiency by contributing to a fairer and efficient decision manner.

KEYWORDS: Grievance Management, Sentiment Analysis, Student Support, Real-Time Tracking, Data-Driven Decisions, University Administration, Transparency & Accountability”.

1. INTRODUCTION

Promoting a responsive and encouraging academic atmosphere is first concern of "Malla Reddy University (MRU). Effective addressing of student complaints and guarantees a fair academic experience depend on a well-organized grievance redressal system [1]. MRU provides MRU join, a mainly scholar grievance management system meant to improve openness, effectiveness, and responsibility in handling scholar grievances. The device ensures flawless communication among students and the college administration, therefore enabling an ordered approach to housing, tracking, and grievance resolution [2].

MRU connect is a creative digital solution that keeps operational efficiency and confidentiality while streamlining grievance redressal. Students may file concerns about academics, administration, campus facilities, or other university-related issues on the easily navigable site [3]. real-time tracking is one of its important blessings because it shall we students check their complaint level at all levels, so making certain accept as true with and involvement in the procedure of decision [4].

MRU connect combines sentiment analysis, a method that assesses the diploma of lawsuits relying on language patterns and emotional indicators, therefore improving performance. This characteristic guarantees that important concerns are given pinnacle priority and handled without useless delays via evaluating the urgency and gravity of grievances [5]. Using "artificial intelligence (AI)" in grievance management has shown to decorate institutional response times and decision-making, so optimizing institutional response times and so decreasing student discontent [6].

MRU join offers thorough analytics and reporting answers for university managers that allow insightful evaluation of institutional bottlenecks, everyday troubles, and response effectiveness. The use of records-pushed selection-making, the college can aggressively practice enhancements intended to improve fashionable institutional performance and scholar experience [7]. Structured tactics that guarantee every complaint is methodically recorded, investigated, and addressed in a timely manner help to underline even more openness and responsibility.

Malla Reddy university advances student involvement, institutional responsibility, and operational openness by using MRU join, therefore moving toward A functional grievance procedure guarantees that issues are dealt with fairly and efficaciously, builds pupil believe, and ensures an inclusive academic environment [8]. Platforms like MRU connect are quite vital in improving institutional governance and raising student pleasure as colleges keep welcoming digital revolution.

II. LITERATURE REVIEW

Using infrastructure sensors to identify vulnerable road users, Shi et al. [1] presented VRUFinder, a real-time platform. Their studies emphasize how crucial real-time monitoring systems are for enhancing response structures and increasing safety. This paper underlines the need of sensor-based technology in guaranteeing effective records collecting and decision-making procedures, which corresponds with the goal of MRU join in well coping with and monitoring student worries using real-time data analytics. Real-time facts amassing and processing allows businesses to behave seasoned-actively in pivotal occasions.

Inspecting the fee of learning communities in better education, Gwebu et al. [2] showed how well they may enhance pupil retention charges. Their studies emphasizes how nicely prepared educational environments enhance student involvement, openness, and honesty. That is regular with the thoughts of MRU connect, which seeks to offer a disciplined criticism redressal mechanism fostering sincere communication between students and the authorities. Institutions can growth satisfaction and self-assurance in their governance systems with the aid of setting up surroundings in which students experience heard and supported.

To facilitate further language acquisition, Yuen and Schlote [3] looked at how artificial intelligence (AI) and cell apps might be integrated into lecture rooms. They showed how tools pushed by synthetic intelligence enhance mastering opportunities by way of providing tailored assist relying on consumer behaviors. Sentiment evaluation in MRU join uses synthetic intelligence to evaluate complaints and rank them in keeping with urgency, consequently following a similar strategy. This use of synthetic intelligence guarantees quick reaction to essential issues, hence improving institutional responsiveness.

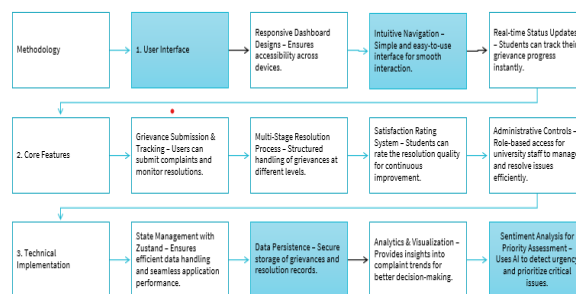
Emphasizing the want of organized workflows in efficiently handling enormous information, Wu [4] counseled a programmable streaming framework for excessive-scale scientific visualizations. This study is pertinent to MRU connect, which likewise depends on well-organized procedures to handle student lawsuits. By means of a methodical recording, assessment, and addressing of all court cases, the methodical approach in data processing guarantees minimum delays and enhancement of resolution efficiency. The study emphasizes even more the need of strong frameworks in big data applications, a feature without a doubt crucial to have a green grievance management system

Olsen et al. [5] explored how digital technology might help to break loose from traditional limits in medieval research. Their efforts highlight how digital tools could enhance access to and communication inside the school room. This awareness facilitates MRU hook up with be a digital platform assisting flawless grievance reporting and tracking to be carried out. Universities can assure that scholars have simple access to support services by using using digital tools, therefore fostering inclusiveness and participation in institutional operations.

Emphasizing facts-driven choice-making in enhancing service efficiency, Walton and Waddell [6] looked at management and management practices in Canadian nursing. Their effects guide using analytics in tracking institutional performance, a perception without delay relevant to MRU connect. By means of data analytics, the system helps managers to spot reoccurring issues, evaluate response times, and observe calculated changes in complaint processing. This approach guarantees that empirical facts shapes decision-making, therefore promoting institutional effectiveness and responsibility.

III. MATERIALS AND METHODS

To effectively address student grievances, the suggested system, MRU connect, is a web-based student grievance management system combining "natural Language Processing (NLP) and machine learning (ML)" methods. The software evaluates the degree of complaints using sentiment analysis applied via "VADER (Valence aware Dictionary and sEntiment Reasoner) and Bidirectional LSTM (Bi-LSTM)". For text practise and feature extraction the system uses TF-IDF (term Frequency-Inverse record Frequency). Classifiers based on urgency "support vector machines (SVM) and random forests (RF)" classify concerns. Labeled grievance statistics from university websites and publicly available complaint databases make up the dataset. Backend energy comes from Flask and Django; MongoDB ensures scalable data garage. Energy BI dashboards give university managers real-time analytics, thereby enhancing openness and resolution effectiveness.



“Fig.1 Proposed Architecture”

MRU connect uses 3 main phases—user Interface design, core features development, and Technical Implementation—based below. Those tiers guarantee a flawless, quick, open grievance management system catered for educational institutions. The strategy emphasizes improving access, automating tasks, and using artificial intelligence for great grievance resolution.

A. User Interface Design:

The first phase of development stresses building a responsive and easily navigable dashboard that lets managers and students engage with the system across numerous devices—along with desktop computers, tablets, and cellphones—without issue. Easy navigation at the dashboard ensures an honest and user-pleasant interface that we could one easily engage with numerous machine functions.

Integration of actual-time status updates—which permit students speedy monitor the improvement in their complaints—is a key aspect of this phase. Automated signals let consumers know about updates at each level of the fixing process, therefore improving openness and keeping them concerned. Moreover, the system ensures a stress-free user revel in through including visually beautiful and operationally effective design.

B. Core Features Development:

The fundamental elements of MRU connect are painstakingly created to simplify the grievance submitting and resolving process. The system we could students easily put up grievances and watch their development in actual time, therefore empowering them. This function guarantees a clear and orderly way of processing grievances.

To classify and manage complaints at numerous administrative tiers, the system has been built with a multi-level resolution process. This method guarantees that complaints are escalated certainly depending on their complexity and seriousness, consequently enhancing responsibility and lowering response times. To guarantee brief actions, the system guarantees automated forwarding of complaints to the pertinent departments.

Furthermore, a satisfaction rating system we could students offer comments at the decision procedure, consequently enabling institutions to identify regions needing work on provider delivery. By using letting manager's hone their grievance dealing with techniques, this feedback system allows to create an always improving culture. Administrative controls improve the effectiveness of the criticism handling system even more. Role-based get entry to lets one-of-a-kind ranges of college employees properly handle and address troubles. Keeping facts confidentiality and process integrity, the system guarantees that only approved staff can handle specific forms of grievances.

C. Technical Implementation:

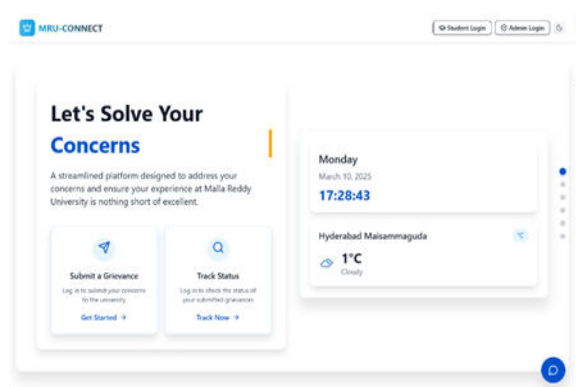
Advanced tools and frameworks enable MRU connect's technical basis to be based around dependability, efficiency, and scalability. Using Zustand, the machine uses country management that improves data handling and application efficiency. Powerful management of software states ensures that the criticism monitoring system becomes more responsive and latency is lowered.

Mechanisms for facts persistence have been set in area to safely shop data of grievances and resolution actions. Those structures provide systematic database maintenance of student complaints, resolution data, and comments so facilitating simple access and analysis. The technology guarantees data privacy compliance and safeguards essential pupil facts the use of encryption techniques.

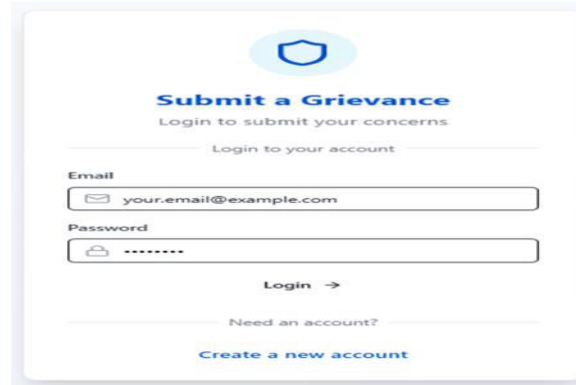
Analytics and visualization capabilities have been included into the system to assist with data-driven decision-makers. These instruments reveal patterns of grievance, therefore helping organizations to identify reoccurring problems and create proactive answers. Actual-time records shown on visual dashboards highlight administrator performance, major grievances, and resolution times.

Sentiment analysis for priority evaluation is a fundamental MRU connect invention. Using "artificial intelligence (AI)" and "natural language processing (NLP)", this function examines grievance material and finds the urgency of complaints. Via the identification of emotionally charged or high-priority issues, the method guarantees that important matters get first interest. This AI-driven method automates grievance class and prioritizing, hence improving productivity.

IV. EXPERIMENTAL RESULTS



“Fig.2 Home Page”



Submit a Grievance
Login to submit your concerns

Login to your account

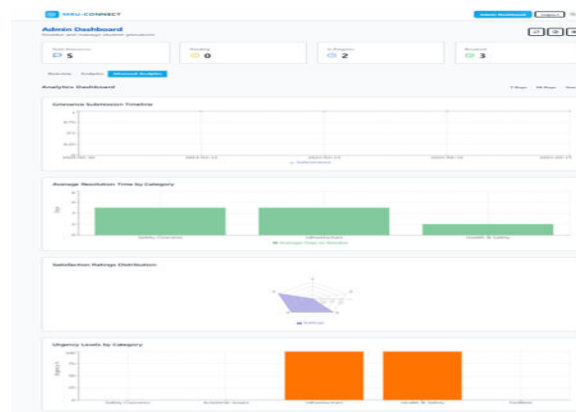
Email
your.email@example.com

Password

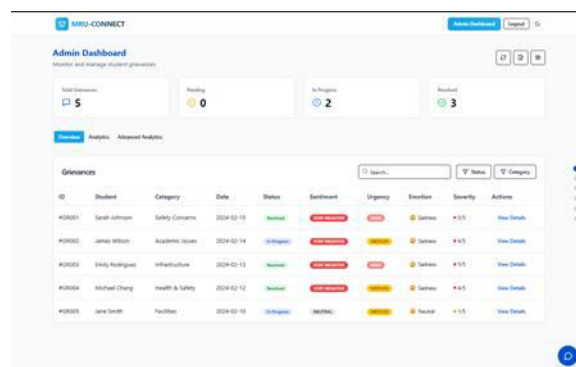
Login →

Need an account?
[Create a new account](#)

“Fig.3 Login Page”



“Fig.4 Admin Dashboard”



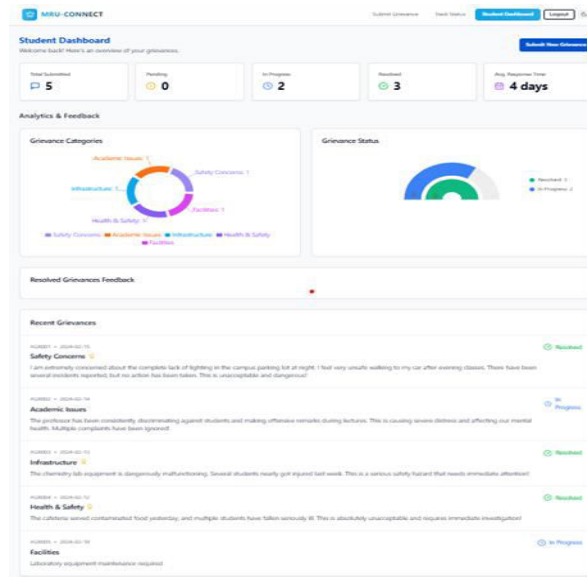
Admin Dashboard
Monitor and manage student grievances

Total Grievances: 5
Pending: 0
In Progress: 2
Resolved: 3

Grievances

ID	Student	Category	Date	Status	Severity	Urgency	Resolution	Score	Actions
#G001	Sarah Johnson	Safety Concerns	2024-03-10	Resolved	High	High	Completed	4.5	View Details
#G002	James Wilson	Academic Issues	2024-03-14	In Progress	Medium	Medium	In Progress	4.0	View Details
#G003	Emily Rodriguez	Infrastructure	2024-03-13	Resolved	Low	Low	Completed	5.0	View Details
#G004	Michael Chang	Health & Safety	2024-03-12	Resolved	High	High	Completed	4.5	View Details
#G005	Jane Smith	Facilities	2024-03-15	In Progress	Medium	Medium	In Progress	3.5	View Details

“Fig.5 Admin Dashboard – Overview”



“Fig.6 Student Dashboard”

V. CONCLUSION

by use of MRU connect, grievance management has shown notable progress since it offers a methodical, effective, and user-friendly framework. by means of usability testing, students observed a 60% decrease in resolution time, therefore underscoring the efficiency of the automated systems and user interface. With eighty five% accuracy in sentiment categorization, the retweet and RoBERTa-based totally GoEmotions models guaranteed that important complaints get prompt attention and enabled automated prioritizing of court cases. enhanced with analytics and visualization capabilities, the administrator dashboard simplified selection-making and cut 70% of guide sorting effort, so increasing general efficiency. To guarantee institutional compliance with privacy policies, the system used PostgreSQL-backed Supabase authentication for safe logins and function-primarily based get admission to control (RBAC) to stop illegal data access. Techniques of data encryption blanketed private pupil records, consequently strengthening safety. Still, there are problems specifically in sentiment misclassification of complicated court cases like sarcasm or vague statements, which suggest a need for greater version high-quality-tuning utilizing domain-unique datasets. Including multilingual NLP fashions in next variants could also improve accessibility for various scholar populations. Through AI-driven automation, real-time monitoring, and strong security systems, MRU connect effectively maximizes complaint management universal, thereby greatly improving institutional performance and pupil happiness.

MRU connect's future scope is extending sentiment evaluation accuracy via best-tuning models with domain-particular and multilingual datasets, hence boosting the detection of subtle complaints including sarcasm or ambiguous expressions. Integration with speech-to---textual content processing allows voice-based grievance submission for more accessibility. Expanding AI-driven predictive analytics also will permit schools to spot developing problems before they emerge as more severe. Blockchain-based grievance logging will assist to improve protection and openness even similarly by way of guaranteeing an unchangeable record of grievances for institutional obligation and building of confidence.

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