MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(Deemed to be University)
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A Report on "SPARK 2K26"

Organized by Department of CSE-Artificial Intelligence & Machine Learning on 18.02.2026

Report submitted by: Mrs. R. Usha, Assistant Professor, Department of CSE (AI and ML)
Reviewed by: Dr. Anantha Raman L, Assistant Professor, Department of Mechanical Engineering; Mr. G. R. Hemanth Kumar, Assistant Technology Officer, MITS.
Participants: 36
Venue: NPN 203
Mode of Conduct: Offline
Report Received on 24.02.2026.

Welcome Address

Mrs. R. Usha, Assistant Professor, Department of Computer Science and Engineering (Artificial Intelligence and Machine Learning), Madanapalle Institute of Technology & Science (MITS), Deemed to be University, Madanapalle, delivered the welcome address for the technical event **"SPARK 2K26."** She warmly welcomed the reviewers, faculty members, and students, and expressed her pleasure in organizing a platform that showcases innovative student projects through live demonstrations.

In her address, she highlighted that the objective of SPARK 2K26 was to provide students with an opportunity to present practical software solutions to real-world administrative challenges. She emphasized the importance of experiential learning, innovation and thinking in today's technological era, and encouraged students to utilize such platforms to strengthen their technical knowledge, presentation skills, and confidence.

Keynote Address

The keynote address was delivered by the reviewing panel, who appreciated the efforts of the students in developing practical and impactful applications. They emphasized that technical events like SPARK 2K26 play a crucial role in bridging the gap between theoretical knowledge and real-world implementation. They noted that live project demonstrations reflect not only programming proficiency but also problem-solving ability, system design skills, and teamwork.
The speakers further highlighted that innovation-driven learning environments encourage students to think creatively, design scalable systems, and develop solutions that can be implemented in real institutional scenarios. They concluded by motivating students to continue refining their projects, strengthen backend logic, and focus on scalable design so their applications can evolve into fully deployable systems.

Event Proceedings

During the technical event, our batch of CSE (AI and ML) students actively presented our multidisciplinary software projects. Rather than just explaining the concepts, we focused on live executions to show exactly how these solutions address real-world administrative challenges.
Here is a brief overview of the live demonstrations we conducted for each project:

1. Permissions Management System

• **Live Execution:** As part of the project demonstration, the students presented the complete system through a live execution, enabling the audience to clearly understand the real-time working of the application.

• **Process Shown:** The demonstration commenced with the students logging into the system as a student user and submitting a new digital permission request. The interface was then switched to the Faculty and HoD dashboard views to illustrate how the system automatically generates notifications upon submission. The audience observed the workflow in action as the request was reviewed, forwarded, and finally approved. The status of the request was updated instantly on the student's dashboard, demonstrating seamless real-time synchronization.

• **Core Impact:** The project effectively showcased how the system eliminates physical paperwork, reduces manual processing, and significantly minimizes waiting time for standard academic approvals. The solution enhances transparency, efficiency, and accountability in institutional administrative processes.

2. Automated Timetable Generation System

• **Live Execution:** As part of the project demonstration, the students showcased the algorithm's capability by providing a sample set of constraints, including faculty availability, subject allocations, and classroom limitations. The inputs were configured in real time to demonstrate the system's dynamic processing capability.
• **Process Shown:** Upon initiating the process with a single command, the system efficiently processed all constraints and generated a fully conflict-free timetable grid within seconds. To further validate the reliability of the system, the students deliberately introduced a scheduling conflict by attempting to double-book a faculty member. The software immediately detected the conflict, highlighted the issue on the screen, and suggested an alternative available time slot, thereby demonstrating its intelligent constraint-handling mechanism.
• **Core Impact:** The demonstration effectively highlighted how automated constraint-solving significantly reduces the time and effort required for manual timetable preparation. The system not only enhances efficiency but also minimizes human error, ensuring accurate and optimized scheduling for academic institutions.

3. Faculty Leave Management System

• **Live Execution:** As part of the project presentation, the students demonstrated the seamless and paperless workflow involved in applying for and approving faculty leave, clearly showcasing the system's practical implementation.
• **Process Shown:** The demonstration began with the initiation of a casual leave application. Particular emphasis was placed on the "Work Adjustment" feature, wherein the applicant selected a substitute faculty member from a predefined dropdown list to ensure uninterrupted academic activities. Subsequently, the system interface was switched to the HoD's portal for approval of the request. Upon approval, the system instantly updated the applicant's leave balance on the dashboard and generated automated confirmation notifications, thereby ensuring real-time transparency and communication.
• **Core Impact:** The demonstration effectively highlighted a transparent and efficient leave management system that supports continuous academic operations while minimizing administrative delays and procedural complexities.

4. Hall Ticket Generation System

• **Live Execution:** As part of the project demonstration, the students presented the bulk-processing capability of the Hall Ticket Generation System using a mock batch of student data to simulate real-time institutional conditions.
• **Process Shown:** The generation process was initiated during the live demonstration, wherein the audience observed the system automatically cross-verifying each student's attendance records and fee payment status. Based on predefined eligibility criteria, the software accurately filtered ineligible students into a separate list while instantly generating digital hall tickets for eligible candidates. The demonstration concluded with the scanning of a QR code embedded on a live hall ticket to showcase the secure identity verification mechanism integrated within the system.
• **Core Impact:** The execution clearly demonstrated the system's ability to efficiently manage large-scale data processing, automatically enforce institutional regulations, and enhance the security and integrity of the examination process.

Reviewer Feedback and Technical Suggestions

Following the project presentations, the reviewing panel, including **Dr. Anantha Raman L**, and **Mr. Hemanth G.R**,evaluated the students' work in detail. The panel appreciated the sincere efforts taken by the students in developing practical and application-oriented solutions. They particularly commended the originality of the ideas presented and acknowledged their strong relevance in addressing real-world institutional challenges.
To further enhance the quality and scalability of the projects, the reviewers provided constructive feedback and valuable suggestions for improvement, which are summarized below:

- **Technical Implementation:** They emphasized the need to strengthen the core code and backend logic to ensure the applications run smoothly under heavier loads.

- **Data Validation:** We were advised to implement stricter data validation protocols across all forms to prevent errors and ensure database accuracy.

- **System Design & Scalability:** The reviewers highlighted the importance of focusing on system design so that these projects can be scaled into solutions with practical feasibility for campus-wide deployment.

- **Documentation & Presentation:** Finally, they encouraged us to enhance our technical documentation and continue improving our presentation skills to clearly communicate complex workflows.

Overall, the reviewers expressed satisfaction with our innovative approach and the practical exposure we gained from tackling these problems.

Vote of thanks:

The event concluded with a Vote of Thanks expressing sincere gratitude to the Management, Vice Chancellor, Registrar, Principal, Vice Principal Administration, and HoD Dr. S. Padma for their continuous support and guidance. Heartfelt thanks were extended to faculty members, and reviewers for their valuable contributions and feedback. Special appreciation was conveyed to the students for their active participation and to the organizing team and volunteers for their dedicated efforts in making the event a success.

Outcomes:

Students were able to:
• Demonstrate real-time execution of software applications
• Design practical solutions for administrative challenges
• Apply programming and system development skills
• Present technical workflows clearly to reviewers
• Collaborate effectively to complete multidisciplinary projects

UN–SDG Mapping

SDG 4 – Quality Education.
SDG 9 – Industry, Innovation and Infrastructure.
SDG 16 – Peace, Justice and Strong Institutions.