

ONLINE ASSESSMENT AND REPORT CARD FOR SCHOOL

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Abstract : Technology integration in the classroom is essential in the digital age to enhance student learning and productivity. The method presented in this abstract aims to transform the way schools now administer examinations and create report cards by utilizing an online platform. Our proposed system enables the smooth conversion of conventional paper-based surveys into an interactive, dynamic online survey environment. It has several features, including customizable exam templates, automated grading, and real-time feedback techniques. By using thorough assessments and performance metrics, the platform also helps teachers keep an eye on their students' progress and identify areas that need improvement. Furthermore, with the instantaneous updating and adjustment of personalized report cards, our system fosters transparent communication among teachers, students, and parents.

Index Term – Mongo DB, React JS, Node JS, Express JS, Online assessment, Report card, Automated grading, Real-time feedback

Introduction

There has been a rise in the use of technology to enhance teaching and learning procedures. Schools are embracing digital resources to assist a range of instructional activities, including evaluation and methodology, since the introduction of online learning platforms. One such innovation that offers more assessment, change, and access is the use of online assessments. In order to generate report cards based on student performance on these exams, this project will design an integrated system for online assessments in schools.[1] The program uses technology to address issues with conventional testing systems in an effort to enhance the review process. For teachers and pupils, traditional pen-and-paper methods can provide logistical issues such as lack of time, lack of resources, and potential for mathematical errors.

I. RELATED WORK

Systems for managing education, or LMS, have become widely utilised in educational contexts to facilitate online learning and collaboration. Online tools for grading and evaluation are available on many learning management system platforms, such as Moodle, Canvas, and Blackboard.[1] Among other forms of assessments, teachers can use this system to develop and administer online tests, assignments, and quizzes. They also provide students with the tools they need to grade and provide feedback. With the gradebook capabilities included in many LMS platforms, teachers may keep track of assignment grades, calculate overall course marks, and monitor student performance over time.

School Information System (SIS): Grades, enrolment, and attendance are just a few of the many types of student data [2] that schools manage with SISs, or student information systems. Schools can construct formal reports that showcase student success by compiling report card transcripts using modules present on many SIS platforms. A common practice in SIS systems is to link with one another in order to facilitate data sharing.[3]

AdTech businesses and startups: A rising speciality for EdTech startups and companies is developing online grading and assessment systems for educational institutions. These organisations provide [4-5] systems that

include advanced assessment features like question banking, automatic grading, and plagiarism detection, and are designed for instructors who want to teach effortlessly.

II. PROPOSED WORK

Worldwide Component for Assessment: Make sure educators can manage and create assessments with ease by offering an intuitive interface. Provide choices for adding questions, scheduling evaluations, and setting guidelines. Allow the importation of questions from other resources, such question banks. Make it possible to track ongoing assessments in real time.

Assessing and Noting: Establish systems for automatically grading questions with objectives. Provide educators with interfaces that let them manually grade and remark on any given question. Establish overall ratings based on grading standards, weighting, and assessment outcomes. Observe the unique grade information for each student. Make digital report card templates with conduct, attendance, grades, and comments areas. Using information from assessments and other sources, quickly create report cards.

Report Card Generations: Assemble information about achievements, presence, activities, and remarks into digital report card templates. Create dynamic report cards that include extra information and research findings. Create report card templates in accordance with the school's objectives and grading policies. Permit printing and exporting of newsletters in several formats. When Schools must abide by a set of guidelines when creating an online report card.

Validation: To be accredited as fulfilling educational criteria, the online assessment report card system for schools must pass rigorous testing and verification procedures. In order to identify and address any issues, the system will undergo extensive security testing to guarantee data integrity and privacy, user feedback will be collected to assess effectiveness and efficiency, and the system will be tested in real-world scenarios.

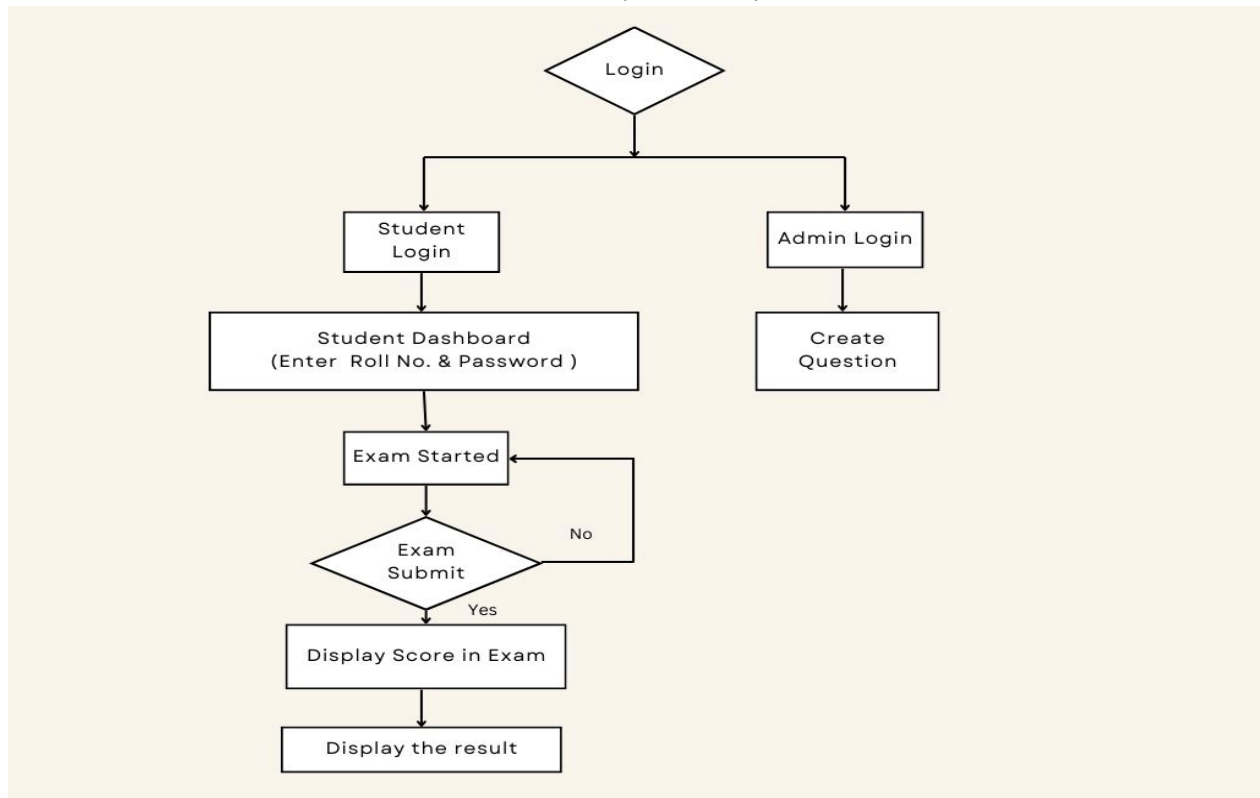
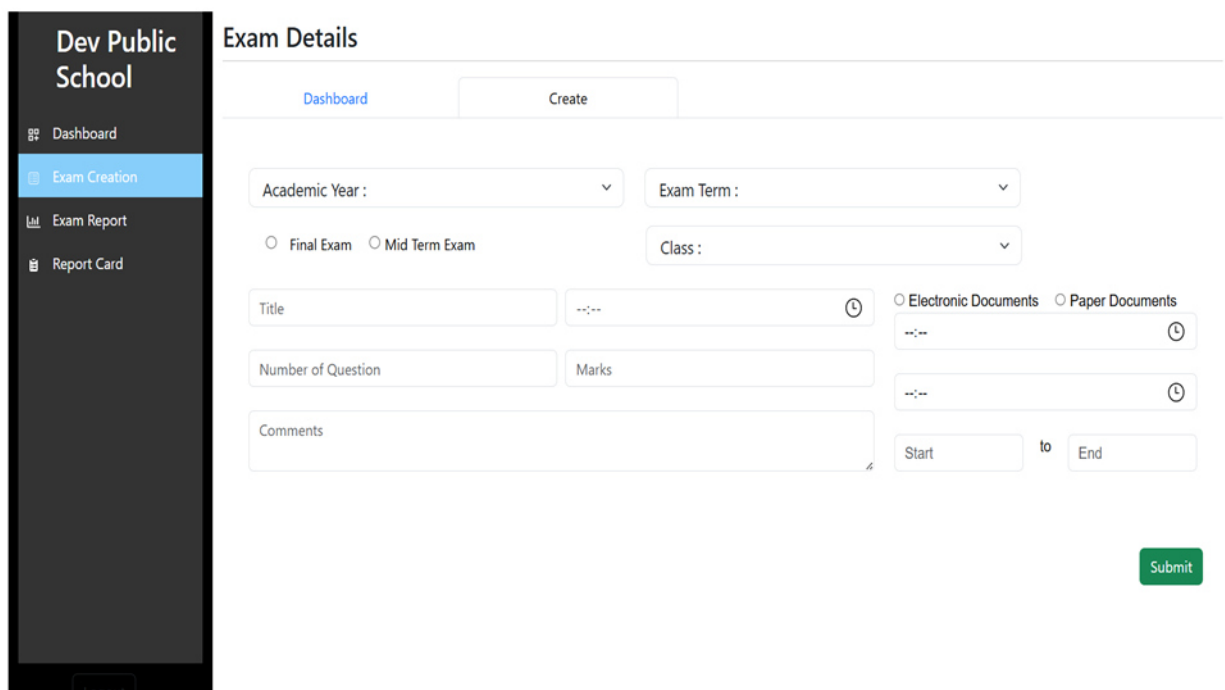


Fig 1. The Flow of Online assessment and report card for school

III. PROPOSED RESEARCH MODEL

Online tests and report card systems are necessities in today's classrooms. Determine the research question: An effective and user-friendly online assessment report card system is needed to improve teaching, learning, and communication among stakeholders (teachers, students, and parents). Evaluation of the Text: Examine the literature currently available on the effects of online assessment strategies and report card forms on students' academic performance. Analyse theories and practical instances of online surveys and feedback. The purpose of the Technology Acceptance Model (TAM) is to understand the factors that influence user approval and technology uptake. The research's objectives are: Ascertain the necessary components and features for a productive online report card and survey system. Evaluate the applicability, user satisfaction, and perceived utility of the proposed system among educators, students, and parents. Research methodology - Incorporate qualitative information from focus groups or interviews with quantitative data in your study design by using mixed methodologies.



The screenshot displays the 'Exam Details' form within the 'Exam Create' page of the 'Dev Public School' system. The sidebar on the left includes navigation links for 'Dashboard', 'Exam Creation', 'Exam Report', and 'Report Card'. The main content area features a 'Create' button and several input fields: 'Academic Year' and 'Exam Term' (both dropdown menus), radio buttons for 'Final Exam' and 'Mid Term Exam', and a 'Class' dropdown menu. There are also fields for 'Title', 'Number of Question', 'Marks', and 'Comments'. On the right side, there are radio buttons for 'Electronic Documents' and 'Paper Documents', and a date range selector with 'Start' and 'End' fields. A green 'Submit' button is located at the bottom right of the form.

Fig 2. Exam Detail Module in Exam Create Page

Dev Public School

- Dashboard
- Exam Creation
- Exam Report
- Report Card

Exam Details

Dashboard
Create

Academic Year	Exam Term	Class	Time	Title	No of Question	Marks	Comments	Time Start	Time End	Start Day	End Day
2019-20	Term 2	Class 2	02:00	Mid Term Exam	15	30	All Question solve it mandatory	01:11	02:12	Monday	Friday
2019-20	Term 1	Class 2	03:30	Final Term Exam	50	100	All Questions to solve it compulsory	01:30	04:30	Monday	Tuesday
2021-22	Term 1	Class 3	13:43	Exam 1	15	30	All Questions are mendotary	14:42	15:45	Monday	Friday

Fig 3. Exam Detail Module in Dashboard Created Exam

Dev Public School

- Dashboard
- Exam Creation
- Exam Report
- Report Card

Exam Reports

Marks Obtained
Obtained Marks List

Middle Exam

Class 9

English
[Click to see details of English.](#)

Hindi
[Click to see details of Hindi.](#)

Mathematics
[Click to see details of Mathematics.](#)

Science
[Click to see details of Science.](#)

History
[Click to see details of History.](#)

Social Science
[Click to see details of Social Science.](#)

Fig 4. Exam Reports

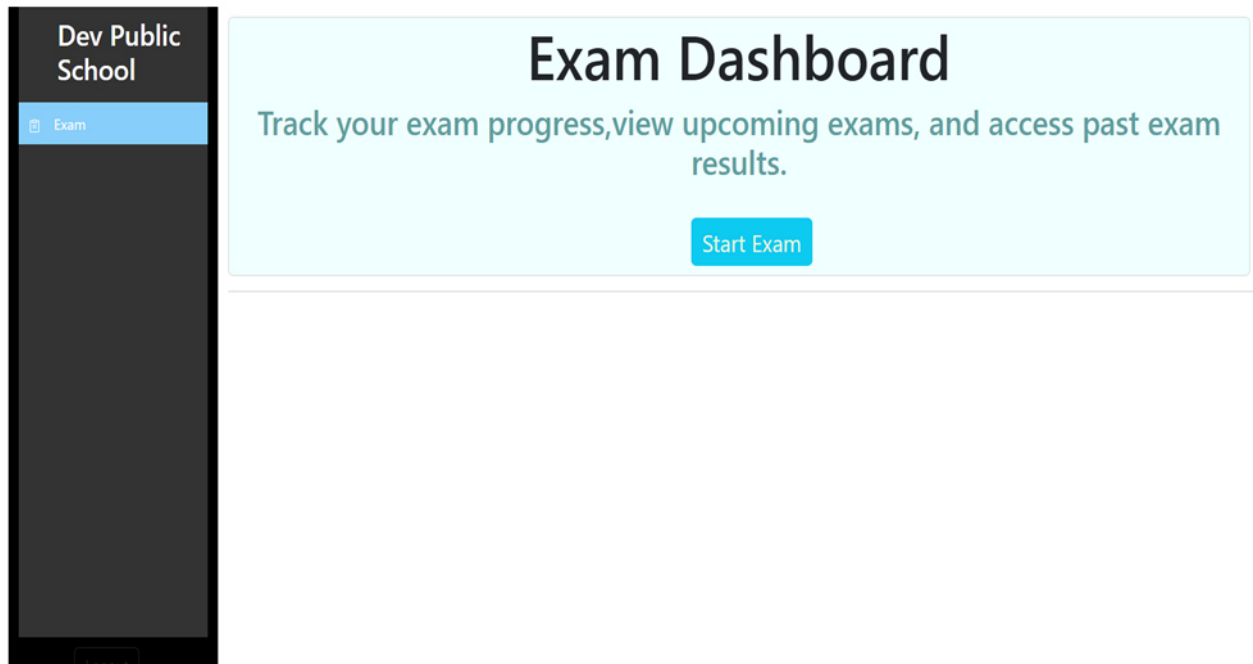


Fig 5. Student Exam Portal

IV. PERFORMANCE EVALUATION

All of Increasing assessment productivity, encouraging collaboration between stakeholders, providing students with quick feedback, and supporting educators in making data-driven decisions are a few examples. Assess the functionality and features of the system: Examine the features and functionality of the online system against predefined benchmarks. Standards like usability, accessibility, reliability, security, scalability, and adaptability may be included in this. Determine whether the system can meet the needs of teachers, parents, and students. Evaluate the User Experience: Ask users (parents, teachers, and kids) for their opinions on how user-friendly the system is. Measure consumer satisfaction, usability, and overall experience with focus groups, interviews, or surveys. Take into account factors such as system usability, responsiveness, degree of customisation, and lucidity of instructions. Evaluate Measures of System Performance: Evaluate the performance of the online system with numerical data. This may include metrics like error rates, system uptime, response times, processing speeds, and data accuracy. Examine the how the system operates.

V. RESULT ANALYSIS

Records Gathering: Compile the information gathered from online tests, including assignments, general classroom performance, and individual student grades. Gather data from report cards, including attendance logs, instructor remarks, and grades relevant to the course. Analyse traits in a descriptive manner: Among other fundamental statistics, note the range, standard deviation, median, and median for report card grades and test outcomes. To find out how each student's grades are distributed, create a frequency distribution. Analytical Comparison: Look for trends or patterns in student performance by comparing it across exams or testing windows. To determine the learning strengths and weaknesses of a student, compare their performance across a variety of academic areas. Assessing the items: To evaluate the complexity and discrimination of every exam question, conduct item analysis. Assess which questions were too easy or too challenging, and whether the questions effectively distinguished between students who performed well and those who did not.

S. No	Subject	Average Marks of Students
1	English	65
2	Hindi	76
3	Mathematics	60
4	Science	70
5	History	89
6	Social Science	80

Fig 6. Table of Average Marks of Students

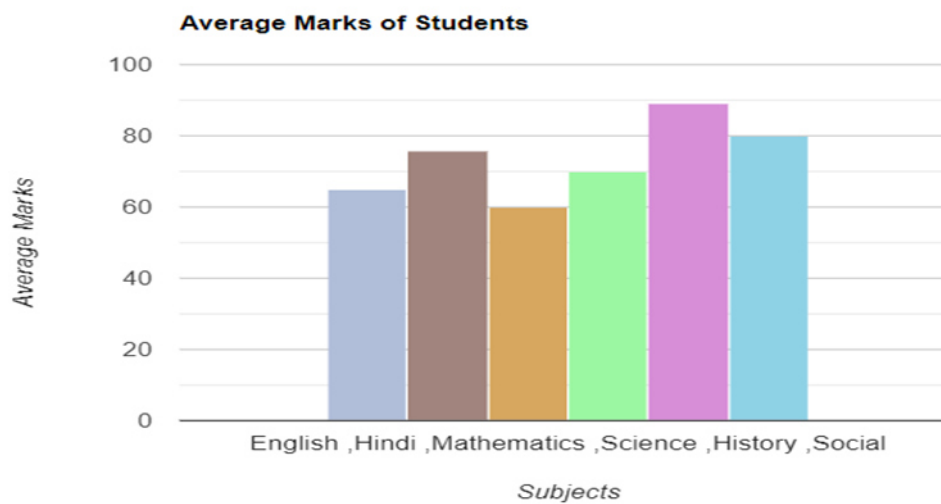


Fig 7. Diagram of Average Marks of Students

VI. CONCLUSION

A notable breakthrough in educational research methodologies is indicated by the Report Card Project and the school's online assessment. use of technology integration. improved student access, a methodical evaluation of this work, and the study's design. This project can be utilised by teachers. Understand how to customise decisions depending on data. Personalised teaching strategies and diets create a more inclusive learning environment for each student.. We have made the assessment procedure more accessible and efficient by streamlining it with the help of technology.

VII. FUTURE SCOPE

A number of significant areas of improvement are covered by the project's future scope regarding report cards and online tests for schools. A focus on accessibility and inclusivity, constant feedback-seeking for iterative improvements, global scalability and collaboration, gamification and interactive assessments to increase engagement, the use of AI-driven personalised learning, improved data analytics for deeper insights, seamless integration with current learning management systems, and others are among them.

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