An Online Assessment : Survey Panel

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Abstract : The Electronic Test System (ETS) is crafted to streamline the assessment process, allowing examiners to effortlessly create and administer exams. Examiners can incorporate a variety of question types, including multiple-choice and open-ended text responses. The system utilizes advanced techniques to automate the evaluation of assessments, drawing from a database of questions curated by administrators.

The ETS boasts intelligent capabilities for evaluating written responses, recognizing not only exact matches but also synonymous terms within the answers. Additionally, the system offers a manual override feature, enabling examiners to manually review and adjust exam results when necessary.

With a user-friendly interface, the ETS accommodates examiners, candidates, and super administrators. Users can assume roles as either examiners or candidates. Upon logging in, candidates can view and complete their scheduled assessments from any location with internet access, removing the need for traditional tools like pen and paper.

The ETS aims to provide a comprehensive and efficient assessment solution. This fully automated system saves time, delivers quick and accurate results, and allows candidates the flexibility to complete exams conveniently from any location.

Keywords: Assessment, Evaluator, Participant, Administrator, Manual Review, Automated Evaluation System

I. INTRODUCTION

The Electronic Test System (ETS) is an advanced online network-based testing platform designed to evaluate candidates' knowledge and skills across a wide range of topics. Unlike traditional examination methods that require candidates to gather at a specific location and time, ETS provides the flexibility for candidates to take exams online at their convenience, using their own devices from any location with internet access.

ETS offers a comprehensive solution for colleges, institutes, and organizations to set, manage, and conduct exams in an online environment. It addresses the inefficiencies of traditional manual assessment systems, such as slow result processing, difficulty in record keeping, high risk of misplacing records, and challenging system maintenance. By contrast, ETS ensures efficient, fast, and resource-effective assessments, making it an essential part of modern academic and professional evaluation methodologies.

This survey aims to understand users' experiences and preferences regarding the ETS, including its benefits, challenges, and overall effectiveness. Your feedback will help us improve the system and better meet the needs of both candidates and examiners. Thank you for participating in this survey.

II. METHODS AND MATERIAL

The rapid advancement of computer and network technologies has significantly transformed education, work, and daily life. With the enhancement and renewal of equipment in educational and training institutions, the establishment of multimedia classrooms and campus networks, and the maturation of World Wide Web technologies, assessment

methods have evolved dramatically. These advancements have improved the quality of teaching, teaching effectiveness, and candidate skill assessment.

1. **Online Learning Platforms:**
   o Integration with popular online learning platforms such as Moodle, Canvas, or Blackboard for seamless course management and content delivery.
   o Compatibility with Learning Management Systems (LMS) to provide a holistic learning and assessment experience.

2. **Remote Proctoring Services:**
   o Integration with remote proctoring services like ProctorU or Examity to maintain exam integrity and prevent cheating during online assessments.
   o Utilization of AI-based proctoring tools to monitor candidates' behavior and flag suspicious activities.

3. **Question Bank Creation Tools:**
   o Development or integration of question bank creation tools to facilitate the creation, organization, and management of exam questions.
   o Features such as categorization, tagging, and version control for efficient question management.

4. **Interactive Learning Content:**
   o Incorporation of interactive learning content such as simulations, virtual labs, and gamified activities to enhance engagement and knowledge retention.
   o Utilization of multimedia elements such as videos, animations, and interactive quizzes to cater to diverse learning preferences.

5. **Data Analytics and Reporting Tools:**
   o Implementation of data analytics and reporting tools to analyze exam performance data and generate actionable insights.
   o Customizable dashboards and reports for administrators, instructors, and candidates to track progress and identify areas for improvement.

6. **Accessibility Features:**
   o Implementation of accessibility features such as screen readers, text-to-speech functionality, and keyboard shortcuts to accommodate candidates with disabilities.
   o Compliance with accessibility standards such as WCAG (Web Content Accessibility Guidelines) to ensure inclusivity for all users.

7. **Security Measures:**
   o Integration of advanced security measures such as encryption, two-factor authentication, and IP tracking to protect exam content and candidate data.
   o Collaboration with cybersecurity experts to conduct regular security audits and ensure compliance with industry standards and regulations.

8. **User Support and Training Materials:**
   o Provision of user support resources such as user guides, tutorials, and FAQs to assist candidates and instructors in navigating the ETS platform.

o Implementation of training programs and workshops to educate users on best practices for utilizing ETS effectively.

9. **Mobile Applications:**
   o Development of mobile applications compatible with iOS and Android devices to provide on-the-go access to ETS features and functionalities.
   o Mobile-friendly design and responsive layouts for seamless user experience across different devices and screen sizes.

10. **Feedback Mechanisms:**
    o Implementation of feedback mechanisms such as surveys, polls, and suggestion boxes to gather input from users and continuously improve the ETS platform.
    o Regular communication with stakeholders to address concerns, incorporate feature requests, and prioritize future enhancements.

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III. SYSTEM DESIGN

SUPER ADMIN SURVEY PANEL SYSTEM DESIGN

Upon logging into the super admin panel, the administrator will be greeted with a comprehensive dashboard displaying all exam details orchestrated on the platform. The dashboard will include information such as the number of exams generated by the administrator, scheduled exams pending completion, exams that have been successfully orchestrated, exams that are generated but not yet scheduled, user registrations, upcoming exams, and the ongoing subscription plan.
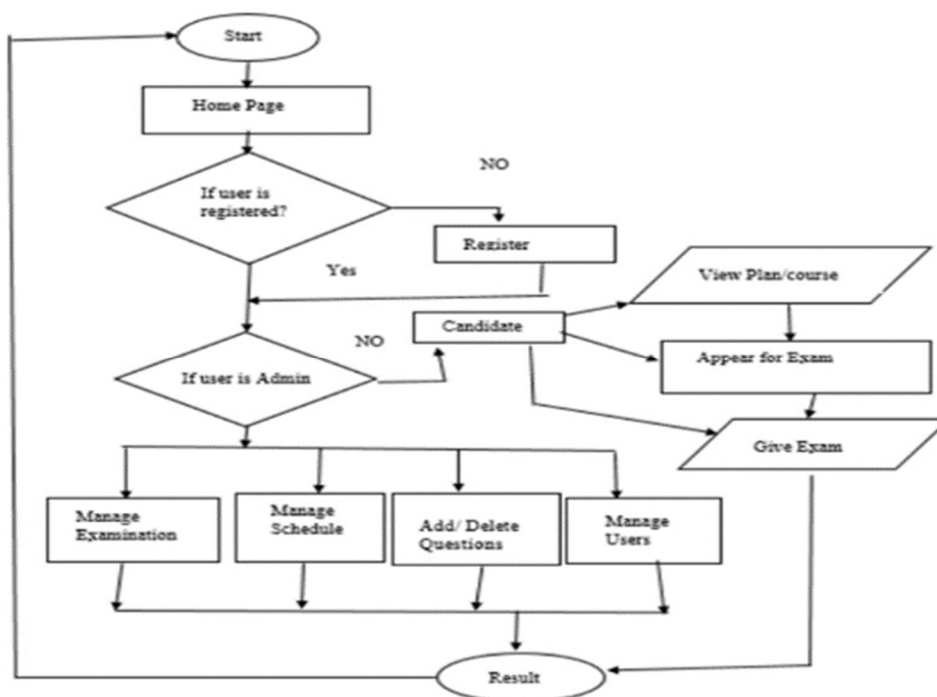
Figure no.1- Block Diagram

The administrator will have the ability to add candidates and instruct exams. This process will involve selecting the appropriate category, subject, exam name, section, and question picker method (either manually entering questions or uploading a CSV file). The administrator will also be able to specify the question types and utilize a text editor to input questions and choices. Additionally, the administrator can review and edit the exam before scheduling it, as any changes made after scheduling will not be permitted.

Overall, the super admin panel provides a user-friendly interface for the administrator to efficiently manage exams, candidates, and exam content.

SYSTEM ARCHITECTURE

When a user enters the Electronic Test System (ETS), they are greeted with the home page. This main page facilitates navigation to other parts of the site by providing links to featured and recent articles, as well as a search box for convenience.

For new users who are not yet registered, there is an option to create a new account as either a candidate or an examiner. Candidates can take exams, while examiners can conduct exams.

Registered users can log in and perform actions based on their roles. If a registered user is acting as a candidate, they can apply for exams. Candidates will be informed about various plans and courses available to them, which offer different benefits. Plans and courses can be either paid or free, depending on the type of course selected.

Exams are scheduled by the examiner and must be taken by the candidate within the specified time. The exams can include multiple-choice questions (MCQs) as well as essay-type questions. Upon completion of the exam, a certificate will be generated for the candidate.(See Figure:-2)
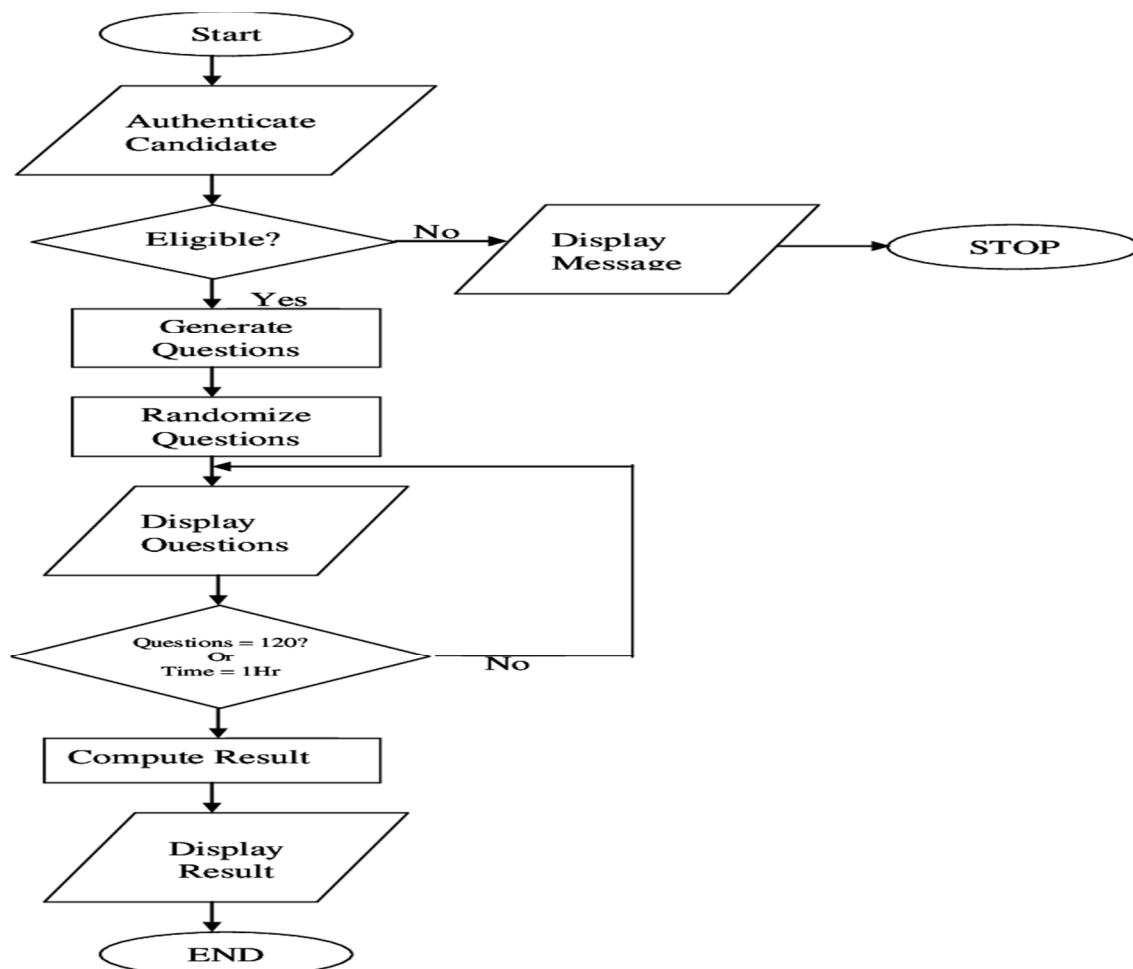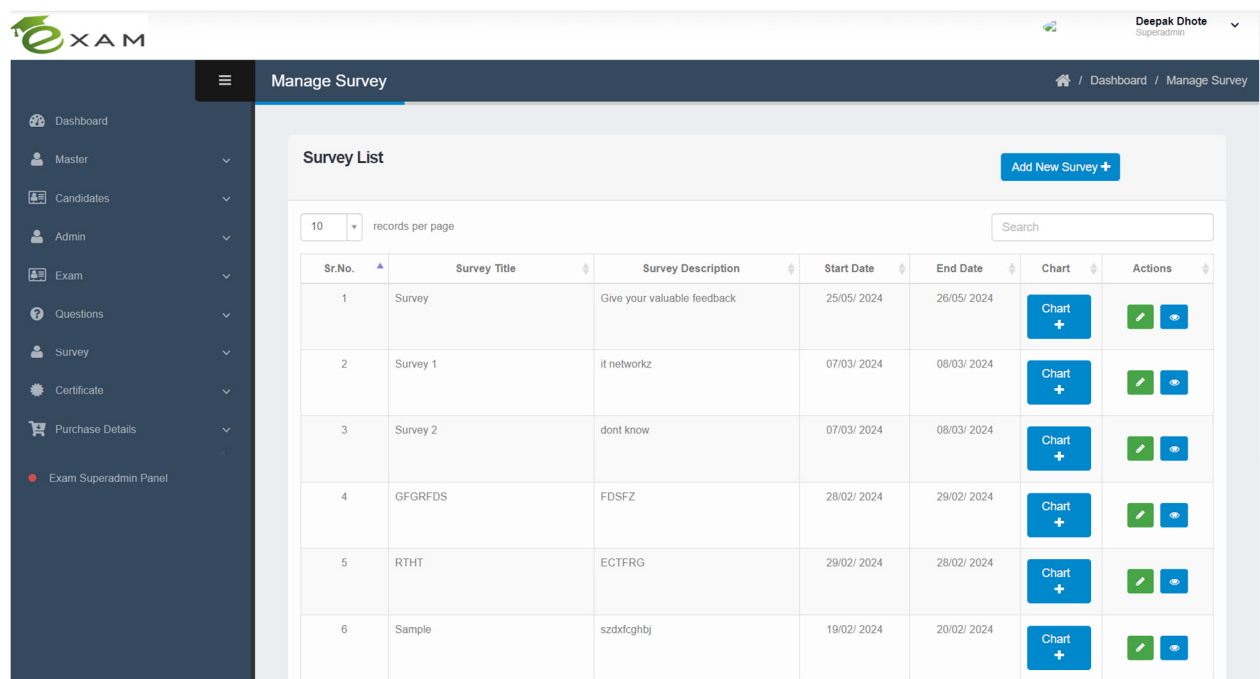
Figure no.2- Flow Diagram

Manage Assessment: In the superadmin panel of the Electronic Test System (ETS), the examiner enjoys various privileges. They can assign exams to a large number of candidates or to a specific group based on the chosen plan. When creating an exam, the examiner must set a schedule and a time period, which will be communicated to the candidates via SMS or email.

During the exam creation process, the examiner must add questions, which can be either multiple-choice or essay-type, and then submit the exam. If necessary, the examiner has the option to delete specific questions from the exam. Additionally, the examiner or admin has the authority to manage candidate accounts, including adding or removing candidates who have opted for the exam. They can also modify and manage user accounts and examinee details.

Upon completion of the exam, candidates will receive a certificate and will be redirected to the homepage or their ongoing account. ETS offers the flexibility to conduct various courses, and upon completion of a course, candidates will be redirected to the homepage and awarded a completion certificate.

Examiners can also schedule multiple exams simultaneously. After completing any task assigned by the examiner or superadmin, users will be redirected to their account or the homepage, depending on the nature of the task.

Figure no- 3 Survey List

The above figure shows examiner dashboard, where he can create, manage and schedule exams. Except that, he can even add questions, candidates and notifications to an exam. The dashboard is a type of account where he can change his plans, password, edit account details, remove his/her account and many more.

Figure no.4- Add Candidate To Survey

An association certificate within the context of an Electronic Test System (ETS) typically certifies that a particular entity (such as a person, organization, or device) is recognized and authorized as a part of the system. This certificate is essential for verifying identity, ensuring security, and establishing trust among different components or users within the system.

Figure no.5- Survey Package List

The question bank feature is designed to enhance the functionality of the ETS project by providing a centralized repository for managing questions used in assessments. This feature allows for efficient organization, retrieval, and utilization of questions, supporting various educational and testing scenarios.
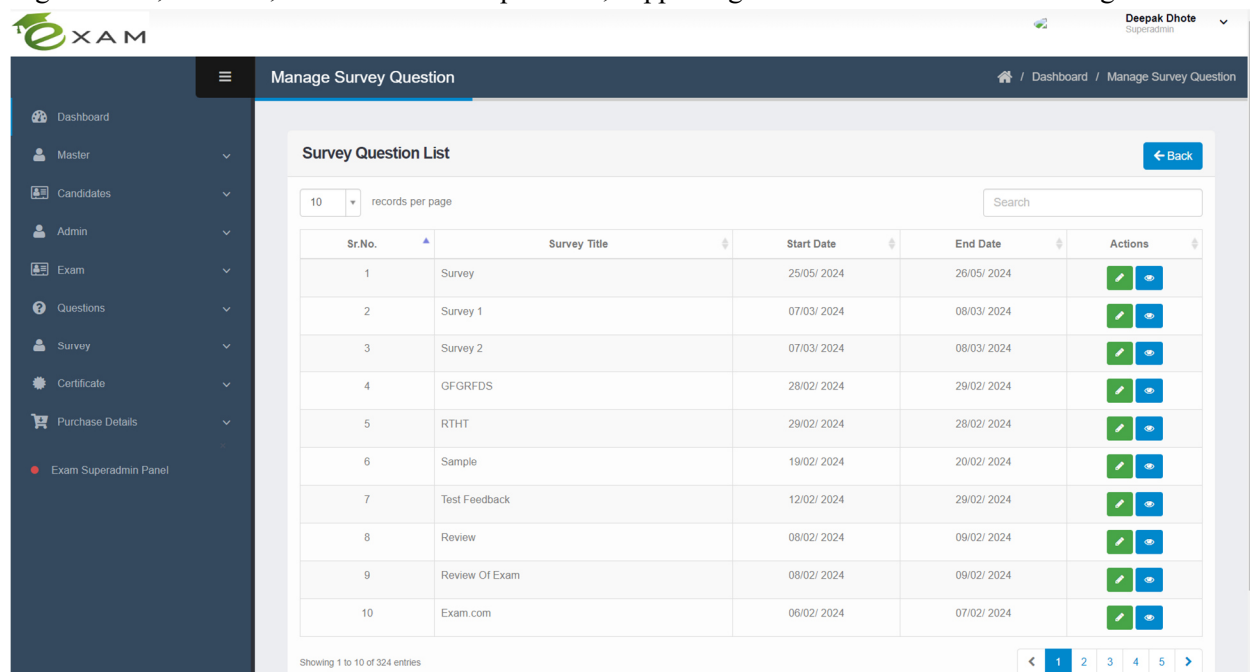
Figure no-6 Survey Question List

ETS will achieve greater speed in grading and accuracy of exam. Examiner can add candidates in an exam. Above figure number 6describes the addition of candidates. In the figure the list of candidates are just the testing accounts created by development team.
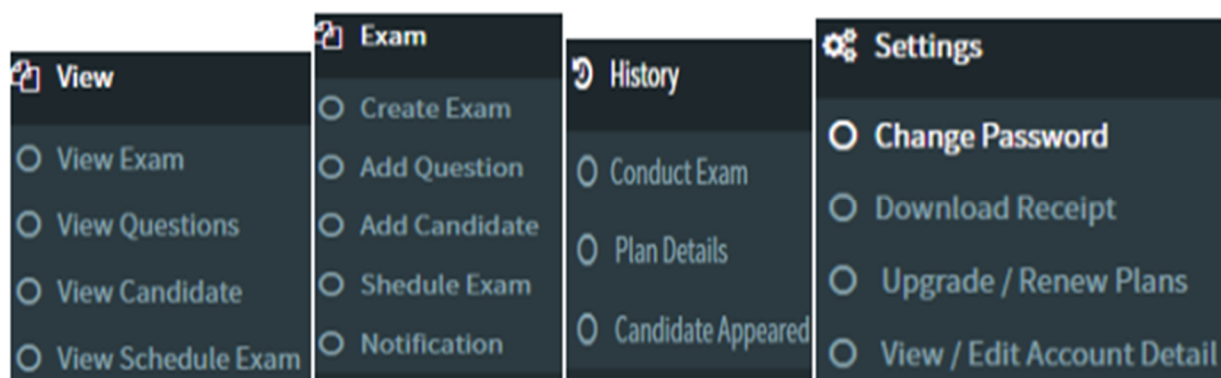
Figure no.7- Menu available to examiner

Inside examiner dashboard, admin will be made available to flexibilities described in above figure

After setting up the examination by the examiner, candidates can give exam in the format given above. Above is an MCQ based examination. After Examination candidate will be redirected to a feedback form, followed by a certificate of the exam. See figure9

After the examination process, candidate will be made available to the score card, where he/she can view his total marks, percentage and his passing or fail notification. He can view and download his/her certificate for appearing for the exam where his/her grade, score and name will appear.

IV. CONCLUSION AND FUTURE SCOPE

In the Superadmin panel, users will enter the ETS web page which will direct them to the homepage. Superadmins will need to generate an account by registering on the ETS web page. If the user is not registered, they must register as a Superadmin. If already registered, they can access the Superadmin panel and perform various administrative functions. These functions include overseeing examiners and examinees, managing exams, schedules, questions, and candidates, and generating results. Additionally, Superadmins have the ability to manage system-wide settings, user roles, and permissions.

ETS has a wide range of future scopes for the Superadmin panel after its implementation, which includes features such as:

- Enhanced Communication: Incorporating chat options between Superadmins, examiners, and examinees to streamline communication.
- Expanded Course Offerings: Adding various courses tailored to different streams and specialties.
- Increased Security and Trust: Improving the methodology to enhance trustworthiness and security measures.
- Guest Access Module: Implementing a guest module that allows non-registered users to access certain services in guest mode.
- Ubiquitous Accessibility: Ensuring the system is accessible anytime and anywhere, as it is an online network-based application.
- Flexible Exam Scheduling: Removing the necessity for examiners to be present during the test, providing more flexibility for both examiners and examinees.
- Institutional Integration: Making ETS available for educational and private institutions to conduct tests for their students or employees, respectively.
- Technical Improvements: Addressing issues such as computer glitches, content bugs, and security threats to improve system stability and user experience.
- Backup and Recovery: Implementing robust restore and backup solutions in case of power failures to ensure data integrity and availability.

By continually improving and expanding these features, the Superadmin panel can enhance the overall efficiency, security, and user experience of the ETS platform.

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