# Automated System for Management of Exam Cell

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**Abstract**

These days, exam cell migration typically includes some manual computations and is primarily dependent on pen and paper. The main objective of this extension is to bring it in a centralised manner. By doing so, it will be possible to successfully supervise the actions taking place throughout an examination. By entering their enrollment number, title, phone number, email address, semester, etc., the framework enables college or school students to register themselves with the system. Typically accomplished by having students create their own unique points of interest for the exam cell to use as their login ID and password.

**Keywords:** Exam; Students; Admin; Lgin; Generation

## 1. Introduction

Detailed information about the kids was provided by this project. The administrator uses the supplied data to produce student hall tickets, login IDs, and passwords after entering it into the system. The system will give a link to the students who have registered as a soft copy of the hall ticket, which we may also create. Students with their respective email addresses may access and print their hall tickets as well as log in to the system using their login id and password to change, update, delete, and add personal information such phone numbers, email addresses, and other details. The administrator creates the mark list for the students. For engineering students, there will be a total of eight semesters and six semesters, respectively.

## 2. Related work

The international journal of advanced research in computer science and software engineering-2016 published a proposal for a system called the Xamclick Exam Cell Automation System. The idea advocated for lessening manual labour, which needed more time and effort to execute. The system's security, however, is its most significant weakness. The main risk is data loss, which would force the institute to maintain its records manually.

Automating Exam Cells: [2] Nevonprojects.com Currently, the majority of exam cell work consists of manual computations that are mostly done on paper. The main objective of the project is to develop a centralised system that will enable effective management of examination-related activities. A computerised system's accuracy is not guaranteed, and data stored in a warehouse is only as accurate as the A system that has been proposed and published in an international publication of a good as the data entry that produced it is called the Xamclick Exam Cell Automation System.



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Table 1: Literature Survey

| | #1 | #2 | #3 | #4 | Remarks |
|---|---|---|---|---|---|
| E-Exam Cell[1] | No | Yes | No | Yes | Extra Feature: Hall Ticket Generation |
| Exam Cell Automation System[2] | No | No | No | No | Marksheet Generation |
| Exam Hall Management System[3] | Yes | No | No | No | NA |
| Exam Cell Automation System[4] | Yes | No | No | No | NA |
| College Automation System[5] | No | No | Yes | No | Student Attendance System |
| Examination Management Automation System[6] | Yes | No | Yes | No | NA |

**Deliverable 1 (#1):** Generation of seating arrangement without the hassle of manually preparing it.
**Deliverable 2 (#2):** Students will be able to submit the forms online for exams
**Deliverable 3 (#3):** Notices to Students regarding deadlines via Email
**Deliverable 4 (#4):** Generation of Oral/Practical Examination Timetable

Automated Exam Support System: A system was presented in this article that was published in the international journal of current engineering and technology. Table 1 shows the literature survey of all process of exam. Activities linked to exams are managed by this system. The system enables the production of results, hall tickets, and other documentation. Depending on their needs, users can select from a number of permissions and accessibility capabilities. Even though the suggested system is connected to every examination procedure mandated by the University of Mumbai, it excludes work on creating marklists or copies.



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## 3. Proposed System

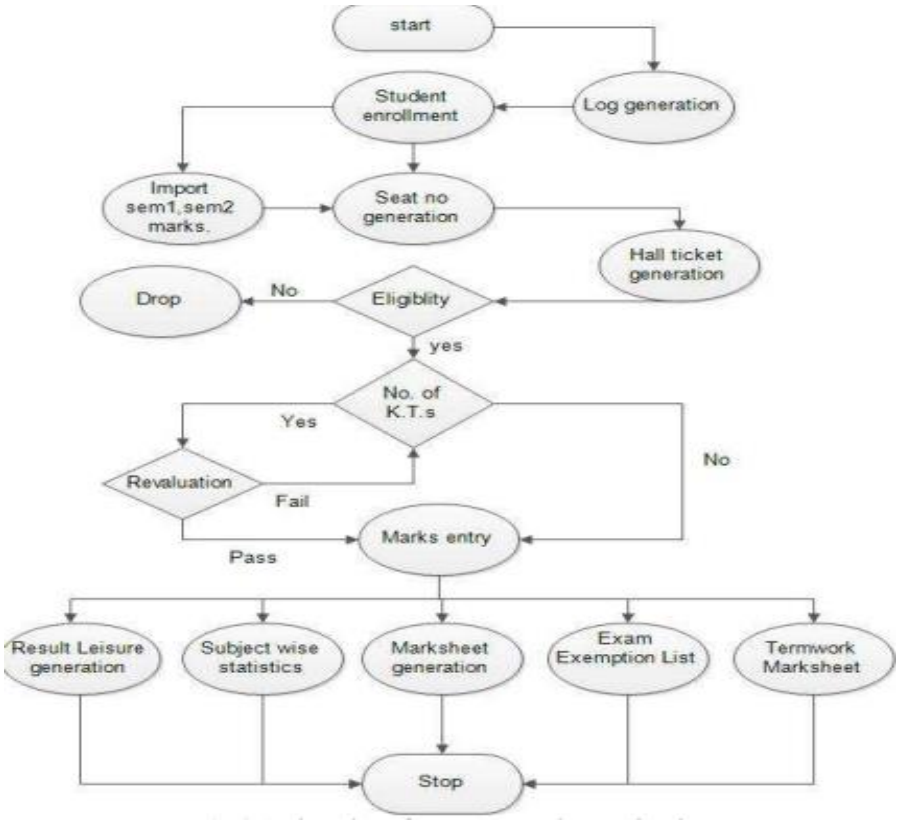


Figure 1: Flowchart for Automated Examination System

Students need simply provide their private information, such as their sign-in number, name, address, telephonic smartphone number, departments, and id with a photo, to sign in to the system.

### 3.1. Admin Sign-In:

Administrators have access to students who have entered their information into the system and may examine any new enrollments upon logging in.

Admin may gather student information and update that information in each student's login.

### 3.2. Send an email

Once the registration process is complete, the system emails each enrolled student the link to the light copy.

### 3.3. Student Login:

Students can access their login and examine the credentials that the administrator has provided.

### 3.4. Details to View Update Delete Insert:

The programme allows enrolled college students view, update, remove, or input private and academic information, such as a phone number, an email address, semester grades, etc.

### 3.5. Sheet Generation:

The tool enables the administrator to produce an exam mark sheet for each student.



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### 3.6. Question Paper Generation:

The system enables the administrator to produce questions for the test. Following the distribution of the timetable, it generates question papers for the different students in the different departments. As a result, it assigns the questions to the students in accordance with the questions that the test cell has given them.

### 3.7. Auto MCQ Correction:

After the students receive their question papers, they must respond to the question within the allotted amount of time. After the allotted time has passed, it will automatically adjust and deposit the grade in the student database.

### 3.8. Assignment And Exam Details

The system for generating assignment and test details for students by the administrator and keep the information about the exam and assignments in the student's Microsoft Access database.

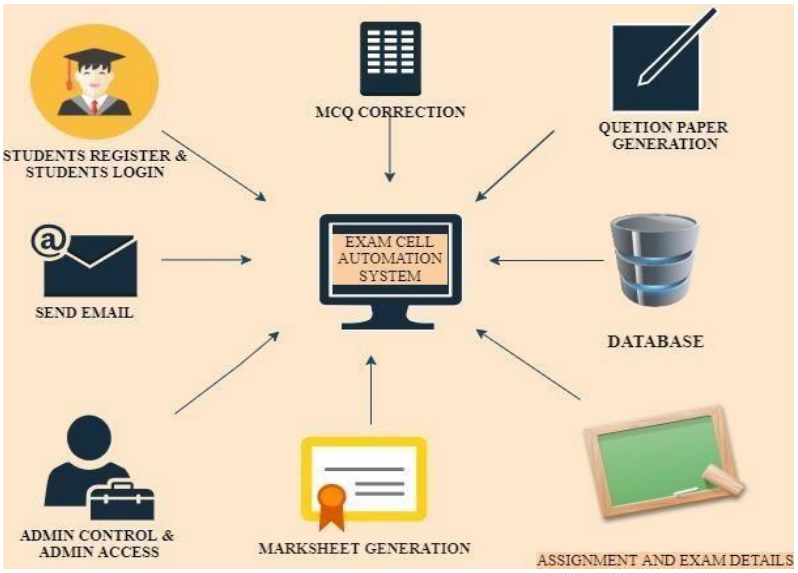


Figure 2: Architecture Diagram



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## 4. Design

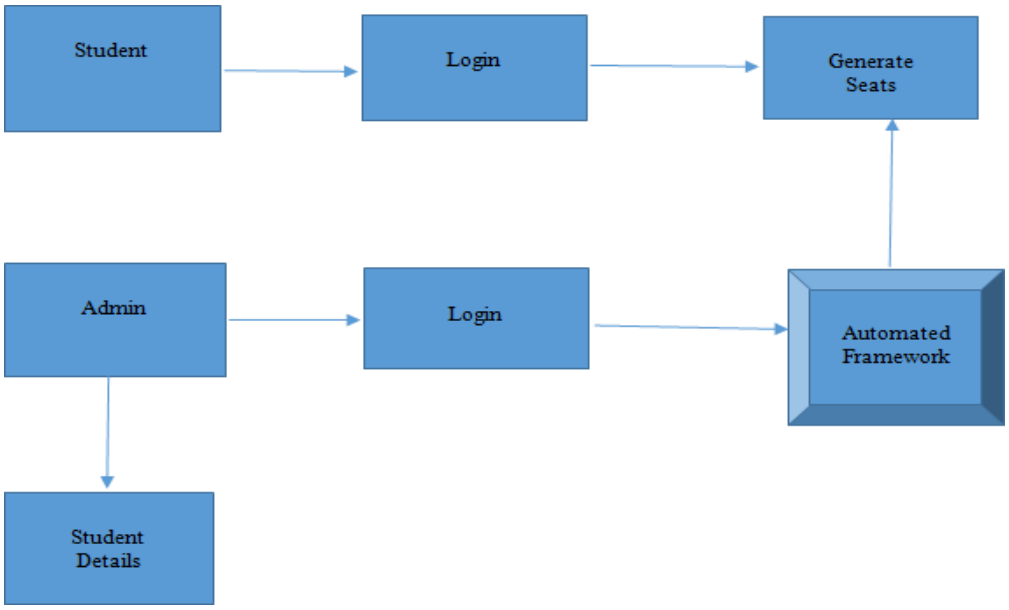


Figure 3: Flow Diagram

## 5. Methodology

### A. Hardware Requirement

- Intel i3 processor / AMD 3 Ryzen based computers
- 1gb-Ram
- 5 GB Hard disk

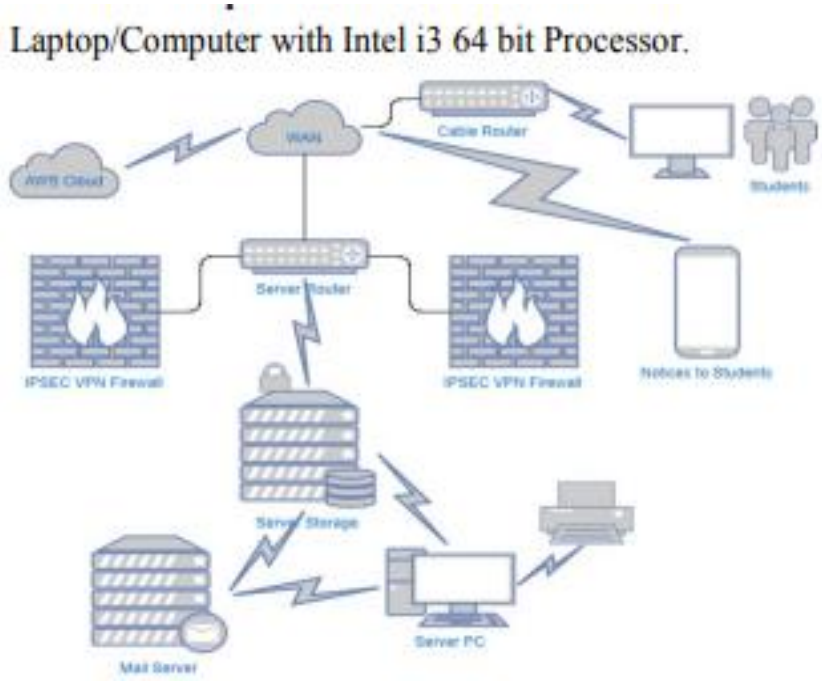


Figure 4: Block Diagram for Hardware Requirement



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**B. Software Requirement**

- Windows XP earlier versions
- Visual studio 2008
- Microsoft Access / SQL Server 2008 (earlier versions)

**C. Advantages**

- By clicking on the URL provided by the administration, students may examine their hall tickets.
- The technology only enables registered students to log in, limiting unauthorised access.
- Students have the option to modify their data as necessary.

**D. Disadvantages**

- Because the system is online, it's possible that kids won't get college notifications.

**E. Results and Discussion**

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- All schools and institutions that independently administer tests in their individual schools and colleges are able to use this method.

TABLE 2: CAPACITY OF EACH BLOCK

| Block No. | Capacity |
|---|---|
| 1 | 74 |
| 2 | 60 |
| 3 | 78 |

TABLE 3: NUMBER OF STUDENTS PER DEPARTMENT

| Dept. | No. of student |
|---|---|
| IT | 76 |
| EXTC | 67 |
| COMP | 58 |

Total Students (ts) : 501 students



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Condition 1: ts < tc (ts should always less than tc)

TABLE 4: STUDENTS PER BLOCK

| Blocks | Students (Roll no.) | Dept |
|---|---|---|
| 1 | (1-74) | IT |
| 2 | $(75\text{-}76)^{(1)}$ $(1\text{-}58)^{(2)}$ | $IT^{(1)}EXTC^{(2)}$ |
| 3 | $(59\text{-}67)^{(1)}$ $(1\text{-}58)^{(2)}$ | $EXTC^{(1)}$ $COMP^{(2)}$ |

Total Seats Remaining: 21

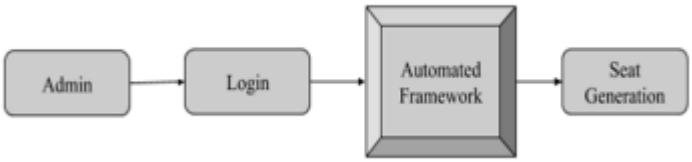


Figure 5:. Flow of Seating Arrangement Framework

TABLE 5: SUBJECTS IN EACH DISCIPLINE

| Dept | Subjects ($s_j$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *di* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| IT | | | | | | | | |
| COMPS | | | | | | | | |
| EXTC | | | | | | | | |
| MECH | | | | | | | | |

Tables 3-5 shows the calculation of availability and balance seats in the department and figure 5 shows the seating arrangements.

**6.Conclusion**

The staff of the test cell now struggles to keep the student database current. Therefore, our paper exam cell automation system may assist them in preserving student records and also assists in a number of other ways, such as maintaining the student database, question paper generating, student login, editing, and updating the data. To make the examination cell more productive, the examination operations are being automated. by cutting back on the time-consuming tasks that have been done manually for years at most institutes.



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Additionally, as a consequence of the automation of the procedures involved, many paper-based activities will be decreased, aiding in the sustainability of our world. Given the importance of the current project, the system will assure data security.

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