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Exam Helping Device

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ABSTRACT

In Indian Universities examination process take lot of time to complete because of huge number of subject, large number of student in some subject, faculty shortage etc. Technology led services helped humans to survive in problematic situation. This problem is also easily seen while examination conduction. Only technology has capability to provide human process speedy. In recent days internet of things (IoT) is getting popular to solve the humans problem related to nearby different location. This paper proposes devices and process model which will help in speed up the overall process with accuracy.

I.INTRODUCTION

Technology led services improved human working capacity. It provided a new dimension for human society. Education sector is one of them to witness technological advancement. Now a day's, educational institutions use power of computing technology to handle various activities in the institution. Various devices are developed for solving problem of industry and human day to day life, but educational institutions lacks devices which help and speed up the activities performed in the institution. In this paper, a device is proposed which help institution to handle exam.

II. LITERATURE REVIEW

Farooq M U et. Al. [1] in their paper highlighted that "IOT …well define architecture for its deployment…..number of application… to facilitate us in daily life….The deployment of IOT requires strenuous effort to tckle and present solutions for its security and privacy threats."

Gubbi J et. al. [2] concluded in their paper that "the evolution of next generation mobile system will depend on the creativity of the users in designing new applications…IoT is an ideal emerging technology to influence…."

Madakam S et. al. observed key points in the various literature of Internet of things and compile in few points i.e. "(1) There is no standard definition in worldwide (2) Universal standardizations are required in architectural level (3) Technologies are varying from vendor-vendor, so needs to be interoperable (4) For better global governance, we need to build standard protocols."

III. WORKING MODEL OF CURRENT SYSTEM

Complete examination process involves

1. Preparation of seating plan daily and session wise as per exam schedule
2. Mentioning complete seating plan on notice board and roll no. on every seat (It is mentioned before the commencement of exam and time consumption depend on number of student).

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3. Checking correct seating of student immediately before start of exam.
4. Distribution of question paper.
5. Taking sign of presence in exam of student.
6. Verification of student.
7. Preparing summary report of exam session room wise and then centre and course wise
8. Preparation of summary of utilized answer sheet.

It is supposed to the invigilator and examination committee member will execute these activity with sanctity and timely. In the above activities, activity 2, 3, 4 and 5 have time constraint and take time to complete. Thus overall processes take a lot of time and human resource.

IV. SOLUTION

The solution, out of many solutions for the problem, is to take advantage of the technology by introducing a device which will reduce human resource requirement at any place and process information from one place to another in structured approach.

Wireless technology helped every nook of the human society to bring accessibility, optimum utilization of resources. Internet of Thing will add a very strong change in coming future. If wireless technology based system is introduced then conduction of exam will become smooth, trusty and fast.

V. DEVICES NEEDED FOR THE PROPOSED EXAM MODEL

- **Desk Display Machine:** This machine is placed at each desk on which student will give examination. It has five major component

1. **Up and down keys:** These keys are used to scroll up or scroll down the display.
2. **Blinker:** Blinker will active only when the attendance/verification of the candidate is requested once that process will complete it will off.
3. **Keys:** It includes 0 to 9 number, search and ok keys. It is used to randomly jump on any question number or search any question number. Ok key is used to confirm the process.
4. **Thumb/finger scanner:** This is used to scan the thumb/figure scan for verification and authentication of the student.
5. **Screen:** This used to display the roll number of student to which this seat is allotted. After Commencement of the exam it will display question paper.

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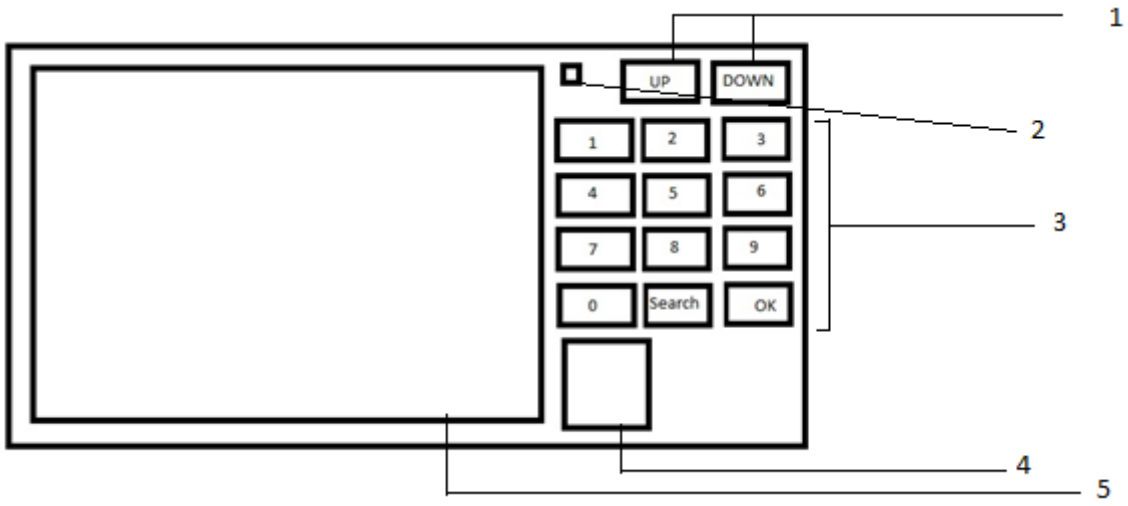

Figure 1: Desk display machine

- **Invigilator machine:** This device is carried by the invigilator. Major component of the device are

1. **Display Screen:** This screen will initially display the current time, time remains to start the exam and activity (Roll no. display/start exam/summary of exam) needed to execute.
2. **Roll No. Display:** This key is used to display the roll no. on desk display machine.
3. **Start exam:** This key is used to display the question paper on each desk display machine
4. **Summary:** When invigilator wants to see the summary of examination it will display present/absent/UFM reports on the screen.
5. **Attendance:** This key is pressed to take attendance of the student.

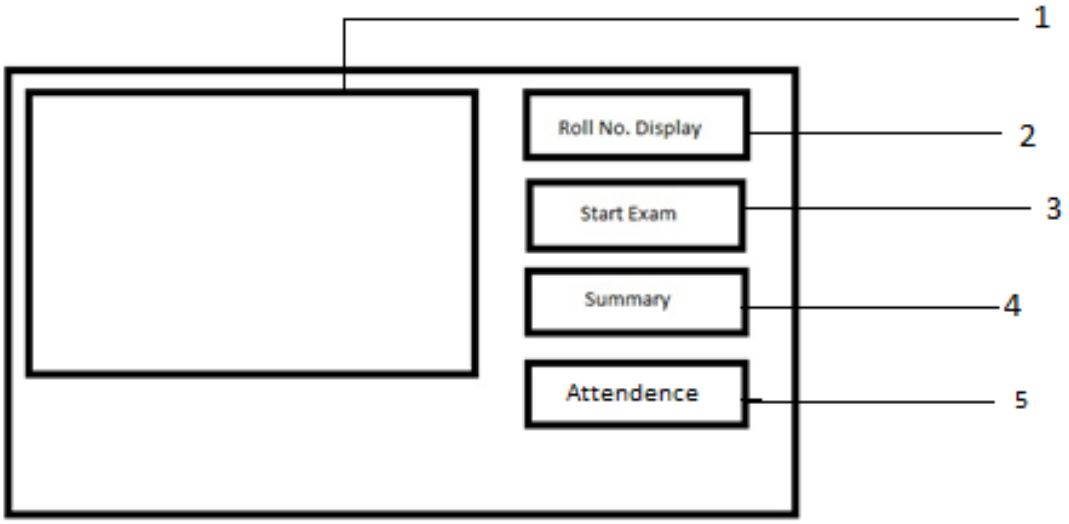

Figure 2: Invigilator machine

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VI. WORKING MODEL OF PROPOSED SYSTEM

In this process model two major devices are required as shown in the figure 1 and 2. Other than this a centrally located machine is required for distribution and storage of the data. Figure 3 shows exam control room environment. Figure 3 indicates two serial numbers; one is indicating for central machine which will store all data and serial 2 indicate the invigilator machine. These invigilator machines will receive data wirelessly from the central machine for only one session of exam. Information which is stored in the invigilator machine is student roll number, desk machine number, student thumb/figure data and question paper. If any student thumb will not match in that case physical verification is required. Once the data is loaded in the invigilator machine, it is handed over to the invigilator.

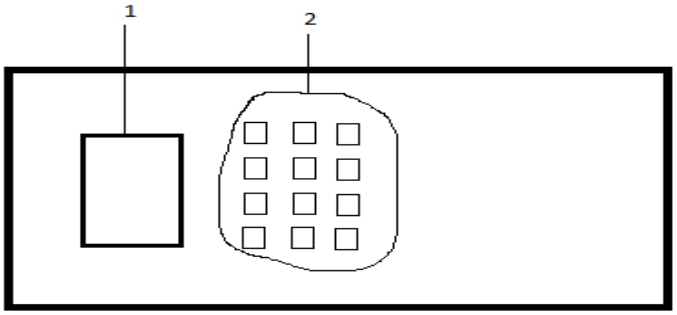

Figure 3: Exam Control room environment

After reaching in the classroom invigilator will activate his machine. In figure 4 a class room environment is shown to understand the process. "1" symbol is used in the figure 4 shows the position of invigilator and "2"shown the student position. Invigilator will press roll no. display key on his machine as shown in figure 2. Start exam key is pressed to start the exam. When invigilator will press attendance key on invigilator blinker will activate on desk machine and now student has to put thumb/figure on figure scanner to authenticate his candidature for the exam. After that a summary will checked by simply pressing summary key on invigilator machine to know the absent/present detail.

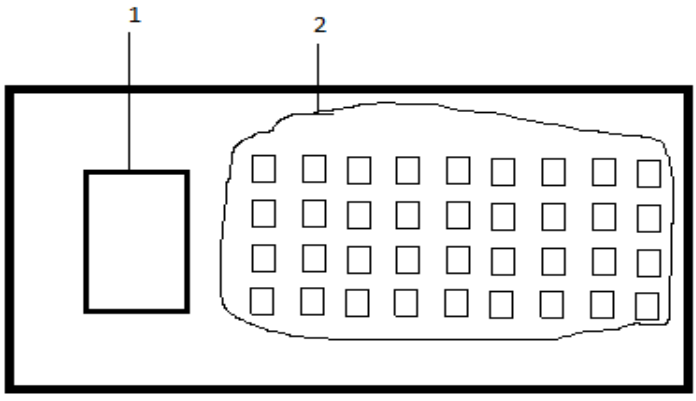

Figure 4: Class room environment

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At the end all data received in the machine is loaded in the centrally located machine and data of next session of exam is loaded.

Advantage of current system

- **Internet:** Fast internet connection is available in India.
- **Malpractices:** It has been observed that several malpractices are happening before commencement of exam like paper leak, alternative candidate etc. Proposed devices and process will help in reduction of malpractices.
- **Length of exam days:** Exams conducted approx. two months because only two paper conducted in a day. Using proposed device and process three examinations in a day is possible without increasing stress level on human resource.
- **Examinee strength:** India has huge number of students due to its large population below 35 Yr. This model is able to reduce workforce requirement during the examination process.
- **Cost benefit:** Establishing computer for every individual may cost very high. On cost benefit front it is not feasible to implement fully computerized exam.

V. CHALLENGES FOR CURRENT SYSTEM

Power Supply: India lacks electricity and face problem of power supply shortage.

- **Solar energy**: use gets rapid pace but it has low energy generation.
- **Cost benefit:** The cost required to establish the device and run the process must be studied in comparison of human resource utilization.
- **Availability of Human Support:** Current system requires a skilled human support.

VI. CONCLUSION

Examination process has a number of activities complete it. Challenge faced by institution is to ensure sanctity, accuracy and speed. The proposed devices and process is a step to remove the hurdle and problems of the examination. In future more sophisticated devices will come to handle these situations.

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