Abstract

This paper represents Wireless Answerpad for aptitude test which is the cost efficient along with time saving system. Because simplify the examination management and performance assessment. This study emphasized on developing answer pad to reduce complexity of computer. This research work focuses on the aspects on the master-slave device and platform oriented design, light weight and efficient application. For Fast and convenient question navigation and performance assessment of the wide application of the handheld devices we developed this system. This paper is an attempt to approach taking examination implementing digital answer pad into tests and other examination too.
1. Introduction

In the recent trends a lot of studies introduced the information and communications technologies into the educational area to enhance the teaching and learning activities. A typical example is E-examination system that implements the technology to simplify the examination process by computer control and automatic marking to reduce complex paper work. In traditional learning environment there is fixed content and learning sequence commonly available for all the learners. There are a plenty of research publications on online E-examination systems. Most computer based evaluation mechanisms are web based testing and they employ the client-server paradigm. A difficult challenge facing the E-examination system is the security problems such as authenticity, privacy and cryptography which are addressed in many literatures. The digital answer pad based E-examination systems are mature and strong in security and functionality, but the traditional machineries are too large in size and costly for examinations like computers. Every industry is trying to capture its benefits.

This project deals with the automation of traditional examination procedure with the help of wireless technology. In this project every user will have its own Electronic Answer Pad. This answer pad is a combination of keypad and display, so that user can enter and view the selected answer of a particular question from a given question paper. Once the examination is over, all the answers of users will be sent to server System via ZigBee Technology, the server system will then analyse the answers with the pre-loaded answer sheet, in order to generate the results of all users.

2. Project Overview

In the recent years, a lot of studies introduced the information and communication technologies (ICT) into the education area to enhance the teaching and learning activities. A typical example is the E-examination system that implements the technologies to simplify the examination process by computer added control an automatic marking to reduce the complex paper work.

Because of the wide possession of the handheld mobile devices, the application of the mobile technologies in enhancing learning activities attracts much research interest. This investigation aims at implementing students faced mobile technologies into test and examination to simplify the examination management and Performance assessment.

The research work focuses on the aspects of mobile device and platform oriented design, lightweight and efficient application, fast and convenient question navigation, and performance assessment, etc. In order to conduct an appropriate information service to the heterogeneous resource limited devices, the context-aware service notion is introduced to the system design. This paper reports upon a project aimed at introducing computer-based test techniques into the aptitude test for the entrance examination at UNITEC Institute of Technology. For the purposes of this paper, a computer based and on line delivered testing model is described. The author will discuss the benefits and features of this new testing environment, describe the construction of the test using Macro media Author ware and its user interfaces, and address the issues related to the design of question episodes, factors that may influence the system performance as well as distribution and the real time controlling.

2.1: Problem Definition

Now days many large industries have conduct aptitude examinations this aptitude Examination needs large no of needs large no of pc’s which is costlier. To overcome this problem we used
wireless answer pad for aptitude examination. Wireless answer pad would be easily available and is more simple to use wireless answer pad easily affordable.

2.2: Aim Of Project
In this project we are developing to make a system which is cost efficient along with time saving. It reduces human errors as well as cheating of papers. By using this project we can save time of examinations. By using more slave unit we are increased more application of this project.

2.3: Recent Trends And Development
Today’s many industries trying to capture wireless technology along with its various features. In this we are using electronic answer pad which is combination of keypad and display so that provider can provides various questions and user can enter the selection of answers. This answer pad is nothing but use as a slave unit by increasing a more slave unit we can increase the application of this system. We can arrange examinations in schools or colleges or any type of industries.

3. Block Diagram

![Block Diagram Answer Pad](image)

**3.1: Block Diagram Description**

**3.1.1. Electronic Answer Pad**
This is a hand held unit, which will act as answer pad for all users. It will contain a keypad with various keys like option keys A, B, C, D etc. to select the answer, OK in order to enter or modify the selected answer of any question. In order to view the question number and selected answer this answer pad will also contain a display unit, also in order to send the result it will use the ZigBee module. In this mode user will enter answers for all the questions in examination paper with the help...
of option keys available on answer pad. He will be able to see the question number and the answer entered by him on the display attached to the answer pad. He can also modify the answers if necessary. The Arm processor will store this data and will continuously send it to the server system with the help of ZigBee module attached to the system.

![Server System Diagram](image)

**Figure 3.1.1: Block Diagram of server system**

### 3.1.2 Server System

In this mode the server system will receive the data from ZigBee module. It will store it in the controller and compares it with the reference answer sheet. Once this is done it will generate the result for all users and send it to the PC via serial communication.

![Working Of System](image)

**Figure 3.1.2: Working Of System**
3.1.3: Software Overview

- Embedded C
- Express PCB
- Keil

3.2: Working

All the question paper sets will be stored in a Master Computer via Internet, from this Master computer it will be send to the Slave unit as per the prescribed time before the start of examination.

Initially there is no display of questions on the GLCD unit of Slave, after start command given from Master unit the Slave unit will turn on.

Then different set of objective questions with options will arrive as per the sequence on different Slave unit.

As the time starts the candidate will start solving the questions, at a time only one question will appear.

There are four buttons given on the device A, B, C, D by pressing the particular button the candidate can select the answer.

If the candidate wants to preview the previous question then by using the preview button he can go to the previous questions.

If the candidate wants to proceed with the question then by using the next button he can proceed with the questions.

After time-up Master Unit will request Slave Unit to send the data.

Then all the data will appear at the Master Unit within few seconds, only one Slave will send the data at a time.

Simultaneously Master unit will start analyzing the answers with the standard format stored in it.

After completion the Master unit will display the result within some time.

Figure 3.2: Flow Chart
5. Advantage And Disadvantage

5.1 Advantages
- It avoid the manual errors in paper correction system
- Very reliable, secure and accurate
- It avoids proxy users as validation and user verification is perform by the system.
- Time saving and user friendly system

5.2 Disadvantages
- Server problem.
- Somewhat difficult to programming as design concern.

6. Result
As finally from all above experimental setup we observe that as the part of increased part of application of E-Examination system, E learning, management system we have to adapt this technology for future simplicity for to reduce human error and effort. Examination will start on every slave device only after receive command from master. Then each candidate has to enter his name and examination seat number on master pc. After completion of registration procedure candidate’s examination time start & each question will be displayed sequentially as per the set for each slave.

7. Conclusion
Further development involving the design and implementation of the administrative components could allow this application to be used as an educational shell suitable for the delivery of course ware and modified in such a way as to facilitate further customization for other subject areas should there be interest in doing so.

References