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Wireless Aptitude Answer PAD

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Abstract: This project represents Wireless Answer pad for aptitude test which is the cost efficient along with time saving test. Because simplify the examination management and performance assessment. This study emphasized on developing answer pad to reduce complexity of computer. This project work focuses on the aspects on the master-slave device and platform oriented design. For fast and convenient question navigation and performance assessment of the wide application of the handheld devices we developed this system. In this project we have attempted to approach taking examination and implementing digital answer pad into tests and other examination too.

Key words: Aptitude, Wireless Answer pad.

I. INTRODUCTION

Now a days lot of studies introduced the information and communications technologies into the educational area to enhance the teaching and learning activities. One of the typical example is E examination system is that, it implements such a technology that it simplify the examination process by computer control and automatic marking to reduce complex paper work. Now a days in conventional learning environment there is fixed content and learning sequence which is commonly available for all the learners. Plenty of research publications on online E-examination systems is available. But most computer based evaluation gadget are web based testing and they employ the client-server paradigm. So the difficult challenge is covering the E-examination system is the security problems such as authenticity, privacy and cryptography which are addressed in many literature. The digital answer pad based E examination systems are mature and strong in security and functionality, and traditional machinery are too large in size and costly for examinations like computers. Every industry is trying to capture its benefits. This idea deals with the automation of traditional examination process with the help of wireless technology. In this project every end user will have its own Electronic Answer Pad. This answer pad is a combination of keypad and display, so that end 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 end user will be sent to server System via wireless Technology, the server system will then analyze the answers with the pre loaded answer sheet, in order to generate the results of all users. In this digital answer pad based E-examination systems are mature and effective in security and functionality, but the traditional machinery are too large in size and costly for examinations like computers.

II. LITRETURE SURVEY

F.Adebayo et.al [1] In Nigeria there had been a growing concern about the conduct, authenticity and reliability of examinations especially during the process of selecting qualified prospective candidates into Nigerian universities. It is in this regard that the Joint Admission and Matriculation Board (JAMB) introduced the computer-based testing (CBT) with the objective of eliminating all forms of examination malpractices and promote the use of electronic testing in Nigeria. This study therefore seeks to identify the prospects and challenges that will pose threats to the success of adopting CBT in all examinations and how to neutralize them. Secondary data notably textbooks, academic journals, conference papers, internet materials among others were primarily utilized. The study finds that the adoption of CBT in Nigeria faces ten critical challenges amongst this are economic factor, security, Software; Poor ICT culture, policy and implementation; and power failure. Therefore, the study identify educational presentation on CBT, public relation campaign, web campaign, post test feed-back, regular power supply, implementation of ICT policy etc as approaches to defuse the challenges Chitte P. et.al [2] This paper represents Wireless Answer pad 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. Zhaozong M et.al**[**3]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 exam to simplify the exam management and performance assessment. The research work focuses on the aspects of mobile device and platform oriented design, light-weight and efficient application, fast and convenient question navigation, and performance assessment, etc. In order to

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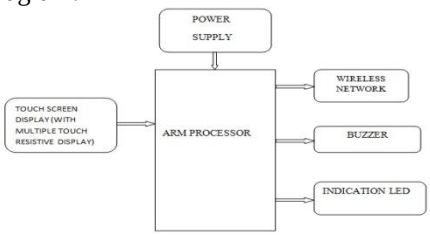
conduct an appropriate information service to the heterogeneous resource limited devices, the context-aware service notion is introduced to the system design. The user profile and device information are modeled and managed efficiently according to the data characteristics and their interrelationships for information adaptation. The assessment module can provide statistical results for learning performance analysis.

III. SYSTEM DEVELOPMENT

Block diagram:



This block diagram consists of following components:
1. ARM processor
2. Wireless Network
3. Buzzer
4. Touch screen Display
5. Led

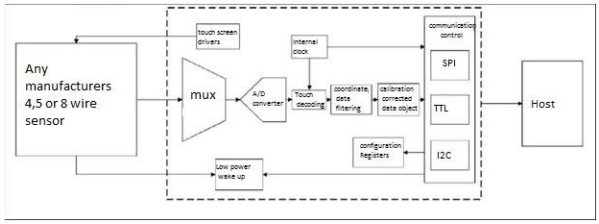
IV. THE SOFTWARE REQUIREMENT

1. Embedded C: It is a set of language extensions for the C Programming language by the C Standards committee to address commonality issues that exist between C extensions for different embedded systems. Historically, embedded C programming requires nonstandard extensions to the C language in order to support exotic features such as fixed-point arithmetic, multiple distinct memory banks, and basic I/O operations. Embedded C uses most of the syntax and semantics of standard C, e.g., main () function, variable definition, data type declaration, conditional statements (if, switch, case), loops (while, for), functions, arrays and strings, structures and union, bit operations, macros, etc.

2. Keil: Keil was founded in 1982 by Günter and Reinhard Keil, initially as a German . In April 1985 the company was converted to Keil Electronics GmbH to market add-on products for the development tools provided by many of the silicon vendors. Keil implemented the first C compiler designed from the ground-up specifically for the 8051 microcontroller. Keil provides a broad range of development tools like ANSI C compiler, macro assemblers, debuggers, simulators, linkers, IDE, library managers, real-time operating systems and evaluation boards for Intel 8051, Intel MCS-251, ARM.

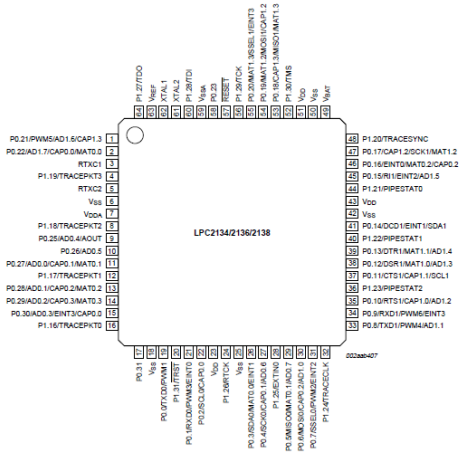
V. HARDWARE DESCRIPTION

The Touch screen Display: The capacitive touch screen display generally provides higher quality and better user experience than traditional resistive touch screen display this reference design shows the how to interface the capacitive display to ARM processor. The display has an integrated touch screen controller that interfaces with ARM processor via its I2C port



LPC 2138:

The LPC 2138 microcontrollers are based on a 32/16 bit ARM7TDMI-S CPU with real-time emulation and embedded trace support, that combines the microcontroller with 32 kB, 64 kB, 128 kB, 256 kB and 512 kB of embedded high speed Flash memory. A 128-bit wide memory interface and a unique accelerator architecture enable 32-bit code execution at maximum clock rate. For critical code size applications, the alternative 16-bit Thumb mode reduces code by more than 30 % with minimal performance penalty.Due to their tiny size and low power consumption, these microcontrollers are ideal for applications where miniaturization is a key requirement, such as access control and point-of-sale.With a wide range of serial communications interfaces and on-chip SRAM options of 8/16/32 kB, they are very well suited for communication gateways and protocol converters, soft modems, voice recognition and low end imaging, providing both large buffer size and high processing power. Various 32-bit timers, single or dual 10-bit 8 channel ADC(s), 10-bit DAC, PWM channels and 47 GPIO lines with up to nine edge or level sensitive external interrupt pins make these microcontrollers particularly suitable for industrial control and medical systems.



An overview of some of these techniques is given below:

PERFORMANCE ANALYSIS

Algorithm:

1. All the question paper sets will be stored in a Master Computer via Internet, from this Master

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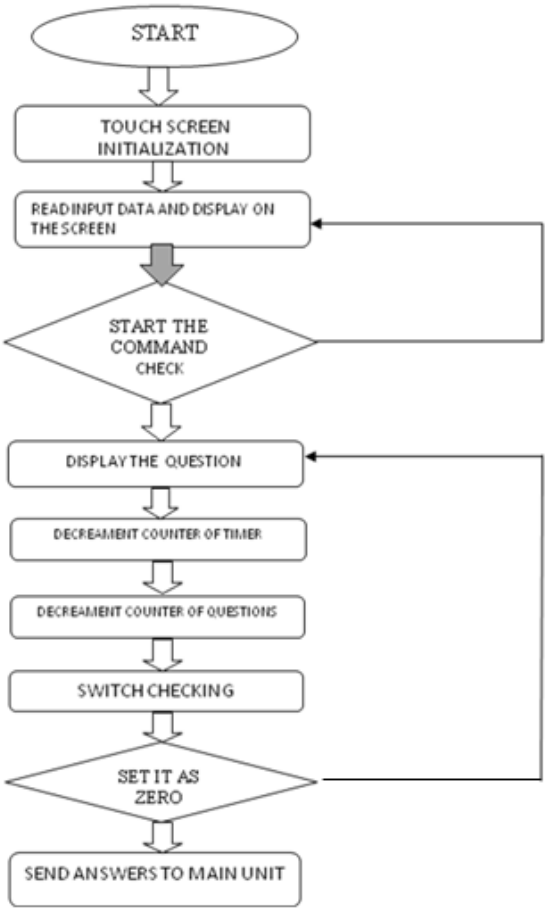
computer it will be send to the Slave unit as per the prescribed time before the start of examination.

2. 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.
3. Then different set of objective questions with options will arrive as per the sequence on different Slave unit.
4. As the time starts the candidate will start solving the questions, at a time only one question will appear.
5. There are four buttons given on the device A, B, C, D by pressing the particular button the candidate can select the answer.
6. If the candidate wants to preview the previous question then by using the preview button he can go to the previous questions.
7. If the candidate wants to proceed with the question then by using the next button he can proceed with the questions
8. After time-up Master Unit will request Slave Unit to send the data.
9. Then all the data will appear at the display
10. Unit within few seconds, only one Slave will send the data at a time.
11. Simultaneously Master unit will start analyzing the answers with the standard format stored in it.

VI. FLOWCHART



ADVANTAGES

1) Very reliable, secure and accurate
2) It avoids proxy users as validation and user verification is perform by the system.
3) Time saving and user friendly system

DISADVANTAGES

1) Server problem.
2) Somewhat difficult to programming as design concern.

APPLICATION

There are various application for the system-

1) The commercial use.
2) Industrial aptitude.
3) Educational Organization etc.

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