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4	Mr. J Sunil Kumar Mr. E Nagaraju et al	Electronics and Communication Engineering	An Efficient Comprehensive Survey on Advanced Algorithms for VLSI 3D Partitioning Physical Design Automation	2249-7455	https://ijamtes.org/	https://ijamtes.org/gallery/61.%20oci%20ijmte%20-%201079.pdf	ugc
5	Mr. G. Ganesh Reddy et al	Electronics and Communication Engineering	IOT Based Real Time Digital Led Notification Display Board using Node MCU via Telegram Messenger App	2321-1953	https://www.ijitech.org/	http://ijitech.org/uploads/241365IJIT17181-94.pdf	ugc
6	Dr. A. Narmada Dr. P. Sudhakara Rao et al	Electronics and Communication Engineering	RFID Integration with Wireless Sensor	2321-581X 0976-2973	https://www.ijersonline.org/Home.aspx	https://www.ijersonline.org/ShowPDFPaper.aspx	ugc




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7	Mr. G. Ganesh Reddy et al	Electronics and Communication Engineering	IOT Based Home Automation and Security System Using Raspberry PI and Mail Server	2319-8885	http://ijsetr.com/	http://ijsetr.com/issue.php?issue=ISSUE%2012&volume=Volume7	ugc
8	Mr. J Sunil Kumar et al	Electronics and Communication Engineering	Design and Implementation of low Power Bist Based Radix 4 Booth Multiplier Using FPGA	2321-2152	https://www.ijmece.com/	https://www.ijmece.com/previousissue.php?year=2018&issue=3	ugc



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ASIC Implementation of Low Power Efficient Crosstalk Analytical by LUT-BED-CLA

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Abstract: Nowadays, crosstalk noise is one of the major problems in VLSI design circuits. While transmitting the input information, the noise occurs in the channel. After receiving the information, the input data affect by the crosstalk. In this paper, Look Up table with Bus Encoding Decoding Carry Look Ahead adder (LUT-BED-CLA) is introduced to eliminate the crosstalk noise in the receiver side. Encoder block consists of transition detector, Type-A detector, Type-B detector, XOR stack, and Latch. Encoder output is given to the crosstalk model circuit, which is implemented in Cadence virtuoso. This crosstalk model output connects to decoder input. Decoder block contains an XOR circuit to retrieve the original data, which is given to the input of the encoder. From the encoder and decoder, the area, power, and delay was evaluated. Instead of using normal adder, CLA adder was used in counter which gave better performance. From the crosstalk analysis, cross talk output was given to the decoder input. Even though, decoder output gave same output which was given to the encoder input. This entire work implemented in Verilog to evaluate ASIC performance for 180nm and 45nm technology. In ASIC 180nm technology, 26.3% of area, 39.67% of power, 55.53% of APP, and 26.3% of ADP is minimized in LUT-BED-CLA as well as 45nm technology, 34.4% of area, 24.1% of power, 38.62% of delay, 50.11% of APP, and 59.6% of ADP reduced in LUT-BED-CLA method compared to existing method.

Keywords: Bus encoding decoding, Crosstalk, Cadence virtuoso, Look up table, 180nm and 45nm.

1. Introduction

In VLSI fabrication process, Deep Sub-Micrometer System-On-Chip (DS-SOC) becomes a global trend because it's having desired advantages such as high-speed, efficient communication, and etc. But, inter-wire Crosstalk (IWC) is one of the major challenges in VLSI technology [1]. Normally, crosstalk is a type of noise which is introduced by unwanted coupling between two neighbouring buses [2]. In Energy Consumption and Delay (ECD) models, the entire crosstalk bus is represented as a function of energy consumption that is used to determine the delay and the speed of the bus [3]. Many authors have introduced different types of crosstalk Reduction Technique (CRT) such as eliminating specific data transition patterns, reducing the energy consumption, coding technique and minimizing the delay [4]. To eliminate the crosstalk,

a Simple Delay Penalty (SDP) technique is introduced in passive shielding inserts passive (e.g., grounded) and shield wires between adjacent data lines [5]. This technique is used to reduce the bus delay. But, it requires doubled a number of wires to create a bus without any loss [6].

The Crosstalk Avoidance Coding(CAC) technique has given the promising solution in low power activity such as 1) low-power buses through Self and Coupling Transition (SCT) activity reduction (Low-Power Codes(LPC)) [7 - 9], 2) Improved reliability in low-swing buses (Error-Control Codes (ECCs)) [10, 11]. The most of the CAC reduction existing systems have very high complexity like more power consumption, cross-talk noise. For example, the Coder-Decoder (CO-DEC) technique has a complexity in the size of the bus [12]. Many researchers have found the different way of the CAC in CO-DEC to solve the crosstalk problem. In



Novel Approach for Multi Cancers Prediction system using Various Data Mining Techniques

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Abstract - Cancer occurs when changes called mutations obtain situate in genes that control cell growth. The mutations permit the cells to divide and multiply in an uncontrolled, hectic way. The cells are multiplying, producing copies that obtain increasingly more abnormal. In the majority cases, the cell copies finally form a tumor. Cancer is the most vital reason for death in the world. The most of common cancers diagnosed in the world are those of the breast, lung, and blood cancers. The prognosis of different cancer is extremely variable. Several cancers are curable with early detection and treatment. Cancers that are aggressive at a later stage maybe more difficult to cure. Knowledge Discovery in the database (KDD), which includes data mining techniques are has been used in healthcare. This study paper we have discussed various data mining techniques that have been utilized for the breast cancer, lung cancer, and blood cancer. We focus on present research being carried out using the data mining approach to enhance the breast, lung, blood cancers risk factors are diagnosis and prognosis.

Keywords - Breast cancer, lung cancer, blood cancer, data mining and decision tree Knowledge Discovery in the database.

I. INTRODUCTION

Ecological elements that transform qualities encoding basic cell-administrative proteins. The resultant variant cell conduct prompts extensive masses of anomalous cells that pulverize surrounding ordinary tissue and can spread to fundamental organs resulting in disseminated sickness, normally a harbinger of imminent patient demise. All the more fundamentally, globalization of unfortunate ways of life, especially cigarette smoking and the appropriation of numerous highlights of the cutting edge Western eating regimen (high fat, low fiber content) will increase cancer incidence.

Data mining method involves the utilization of refined data examination instruments to find beforehand obscure, legitimate examples and connections in vast data set. These devices can include factual models, mathematical calculation and machine learning techniques in early location of cancer. In characterization learning, the learning plan is given an arrangement of grouped cases from which it is relied upon to take in a method for classifying concealed illustrations. In affiliation learning, any relationship among highlights is looked for, not only ones that foresee a specific class esteem. In clustering, gatherings of cases that have a place together are looked for. In numeric prediction, the result to be anticipated is certifiably not a discrete class however a numeric amount. In this examination, to characterize the data and to mine incessant examples in data set Decision Tree calculation is utilized.



Daily Faculty Classroom Attendance System Over College Website

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Abstract: This paper is presented about a system of recording faculty attendance using fingerprint identification that allows monitor faculty attendance to class is a true electronically. It can reduce the presence of fraudulent faculty who are now mostly done by the faculty and the system can also reduce problems such as the presence of the missing paper and easily damaged. With this system can replace the existing manual system to a more systematic and electronics.

Keywords: Raspberry Pi-3, Bio-Metric, Finger Print Sensor, LCD Display.

I. INTRODUCTION

Attendance is a concept that exists in different places like institutions, organizations, hospitals, etc. during the start and end of the day to mark a person's presence. Since the past, the traditional way of taking attendance in a class includes a pen, attendance book or registers and a person. Thus the drawbacks arise as it consumes time, needs manual work and the most important, information or the attendance can be manipulated. Also, there are chances of students not responding to their attendance and later claiming for the attendance. The new procedure of taking attendance using fingerprint is easier and therefore overcomes all the above mentioned drawbacks. This paper presents a fingerprint based biometric system that records the attendance automatically. This system consists of a Raspberry pi- the heart of the project and fingerprint sensor which is used to detect the person's identification. For example, in educational institutions, the staff needs to place their finger on the fingerprint sensor to obtain their attendance. The fingerprint captured is recorded in a flash memory and then each time it is checked whether the obtained fingerprint matches with the record in the flash memory after which the student gets the attendance. By making use of this system, we overcome the issues such as proxy so no staff can give attendance for their friends who are absent. The software platform used is Raspberry-pi (Linux OS), Python programming language. The attendance management system can be improved by adding the features that indicate if the employee is late. Some of the future enhancements for this are to extend the current flash memory to store the complete details of the staff. The system can be enhanced to track the arrival and exit time of the employee for additional monitoring.

II. LITERATURE REVIEW

Many researchers have implemented Fingerprint based attendance system which makes use of a Fingerprint sensor/scanner along with other technologies. These systems

are classified based on the tools and techniques used to implement the system.

III. MANUAL ATTENDANCE

Attendance is a concept that exists in different places like institutions, organizations, hospitals, etc. during the start and end of the day to mark a person's presence. Since the past, the traditional way of taking attendance in a class includes a pen, attendance book or registers and a person. Thus the drawbacks arise as it consumes time, needs manual work and the most important, information or the attendance can be manipulated.

IV. PROPOSED BLOCK DIAGRAM

REAL TIME FACULTY DAILY ATTENDANCE SYSTEM OVER COLLEGE WEBSITE

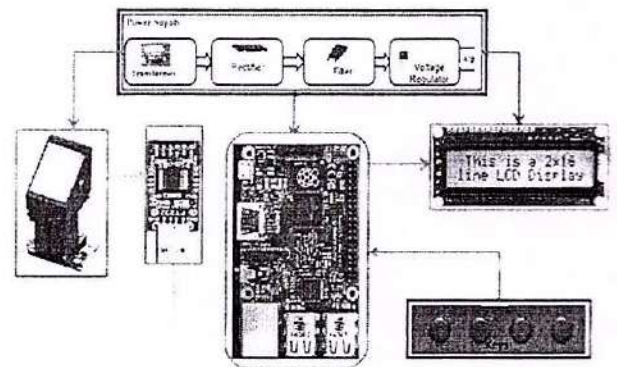


Fig.1. Block Diagram.

A. Procedure

The finger print is compared with the database which contains the information of the staff in the classroom. Here we propose a smart fingerprint based biometric attendance system that works over IOT so that attendance can be monitored from anywhere in the world. Our system uses a raspberry pi based circuit with fingerprint sensor, push



AN EFFICIENT COMPREHENSIVE SURVEY ON ADVANCED ALGORITHMS FOR VLSI 3D PARTITIONING PHYSICAL DESIGN AUTOMATION

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ABSTRACT

Today, VLSI technology has taken a fundamental role in developing most of the innovative electronic circuits. Despite the fact that VLSI design is eminent for its smaller size, lower cost, lower control, high reliability and high functionality, the design process takes long time and produces high risk. So, to get the knowledge with respect to the diverse contributions on VLSI design, the design of VLSI using streamlining is explored here. Accordingly, VLSI design advancement is analyzed through various algorithms and the execution measures of various VLSI experimentation are thought about. In 3D, the parceled units are assigned to a particular layer. So, we can say that layer assignment is a piece of 3D partitioning. Further, various improvements on 3D PARTITIONING PHYSICAL DESIGN Automation. Additionally, PARTITIONING problem of VLSI is considered and audited.

KEYWORDS:

VLSI design, Partitioning, K-1 algorithm, Floor planning, Routing, Lee's algorithm, Layer Assignment, Hyper graph, 3D Vias, Wire-length, Max-cut.

1. INTRODUCTION:

The information revolution that has reworked our lives is driven by a revolution in integrated circuit (IC) technology. IC technology has evolved in the 1960s from the integration of a few transistors to the integration of millions of transistors in Very Large Scale Integration (VLSI) chips currently in use. The ascent in integration technology has been and continues to be created doable by the automation of varied steps concerned within the design and fabrication of VLSI chips.

The VLSI design cycle for the creation of a chip begins with a formal particular of a VLSI chip, follows a progression of steps, and eventually delivers a packaged chip. A typical design cycle might be spoken to by the flowchart in Figure 1. Our accentuation is on the physical design advance of this cycle.

ICs comprise of various electronic segments, built by layering several distinct materials in a well-characterized design on a silicon base called a wafer. The designer of an IC changes a circuit portrayal into a geometric depiction called the layout. A layout comprises of an arrangement of set of planar geometric shapes in several layers. The way toward changing over the particular of an electrical circuit into a layout is called the physical design process.

VLSI Physical Design (PD) Automation is essentially the examination, development and generation of algorithms and information structures related to physical design process.

The goal is to research optimal courses of action of gadgets on a plane (or in three measurements) and productive interconnection outline between these gadgets to fulfill certain topological, geometric, timing and power-utilization imperatives.



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IoT Based Real Time Digital Led Notification Display Board using Node MCU via Telegram Messenger App

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Abstract: Everything around us is becoming smart such as smart phones, smart televisions, smart refrigerators, so why not smart displays boards for advertisements and notices. Display boards are primary thing in any institute, organization, public utility places like bus stops, railway stations, parks, shopping malls to display information regarding platforms, various advertisements about the products, or important notices. People are now adapted to the idea of the world at its fingertips. The old-wired display boards are controlled by microcontroller. To change message, we need to change the microcontroller program code again and again. By adding IOT wireless communication interface, we can overcome these limitations. It is a start to the era of smart and real-time displaying of messages on display boards. This paper explains the development of "IoT Based Real Time Digital Led Notification Display Board Using NodeMCU via Telegram Messenger".

Keywords: Node MCU, MAX232, LED Display, Wi-Fi Technology.

I. INTRODUCTION

Notice Board is primary thing in any institution or public utility places like bus stations, railway stations, colleges, malls, etc. But sticking various notices day to day is a difficult process. A separate person is required to take care of this notices display. This project is about advanced wireless notice board. The project is built around NodeMCU which is heart of the system. Display is obtained on project tor. A Wi-Fi is using for Data transmission. At any time we can add or re- move or alter the text according to our requirement. At transmitter authorized PC is used for sending notices. At receiving end Wi-Fi is connected to raspberry pi. When an authorized user sends a notice from his system, it is received by receiver. Wireless is a popular technology that allows an electronic device to exchange data wirelessly over a computer network, including high speed wireless connections. The data is received from authenticated user. Then it sends to arm 11 that is raspberry pi.

A. Internet Of Things (IOTS)

The Internet of Things (IoT) can be described as connecting everyday objects like smart-phones, Internet TVs, sensors and actuators to the Internet where the devices are intelligently linked together enabling new forms of communication between things and people, and between things themselves. Building IoT has advanced significantly in the last couple of years since it has added a new dimension to the world of information and

communication technologies. It is expected that the number of devices connected to the Internet will accumulate from 100.4 million in 2011 to 2.1 billion by the year 2021, growing at a rate of 36% per year. In the year 2011, 80% machine to machine (M2M) connections were made over mobile networks such as 2G and 3G and it is predicted that by 2021, this ratio will increase to 93% since the cost related with M2M over mobile networks are generally cheaper than fixed networks. Now anyone, from anytime and anywhere can have connectivity for anything and it is expected that these connections will extend and create an entirely advanced dynamic network of IoTs. The development of the Internet of Things will revolutionize a number of sectors, from automation, transportation, energy, healthcare, financial services to nanotechnology. IoTs technology can also be applied to create a new concept and wide development space for smart homes to provide intelligence, comfort and to improve the quality of life.

II. LITERATURE SURVEY

A. Existing System

In the current scenario the notice/advertisement boards are being managed manually. This is a time consuming task to put up notices on the notice board. This wastes a lot of resources like paper, printer ink, man power and also brings about loss of time. The existing system is based on GSM technology so it requires SIM card to send the messages on notice board. In the existing system is also supports international roaming capability of GSM, so we can send message to receiver from any part of the world that's why extra charges are required.

B. Proposed System

The proposed system E-Circular is to overcome the existing problems. It is to display the circulars from Transmitter unit to respective receiver unit using wireless transfer. The transmitter unit consists of the microcontroller, Wi-Fi transeiver combined as shown in Fig.1. If we type any matter in the web server it will transfer from Telegram Mobile App transmitter unit to receiver unit. The receiver unit receives the transmitted data and it displays in LED board.

III. DESCRIPTION

Currently, almost all universities offer their electrical notice board access to e learning platform in their websites, which contain the educational material of the subjects taught



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RESEARCH ARTICLE

RFID Integration with Wireless Sensor Networks

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ABSTRACT:

Radio Frequency Identification (RFID) and Wireless Sensor Network (WSN) are two important wireless technologies that have wide variety of applications and provide limitless future potentials. However, RFID and sensor networks almost are under development in parallel way. Integration of RFID and wireless sensor networks attracts little attention from research community. This paper first presents a brief introduction on RFID, and then investigates recent research works, new products/patents and applications that integrate RFID with sensor networks. Four types of integration are discussed. They are integrating tags with sensors, integrating tags with wireless sensor nodes, integrating readers with wireless sensor nodes and wireless devices, and mix of RFID and sensors. New challenges and future works are discussed in the end.

KEYWORDS: RFID, sensor networks, integration, survey.

INTRODUCTION:

While there has been a rapid growth on developing and applying RFID technologies in industries, research communities have paid less attention to the integration of RFID and WSNs. Few introductions on RFID and WSNs have been presented, such as [10] and [24]. These works either are outdated or miss comprehensive study. The paper surveys recent research works, new products/patents and applications that integrate RFID with wireless sensor networks. It classifies current works into four categories according to different manners of integration. The investigation starts with a brief introduction on RFID. Since sensor network has been a familiar topic in academic, we skip its introduction and focus on only RFID in rest of the section.

1.1. Radio Frequency Identification:

RFID is a means of storing and retrieving data through electromagnetic transmission to an RF compatible integrated circuit [4]. It is usually used to label and track items in supermarkets and manufactories. For example, Wal-Mart, Procter and Gamble, and the U.S. Department of Defense have deployed RFID systems with their supply chains [3]. However, potential of RFID is much more than that. Today, RFID has been widely applied in supply chain tracking, retail stock management, tracking library books, parking access control, marathon races, airline luggage tracking, electronic security keys, toll collection,

Theft prevention, and healthcare [2]. Current trends and

Forecast s indicate that the market will grow fast in the next 10 years. In 2006 alone, 1.02 billion RFID tags were sold [8]. Total value of the market, including hardware, systems and services, is expected to grow from €500 million to €7 billion by 2016 [6].

Briefly, RFID systems consist of two main components: tags and readers. A tag has an identification (ID) number



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IoT Based Home Automation and Security System Using Raspberry Pi and Mail Server

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Abstract: This paper presents an approach for smart home automation using Internet of Things (IOT) integration with web services. This project aims to increase home security using the aforementioned approach. The approach focuses on sending data and receiving instructions by sensors, cameras and from the end user, through embedding intelligence to the mentioned gadgets using Raspberry Pi tiny computer. IOT can be viewed as an evolution rather than a revolution. IOT involves leveraging connectivity to efficiently collect and analyze the data from various sensors and relay the data to the mobile or personal computer through Wireless connectivity. The currently built prototype of the system sends alerts to the owner using the Internet if any sort of human movement is sensed near the entrance of his house and raises an alarm optionally upon the user's discretion. The provision for sending alert messages to concerned security personnel in case of critical situation is also built into the system. Thus using the same set of sensors the dual problems.

Keywords: IOT, SMTP Server, Raspberry Pi.

I. INTRODUCTION

The Internet of Things lets you automate your home and monitor it from afar around the world. The whole point of smart home is to make simple tasks even easier. Home automation or Smart Homes can be described as introduction of technology within the home environment to provide convenience, comfort, security and energy efficiency to its occupants. Adding intelligence to home environment can provide increased quality of life. With the introduction of the Internet of Things (IOT), the research and implementation of home automation are getting more popular. The Internet of Things (IOT) can be described as connecting everyday objects like smart-phones, Internet TVs, sensors and actuators to the Internet where the devices are intelligently linked together enabling new forms of communication between things and people, and between things themselves. Building IOT has advanced significantly in the last couple of years since it has added a new dimension to the world of information and communication technologies. The provision for the user to automate homes remotely is the main target of this system. There was a need to automate home so that users can take advantage of the technological advancement in such a way that a person can send a control signal to the home control center when he forget to turn off devices such as fans and lights instead of returning home.

II. LITERATURE SURVEY

Raspberry Pi as a Sensor Web node for Home Automation. This paper proposes an implementation of Sensor Web node as a part of Internet of Things (IOT) using

Raspberry Pi. Raspberry pi is customizable, reasonably cost and programmable small computer having large numbers of peripherals and network for communication. Before the IOT technology controlling, monitoring and alerting of devices is not possible. IOT technology provides many advantages including cost saving, security, safety and improve comfort. Open source software is used for programming which control the devices. Experimental result and performance have shown by Raspberry Pi. Home appliances, temperature and humidity sensor, and a motion sensor are connected with Raspberry pi so that they can be monitored and controlled. Sensors value send to the web link and we can control it through web and controlling appliances with the click of buttons on a webpage using internet, from anywhere. Raspberry Pi based Interactive Home Automation System through E-mail the algorithm developed such a way that it read the subject of E-mail or in other word we can say that, home application controlled through E-mail by reading the subject. Home Security System using PIR Sensor and Pi Camera. This system will detect the presence of Intruder and quickly alert the user by sending him an alert mail. This mail will also contain the Picture of the Intruder, captured by Pi camera. Raspberry Pi is used to control the whole system. This system can be installed at the main door of your home or office and you can monitor it from anywhere in the world using your Email over internet.

III. BLOCK DIAGRAM

Description: Raspberry pi as minicomputer that executes our back end program, the backend program is written in



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Design and Implementation of Low Power Bist Based Radix 4 Booth Multiplier Using FPGA

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Abstract: The ever increasing applications of integrated circuits in the day-to-day useful electronic gadgets are the driving force for the development of low power designs of configurable hardware designs. High speed and low power are the main parameters that are targeted by modern circuit designers. Among the fastest increasing applications the audio and video signal processing applications are growing at a very high rate. Mobile applications have increased the technological improvements for digital signal processing applications. Multipliers are the very important logic operational unit of any processing unit in digital signal processing applications. The speed and performance of multiplier is among the efficiency improvement parameters of any digital hardware design. Another important feature of hardware designs is self-testing ability. In this proposed work radix 4 booth multiplier is designed and tested by using low power Built in self Test technique. The built-in-self test (BIST) feature helps in quick diagnosis of the hardware functional authenticity. The proposed design consumes less power, less device utilisation and delay factor compared to the radix 2 testing using BIST. RTL synthesis has been done by using Xilinx 14.7 and simulation is done by using Xilinx Isim. The proposed design is realized using Xilinx Tool using Verilog. A low power Test Pattern Generator (TPG) is involved in the design for self-test design realization.

Keywords: Built-In-Self-Test, Test Pattern Generator, Linear Feedback Shift Register, Golden signature, output response analyzer.

I. INTRODUCTION

Nowadays, a configurable hardware design performance can be evaluated using its operational speed and power. Field Programmable Gate Array (FPGA) is among the configurable devices that cope with the desired and promising power and speed based hardware performance. In FPGA the operation execution is based on the switching of the internal path of current through a combination of hardware resource architecture. A hardware based optimization of any design can be achieved by the skill based modification of the operational circuit architecture. A low power system offers the benefits like device portability, long battery life, good performance criteria, etc. For modern digital applications a high speed processor with low power requirement design is the basic criteria. The most important design of digital signal processors is the multiplier design. The multiplier is used in most of the complex data processing applications.

The self-testing feature is another feature that is required in the hardware for self diagnosis or self-testing. This feature helps the configurable integrated circuit hardware to test itself and in case of hardware fault it helps to re-locate the hardware resource within the integrated circuit. In the self-test operation, hardware is tested for its functional output with the help of a supplementary hardware. A simple block diagram of a BIST based design representation is shown in Fig 1. Here a Logic Circuit is the design that is a functional block of an integrated circuit hardware design.

In the normal operation mode it performs the defined logic operation on DATA Input. When it is operated in Self-Test mode, a random sequence of data is generated by Test pattern Generator using control signal by BIST Controller. This test sequence is operated by Logic Circuit and the generated output of the logic operation is compared with the actual output. The comparator output indicates logic high if the output of the logic operation against the test inputs does not match with the actual output. This condition indicates a fault in the logic circuit hardware. In such cases a configurable hardware re-locates the circuit resources within the integrated circuit to avoid the faulty hardware shown in Figure1.

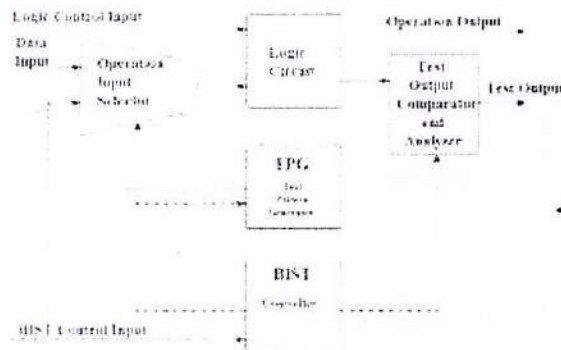


Figure1. Simple Block Diagram of BIST Design

Many architectural modifications are proposed by many scholars and researchers in their work regarding low power design of BIST based logic circuit for hardware design applications. In [1] a low power test pattern generator design is

