INFORMATION RETRIEVAL SYSTEM USING UTLP KIT

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Abstract

Information present on the internet is huge. This makes difficult for the user who is searching for a particular information. As the user struggles to get the information the need for development of this system came into process. With the advent of computers, it became possible to store large amounts of information and finding useful information from such collections. The main objective of this paper is collecting the information of a our college and storing that information into a system and retrieving the information whenever required. Information recuperation is a system for tracing and recovering specific information from stored data. In this paper 'information retrieval system using utlp (unified technology learning platform) kit' a system is developed for the institute of vidyavardhaka college of engineering. Here Graphical LCD(liquid crystal display) and Character LCD are used from UTLP kit for retrieving the information. The Graphic LCD provided to retrieve information about College blocks, Branch offered, Location, student strength.

Keywords- UTLP kit, Graphics LCD, Character LCD, ULK control panel, eclipse Software.

I. INTRODUCTION

Finding materials of an unstructured nature is difficult and to easy we have a system of retrieval that satisfies an information need from within large collections. Information retrieval is concerned with indexing and retrieval of textual documents and retrieving relevant documents to query and retrieving from large sets of documents efficiently. Answering the questions to the user is a discipline of information retrieval, which includes developing a system to store information and acquire the information whenever required. Acquiring the information about the library books present using catalogues and books is more

difficult hence computerized system is developed and information is stored and it is retrieved whenever required. In general there are three main areas of research Content Analysis, Information Structures, evaluation. Content Analysis is describing the contents of documents in a form suitable for computer processing. Information Structures are exploiting relationships between documents to improve the efficiency and effectiveness of retrieval strategies. Assessment is the capacity of the efficiency of recovery.

II. METHODOLOGY

This system which consists of Eclipse software and UTLP Kit as hardware provides information about the college to the user. Information System works on three major steps that is Corpus, Information need and Relevance. One can express their needs in the form of questions.

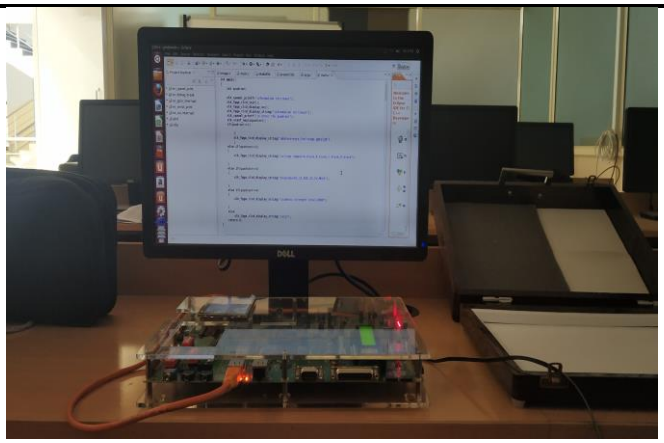

Fig1:- System and UTLP Kit setup

Corpus is large documents stored on computers and information need is topic about which we want to get the information and relevance means documents that are present in corpus what user wants to search. Information can be present in the form of structured data which refers to information present in the form of tables. It may also be in unstructured format. The methodology is divided into two parts and are: hardware and software parts.
The complete setup of the project is shown in fig1.

2.1 HARDWARE IMPLENTATION

ULK (unified learning kit) is based on Texas Instrument OMAP3530 application processor and Spartan-6 FPGA. It consists of ARM 8 processor, is based on the ARM architecture. The use of ARM 8 processor is to support the high speed devices. ARM 8 Processor to support ARM cortex A8 600MHZ CPU, Xilinx Spartan-6, power VRSGX graphics, LCD, audio in, audio out, seven segment LED, Dual line character LCD, external Bluetooth, onboard RTC, connectivity UART, 12C, USB 2.0
OTG, Ethernet and API supports for debug and ULK control panel. The software adopted here is ECLIPSE, is a multi-language software which is developed using DET (development environment tool). This software has an extensible plug-in system. Here the code is written mostly in java we can also write using ADA, C, C++, COBOL, PYTHON and HASKELL. We are using C language. Fig2 shows the unified technology learning platform (UTLP) kit.

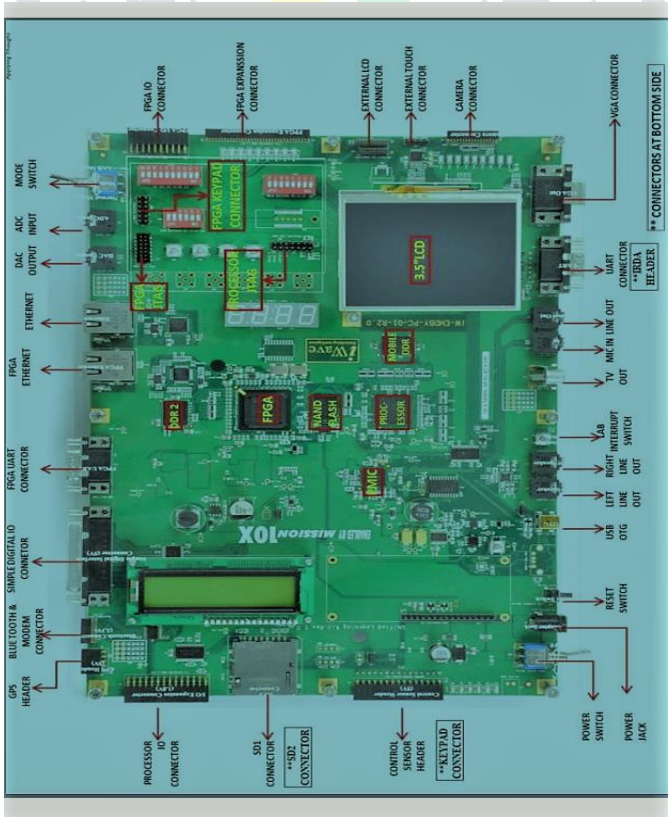

Fig2:- UTLP Kit

2.2 SOFTWARE IMPLENTATION

Control panel: Control Panel is an application program on the Ubuntu development PC which facilitates communication between Ubuntu Host PC and UTLP and also enables downloading and executing UTLP programs in normal mode. The communication takes place over ETHERNET with UDP as the transport between stub host on Ubuntu PC and stub client on UTLP. The Stub Client responds to various commands sent from the Stub Host on Ubuntu PC. We use Eclipse software for our project which is easy for writing programs which is required for displaying images on GLCD and enabling the touch of GLCD. We mainly write three programs that is displaying image on GLCD and enabling touch for GLCD and displaying the required information on CLCD. Interfacing between GLCD and CLCD was a difficult task but it was successfully done with the help of the program. Uploading program in the kit with the help of ULK panel and the logo of an eclipse software shown in fig3.

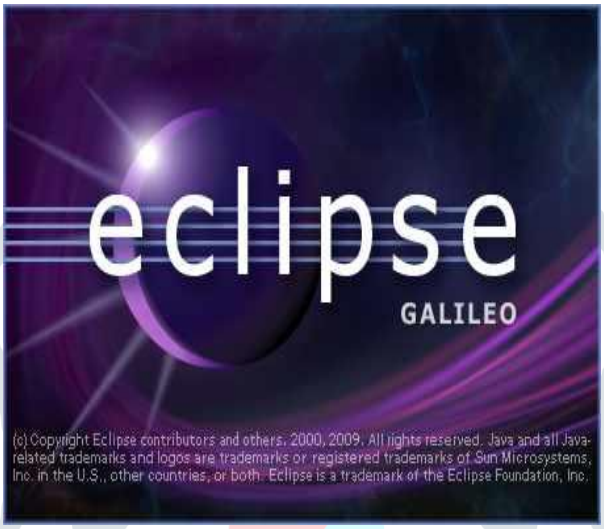

Fig3:- logo of eclipse software

3.IMPLEMENTATION

Fig4 shows, the implementation of both hardware and software.

Splitting GLCD into 4 blocks

Graphic LCD is of the size 320*240. Each block is filled with different colors and each block is programmed. x and y co-ordinates are considered for displaying image. Programming is done for displaying letters on four Blocks namely A, B, C, D. considering the circle and line using offsets.

- **Enabling the touch screen of GLCD**

Each block has to be enabled with touch option. The co-ordinates that is x and y must be considered. If else ladder is used in the program for enabling touch panel.

- **Interface between CLCD and GLCD**

Both CLCD and GLCD are interfaced using ‘c’ coding and combining subprograms in the main program. Dividing GLCD into four quadrants it is divided by fixing particular range and displaying the color in each quadrant. Later letters are displayed in each quadrant. And then the information is displayed on character LCD.

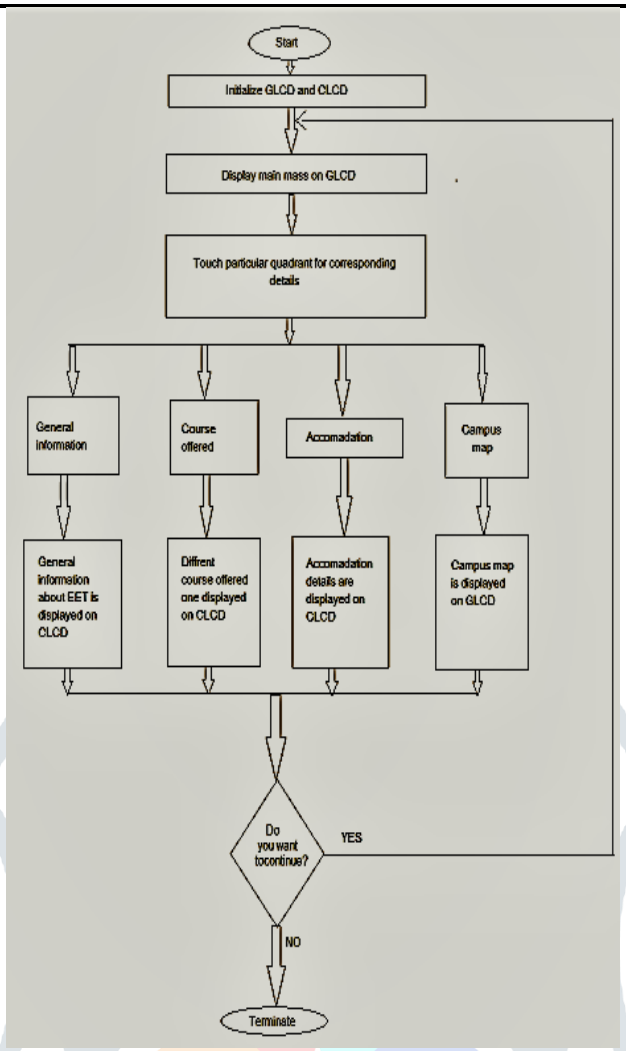

Fig4:- Flow Chart

4.RESULT AND CONCLUSION

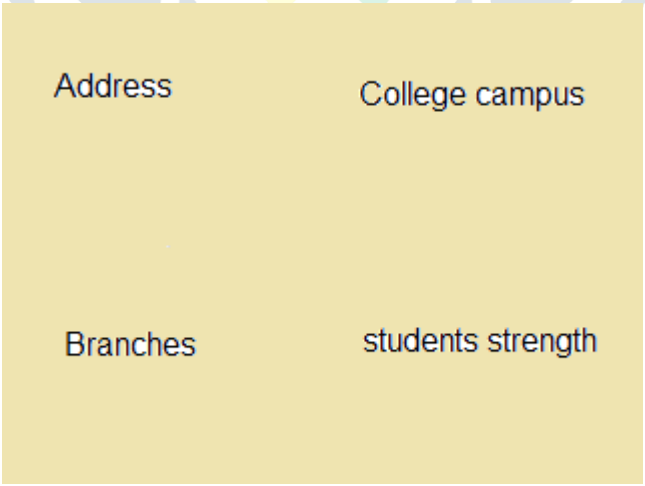

Fig5:- GLC Display

A Graphical LCD is divided into four quadrants and each quadrant is named as A, B, C, D and each latter A, B, C, D contains information about college campus, courses offered, student strength, Location shown in fig5. When the first quadrant is touched information about college campus is provided and whenever respective quadrants are touched respective information is displayed on CLCD which is shown in fig6.

Fig6:- CLC Display

"INFORMATION RETRIEVAL Using UTLP kit**",** gives a clear idea about the college. The fundamental details of the institute like college campus, course offered, Location, Student strength are provided. This provides a better platform for retrieval of information.

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