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Development of Web Server for Accessing Parameters: Review

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Abstract- In an organization there are number of front-ends whose data is send to VME stations and then communicated through RS485 to the PC. The database contains the status of all the front-ends and stored in the XLS file format. The data get refreshed at every change in state of the valves of any front-end. In this paper we are using asp.net to design a web page on the local area network through which front-end's logged parameters can be accessed. According to the requirement, details of any front-end with time stamp can be seen. Ajax is used for giving the live status.

Keywords- MySql, ASP.NET, Front End, Ajax, VME

I. INTRODUCTION

Front end is an interface used to provide the services directly to the user and forward the data. Back end indirectly supports the front end. The data received at the front ends are sent to the VME stations based DAQ (data acquisition) which has CPU 68000. VME based DAQ acquire data and transmit it through RS485. RS232 is used for one to one communication and is used with the computers. Since the data from VME sent to different computers thus for that RS485 is used. RS485 is used in one to many communications and it is immune to noise also. The computer holds the data of all the front ends. We can take the data in any format. The Fig1 shows the basic functional block diagram. If database is stored in MySql which is the most common tool for making a database, then for putting the database over the web page ASP.NET can be used. And for getting the updated data time to time Ajax tool is used in ASP.NET.

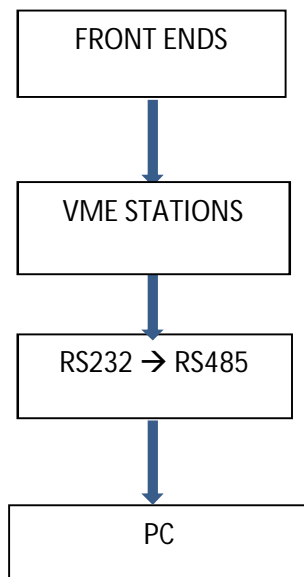


Fig1: Basic functional block diagram

II. LITERATURE REVIEW

MySql is an open source database management system. It is the best system which is used for developing web-based software application. It can create, alter, add, delete, and manage database. For large data it works very good and fast too. For larger software system it is very easy to install MySql. Also programming for connecting to MySql database is easy and can be directly used. The library of functions which is used with MySql is available in most of the programming languages like Microsoft, Perl, Ruby, C,

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.NET language, etc. Since MySQL has Open Database Connectivity (ODBC) standard, it is accessible even when MySQL-specific functionality isn't available [6]. For building the web application we can use ASP.NET. As it's a part of .NET Framework, which offers object-oriented programming (OOP) whose advantage can be taken by ASP.NET. The interaction between object and program can be understood by OOP.

In real life every aspect can be understood in terms of objects thus understanding and implementing OOP programming is easy. While creating a web page with the use of ASP.NET, we are creating a page's events (object with behaviors), methods which are commands, and objects instantiated which is the state. For Windows development we use VB earlier and the same approach is used for developing the web forms with ASP.NET. We just need to add a button object and make the programming to make the web models work by using ASP.NET.

The method which we used to develop a classic desktop is the same method which we use to design a surface and then do the programming [7]. ASP.NET allowed user to work on the featured languages like c#, Jscript or VB.NET. It uses HTTP commands and work on HTTP protocols for the communication. It consists of TextBox, DropDownList, RadioButton List, etc. for creating HTML page. To the Web Server, web form is submitted by the browser and then in response the server will return the HTML page. There are two states of application in ASP.NET framework, Page State and Session State. Page state has all the content which a web form has i.e. the state of the client. Session state has all the information about other pages which is visited by the user and worked with. To build the application of ASP.NET, we use Visual Studio. The codes are written, compiled and debugged in the Visual Studio [10].

There are many types of web application framework for different type of web technologies. By using the appropriate framework user can save the time which is invested in building the websites. ASP.NET or Classic ASP.NET and ASP.NET MVC are the two most popular framework used these days. ASP.NET allow user to build dynamic content with a static HTML page. The request made by the user is fulfilled by the server. The page then produces HTML output which is send to the browser by the server. MVC in ASP.NET stands for Modelled View Controller. MVC divides the application into three parts: Model, View and Controller. It uses latest web standards which enables fast and sophisticated web development [12].

A multi-processor data acquisition is based on VME is developed for LBL Bevalac facilities. It acquires the data from different crates and transmit through the Ethernet for taping to central VAX facility. The performance of the VME bus architecture in data acquisition yields a great improvement [3].

In a multipoint communication RS485 is used, which has a specified standard of 32 devices but it can be extended to hundred or thousand according to the usability. The data collision problems can be reduced by using RS485 [1].

Ajax stands for Asynchronous JavaScript and XML. Ajax gives us the opportunity to send and receive only the changed data without reloading the full page [2]. Ajax technology is widely used in the web development. It updates the only content of the page which is updated without refreshing the whole page.

It uses XML encapsulation which helps in the processing of bulk data [4]. It adds a layer called Ajax Engine in between the server and the user. This is the working principle of Ajax. This layer has JavaScript coding and acts as an interface between the user's application and server. For making the HTTP request user uses java script. XML form helps in the stimulation of an asynchronous request by the user. User does not visit the server directly, thus the waiting time for completely process the work is reduced. Fig 2 shows the basic model of Ajax and Ajax engine [11].

A. Ajax is a combination of following

- 1) Hypertext Markup Language (HTML)
- 2) Cascading Style Sheets (CSS)
- 3) Document Object Model (DOM)
- 4) XML Http request object
- 5) Java Script

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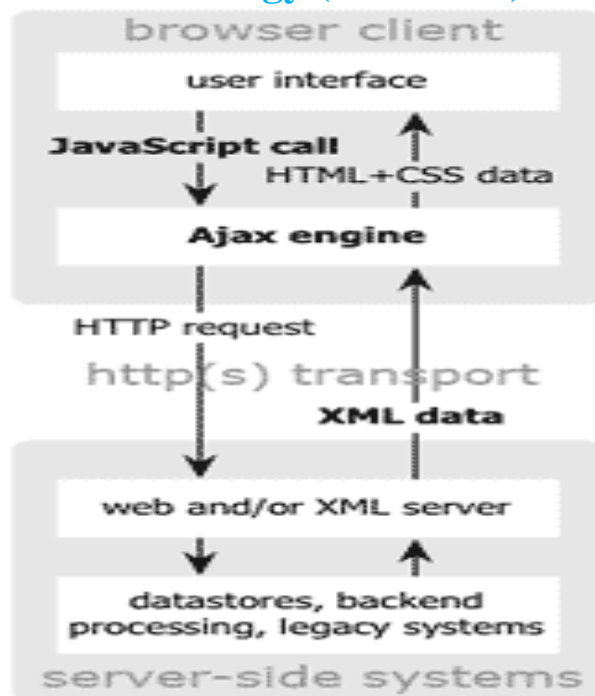


Fig 2. Ajax Web Development Model

HTML defines the content in the browser. CSS is used for styling the web application. Browser sends the content to the JavaScript which uses DOM so that before the data is seen by the user, it will be modified dynamically. XML Http request object help in the communication between the server and the user. It updates only the part of website without refreshing the whole page. JavaScript sticks the entire Ajax component together. JavaScript language is used in the browser for the communication purpose [4].

In [11] Ajax is used in the website which gives user a better experience of registration. Thus concluded that, the development models of Ajax web application are better than the development models of traditional web application. The websites become more interactive, direct and rich than the traditional web application. All the famous IT companies started using Ajax for the web development. It is not just a tool, it's a new way of writing the web application which makes the applications more attractive and easy to use.

The hospitals are integrated with the internet thus all the details of patients are stored in the local server. the database is stored in the MySQL and the front end is developed in ASP.NET. MySQL has the better understanding with front end and whenever there is any change in any value, it is easy to execute [8].

A college's physics experiments are managed by developing a management system on Visual Studio.NET. Using ASP.NET a network is developed for the university. It has the description of the system and the details about the students and experiments are stored in the Sql Server [9]. The complexity of retrieving and accessing database is reduced by using ASP.NET. For this ADO.NET technology is used. ADO.NET is the bridge between ASP.NET and backend data source [10].

With the use of Ajax technology, browser based experiences can be given to the user. It provides many applications to meet the requirements of the user [5].

III.APPLICATIONS

- A. Parameters of only the required front end can be accessed.
- B. Details of any front end with time stamp can be seen.
- C. Different user can access different front ends at the same time.

IV.CONCLUSION

Now a days everything is connected to the internet. To make the human life easy development is very necessary. Organization has many data and the database is stored in any format like access, MySQL etc. To retrieve the data from the database on web server a web application is required. Using ASP.NET a web application is designed which is linked to the database. A web application is made according to the use of the user and then debugged. Once the web application is made, it is then published on the server. Using

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this, any user can access the database at the same point of time.

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