A Mobile Web Server

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Abstract— In general the mobile device act as a client, because the conversion of IT and Mobile Computing domain the mobile device are also be viewed as a service hosting platform. Previously there is no any reason except the storage area for the mobile device to act as server because of less memory or less processing power, but due to the Smartphone's are introduce in market the problem is no more. Now a day the mobile devices have that much storage space. We are proposing a mobile web server which is software that provides a mobile device such as a smart phone or tablet, the capability, to host web sites, web application, and web services. In this paper we are proposing a web server which can run on a mobile device such as a Smartphone. We are proposing an Android Application (App) through which it is very easy and convenient to host the web site. As a mobile phone contains quite a lot of personal data it is easy to semi- automatically generate a personal web site. The primary goal is to bring a full-fledged web server to Android and to make a web server running on a mobile phone accessible from the internet using any web browser.

Keywords: Mobile Web Server, Networking, Real-time location, Dynamic HTML Generator

I. INTRODUCTION

Now a day's world gets closest toward because of internet. The users get all the information in few seconds on Internet. The Web Server is a most important term of the internet. A Web Server is a system that delivers content or services to end user over the internet. A web server has large storage space and a huge processing power.

It is possible to access the internet via mobile phones. In general the mobile device acts as a client, but due to the smart phones are introduced in the market there is no any restriction on storage space and processing power. So we are plane to taking the advantages of smart phones and make a mobile web server. Now a day, due to the conversion of IT and Mobile Computing domain the mobile device are also be viewed as a service hosting platform so our task become easier.

We are proposing a mobile web server is software which provides a mobile device such as a smart phone or tablet, the capability, to host web sites, web application, and web services. As a mobile phone contains quite a lot of personal data it is easy to semi- automatically generate a personal website. In this paper we are proposing an Android Apps through which it is very easy and convenience to user host the web site. In general, a website on a mobile phone always has its "administrator" nearby and he or she can even participate in the content generation. The primary goals were to bring a full-fledged web server to Android and to make a web server running on a mobile phone accessible from the internet using any web browser.

Providing access to a mobile phone from the internet is not straight forward, as operators typically employ firewalls that prevent access from the internet to phones inside that firewall. By implementing a custom gateway we could circumvent that limitation and we are now able to provide a web server on a mobile phone with a global URL than can be accessed from any browser, that means, the mobile phone has now finally become a full member of the internet.

There are many software technologies related to the mobile web server field.

A. Nokia S60 Web Server:

Nokia one of the few cellphone companies brought Apache HTTP Server to their line of Nokia cellphones, running Symbain OS S60 mobile software platform. The S60 Mobile Web Server enables connectivity for HTTP traffic to a mobile device from the Internet. The Mobile Web Server components include a gateway application that runs on a computer with Internet access and a connector application that runs on the remote mobile device. The gateway and the connector applications with a valid DNS configuration can provide a mobile device with a global web address (URL). However, as of January 2010, the web server project has been discontinued by Nokia.

B. Mobile-to-Mobile Multimedia Streaming:

Mobile-to-Mobile (M2M) multimedia streaming, it becomes an ultimate responsibility of a mobile server platform to provide an efficient mechanism for the management and control of multimedia streaming on the fly. The paper deals with the problem and proposes multimedia extensions to an existing light-weight Mobile Web Server (MWS) platform, which is based on Representational State Transfer (REST) is used to control multimedia streaming and its mapping over REST designed server is discussed in detail. Multimedia transmission is achieved by Real Time Transport Protocol (RTP) and the simplest frame structure of RTP has been proposed for this purpose.

C. Bambuser:

Bambuser is one commercial product that provides live streaming from Android devices as well as several other mobile phones and devices. Videos streamed using Bambuser are sent to the Bambuser server and watermarked. There is no control over what the company does with the video such as analysis and profiling. Video quality is comparable to that obtained by this project with the project setting at low resolution. The project high resolution does not display motion as well as the low quality but it gives a crisper and more detailed image. The web page uses the same method of Flash integration.

D. Qik:

Qik is another commercial product very similar to Bambuser. When testing Qik with our hardware, the live video was unavailable. Videos could only be viewed on the web page at the end of the recording the video.

E. Jetty:

A port of the popular Jetty open-source web container to run on Android mobile device platform. Having a "personal" web server on your phone opens up a world of possibilities, letting you run your favorite existing webapps in your mobile environment. Moreover, as webapps developed for i-jetty have access to the android API , this means that you can bring the contents of your mobile phone to your normal desktop browser.

As we see, there are few technology related to the mobile web server. But they do not give a proper solution. No any existing mobile web server has a that much capability to supports to host web sites, web application, and web services. Previously there are some mobile web servers which are Nokia S60 web server and Jetty. Due to some drawbacks in the model Nokia S60 that mobile phones are not in the market. Jetty web server used HTTP Protocol to implement web server and to generate the response for the client request web site is implemented in the HTML code. That means jetty web server deal with only the static page.

In this paper we are proposing an Android Application through which it is very easy and convenience to user host the web site. The user uses this Android Apps to host the personal website. Any user who has the Apps install on the mobile node can host the website for that there is no need to any technical person to host website. The user can maintain and controlled there website

Current solutions limit the configurability of such services by allowing video streaming only to fixed servers. In addition, the business models of the companies that provide such (free) service insert visual ads in the streamed videos, leading to unnecessary resource consumption.

We also like to support live video Streaming using a mobile camera to a distant/ remote computer and view the same on the web browser.This paper allows a real-time video streaming service from an Android mobile device's camera to a server. The real-time video can then be viewed from a web browser on the client's computer. The project builds on open source code and open protocols to implement a set of software components that successfully stream live video. User will have the ability to broadcast news and events live, using only an Android based mobile devices and an internet connection via the cellular network or Wi-Fi.

Application will work as services and not app on android mobile**.**

II. METHODOLOGY

The components that enable this application are the following:

- TO make android device as server through which user will host web-sites. TO make android application this will work as service and responsible for HTTP protocol.
- To make Android application this will capable to capturing and streaming video to a server.
- An implementation of the Real-time Streaming Protocol (RTSP) server that was based on the RFC 2326 specifications in order to implement the Real-time video streaming Protocol to viewing clients.
- An Android Device Communications Server will create to send and receive instructions between the web page and the Android device.
- A webpage interfaces will design for flexibility; SQL database statements were implemented for organization and ease of data access between interfaces.
- A host-to-host performance evaluation of the resulting system.

So as per the survey, we see that, the entire web browser uses HTTP protocol to talk with web-site. But websites don't understand HTTP protocol. Hence, Website always gets hosted inside a web server (E.g. Tomcat server, Apache server, IIS server (windows)). These web servers actually understand HTTP protocol and helps web-sites to render properly on client browser.

To develop such strong mobile web server, we proposed that to implement a whole HTTP protocol on Android .Due to we are using a standard HTTP protocol there is no need to install the Application to that user who just visit the website that is the end user. By using the standard HTTP protocol we are avoiding the peer to peer strategy and we are broadcasting live news and events.

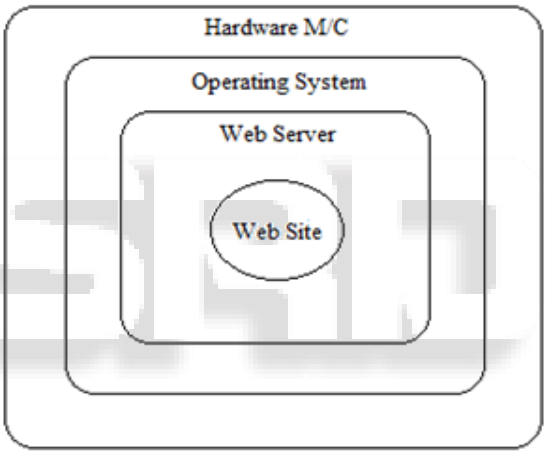

Fig. 1: Conventional server

To generate the mobile web server HTTP protocol is used. So that our task is finished to reverse the general scenario, Due to this the mobile node is act as a server. Next task is to generate the response, and which is implemented by using a client side technology. Previously some mobile server uses the HTML scripting language to generate the response. But because of this the server deals only with the static page.

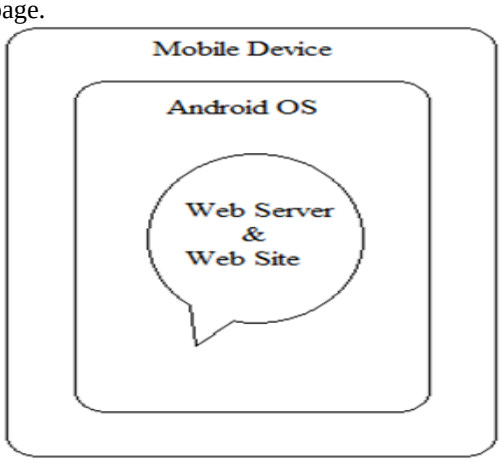

Fig. 2: Mobile Web Server

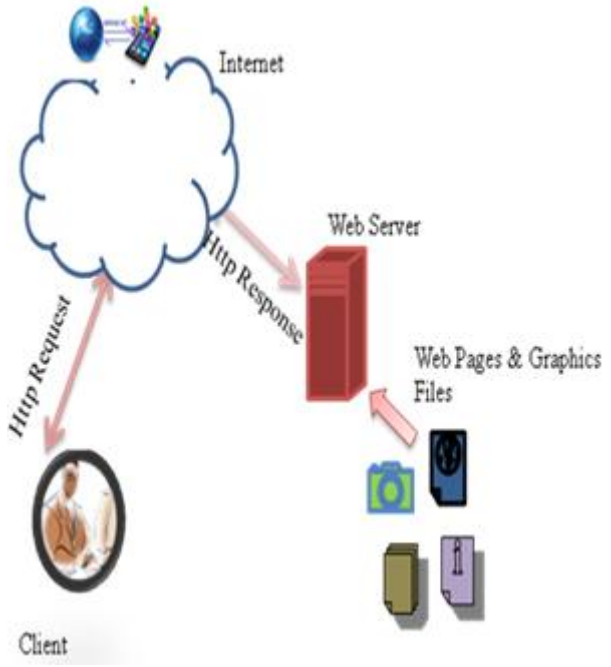

Fig. 3: Communication Process

If page is available then only it will response to the client otherwise client get the error like page not found. To avoid these drawback in this project we are provide the dynamic HTML Generator. By using the dynamic HTML Generator, according to the data stored in mobile phone dynamically page will be generated. In this project we are combine the website and web servers together.

In this paper We proposed that the mobile web server are work same as a general web server. The client will uses any client browser and sends the HTTP request in the standard HTTP request format

A. HTTP Request Format:

An HTTP request has three parts
HTTP method is almost always one of:

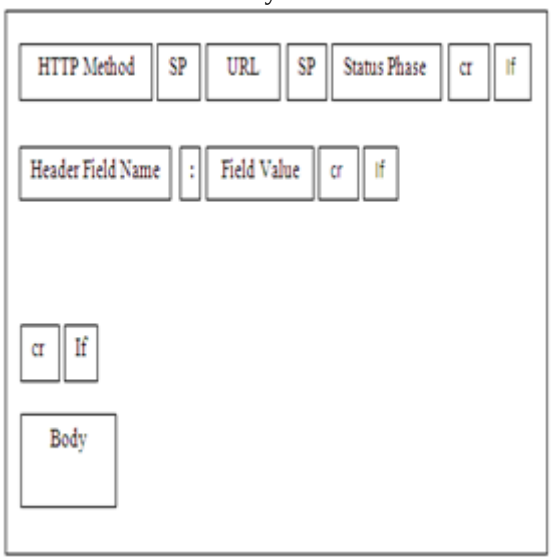

Fig. 4: HTTP Request format

- "GET": to fetch information
- "POST": to submit form data or upload files
- URL identifies the thing the request wants
- Typically a path to a file, such as/index.html
- But it's entirely up to the server how to interpret the URL

Then the server verifies that the request is in HTTP format. If the request is in HTTP format then it further process. To identify the actual contain HTTP request get parse. To search the contain on the phone memory or the sd card. After finding the contain the response will be generated in the standard HTTP response format.

B. HTTP Response Format:

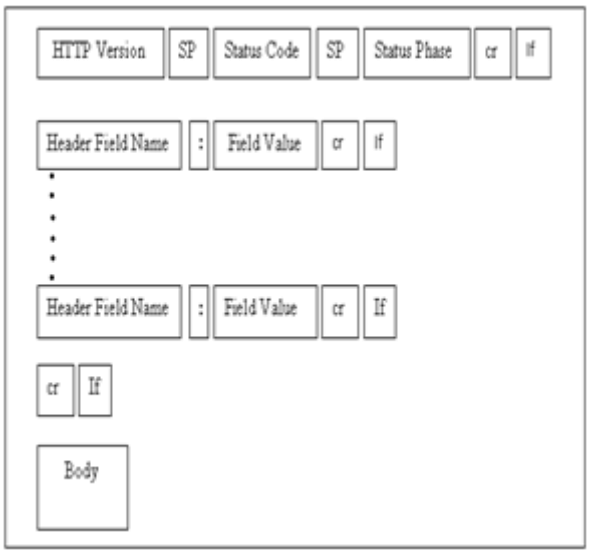

Fig. 5: HTTP Response format

HTTP version, headers, and body have the same form, and mean the same thing

Status code is a number indicating what happened

- 200: everything worked
- 404: page not found

Status phrase repeats that information in a human-readable phrase (like "OK" or "not found").

This paper allows a real-time video streaming service from an Android mobile device's camera to a server. The real-time video can then be viewed from a web browser on the client's computer. The project builds on open source code and open protocols to implement a set of software components that successfully stream live video using RTSP protocol (Real Time Streaming Protocol).

III. Conclusion

This paper prevents a survey on the available or previous mobile web server. Also we are proposing a new mobile web server which is run on Smart phones having more capability than the technique Jetty, Bambuser, Qik etc. with additional feature like live video streaming.

In general the mobile device acts as a client, but due to the smart phones are introduced in the market there is no any restriction on storage area and processing power. In this paper we are taking the advantages of smart phones and make a mobile web server. We are providing an Android Apps through which it is very easy and convenience to user host the web site. Any user who has the Apps install on the mobile node can host the website for that there is no need to any technical person to host website. The user can maintain and controlled there website.

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