WEB-BASED VIDEO CALLING AND VIDEO CONFERENCE WITH CHAT

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WEB-BASED VIDEO CALLING AND VIDEO CONFERENCE WITH CHAT

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ABSTRACT

Web-based Video Calling and Video Conference with Chat which was developed using Flex Builder 3, flash player v10.1 technology and the Flash Media Server that monitored the performance and video streaming of the application. The web-based application enabled users to communicate through the web application that was capable of video call, and video conferencing, using a user-friendly interface where it's easy to understand and to use. The advantage of this application was that the clarity of the video resolution was improved while performing a live video streaming, although it used up a large bandwidth portion of the server. On the other hand, the disadvantage of the application is that the loading of the application on a web browser would be slower if the user was using a slow internet service and it was possible that the application or some parts of the application would not load properly. But the important thing was that the set of objectives that we have identified in our study have been achieved and implemented properly and each module was functioning well.

Keywords: ***Video Calling, Video Conferencing, Web-based application***

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The study is a researched on different video calling and video conference application and what features that are really necessary, many video calling and video conference applications had been adding features that were not really needed or are not being used, our research was aimed to know what features are lacking in different video calling and video conference application and what features are just bloated features. In doing so we were able to create a video calling and video conference with chat application that is lean and useful at the same time, thus improving performance and ergonomics.

In addition, since we have created a web-based application that is better than an installed application, wherein the web-based application can be accessed on any web browser. The web browser must be flash compatible web browser, installed microphone, and camera to use the web application; it's accessible as long as the user had the requirements stated above and an internet connection.

1.2 Technology Application Context

The case study sought to implement what to be needed to be implemented a long time ago which was generally the implementation of the video conferencing in an instant messaging application.

Specifically, it sought to attain the true purpose of an instant messenger by removing or acquiring important things such as:

- Removing other unimportant features such as emoticons, themes, audibles or other sounds.
- Simpler design but still presentable enough for lesser loading time
- Add what an instant messaging application must have like video conferencing and chat conference
- Take advantage of heterogeneous computing GPGPU

There were so many different types of instant messaging and video conferencing applications, too many to choose from, but what was once an advantage was now a disadvantage, because now there were so many instant messaging and video conferencing applications, so many platform, so many unimportant features, that the main reason for having this kind of communication application in the first place was gone and that was to connect people due to the many instant messaging and video conferencing being created without a standard it was causing the very same problem this communication application was trying to solve in the first place and that was disconnection. Because some instant messaging

application connects users to other people, by logging in into their application and invite contacts that they like to communicate, but sometimes applications would crash and users found it hard to reconnect to the application, thus loosing connection to their loved ones and or friends.

In our application, the proponents focus on the key features that were essential in a video conferencing application by integrating the features that were needed, lacking, remove the unnecessary features, and most importantly, it's free. So based on what the proponents learned,the proponents created a highly optimize video calling and video conferencing with chat application. The proponents have chosen that a web-based application was the kind of application due to its advantage the likes of no installation required for the software to run and the availability of the application was almost anywhere as long as the user have a flash compatible web browser.

The main of focus of the said application was the main hardware peripheral that is the camera, audio microphone and an input/output device which the web application make used of the peripheral to deliver better performance that the user would experience, and coincide with the main application features that were the Chatting, Video Calling and Video Conferencing.

1.3 Objective of the study

The proponents want users to just have a web browser and access the instant messaging application without installing anything. Thus, alleviating the users from being dependent on a single software application and since it only needs a web browser with flash compatibility it could have a cross platform possibility, wherein other instant messaging application used different instant messaging platform but where able to connect with other instant messaging application that had a different platform supporting the application, thus a lot of the mobile devices are now being installed with web browser with flash compatibility. The potential of being able to see the other person you are talking with while you are on the phone or while you're on the go. It has been a concept for a long time but it was still not implemented it could be due to the large telecommunication companies which is thinking that if they implement the technology they're going to lose revenue due to the lost of communication services. Since potential clients are going to use Wi-Fi instead of the telecommunication company's proprietary services. Also an added benefit was the optimization the proponents implemented to the instant messaging like what was stated before by removing features that are not needed and adding the features that were needed. Another optimization was the imminent release of the flash player 10.1 which enabled heterogeneous computing, thus increasing the performance in which none of the install based application can take advantage.

1.4 Significance of the Study

A web-based instant messaging method of using telecommunication devices may it be video or voice calling to unrestricted individuals to proprietary instant messaging that lessen the trouble of individuals who has less knowledge in acquiring different softwares in instant messaging. Thus, individuals needed only a flash-based compatible web browser to be able to communicate to each other with less of the cost of traditional telecommunication medium. In addition the two method of increasing performance first would be by optimizing the features to be lean and efficient by removing useless features and second was the released flash player 10.1 which increased the performance due to heterogeneous computing.

1.5 Scope and Limitation

The scope of the study was that the web-based video calling and video conferencing with chat was designed as a web-based application that could be accessed instantly, however, it required a compatible flash-based web browser and the application featured instant messaging, improved video calling by which the video quality was better than the installed IM application, and video conference which also had improved video quality and catered group conference which was applicable in organization meeting and social interaction. Furthermore, since the web-

based application utilized great video quality it requires a high quality server that could support a large consumable bandwidth to deliver a better performance, and users must have had installed microphone, web camera, and flash compatible web browser to fully use the application.

1.6 Definition of Terms

Video Calling is a telephone with video screen, and is capable of full duplex (bi-directional) video and audio transmissions between people in real-time

Videoconference (also known as videoteleconference) is a set of interactive telecommunication technologies which allow two or more locations to interact via two-way video and audio transmission simultaneously. It has also been called visual collaboration and is a type of groupware. It differs from videophone in that is designed to serve a conference rather than individuals

GPGPU General-purpose computing on graphics processing units GPGPU, also referred to as GPGP and to a lesser extent GP²) is the technique of using a GPU, which typically handles computation only for computer graphics, to perform computation in applications traditionally handled by the CPU

Heterogeneous computing systems refer to electronic systems that use a variety of different types of computational units

Flash is a multimedia platform originally acquired by Macromedia and currently developed and distributed by Adobe Systems

Flash player 10.1 is software for viewing animations and movies using computer programs such as a web browser.