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An Application in Teaching Foreign Languages and Tutoring over the Internet and the Telephone Network with Online Learners

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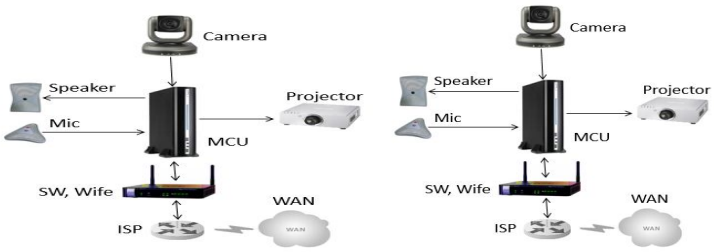
Abstract: ***The article presents an application in online teaching and tutoring via the Internet combining mobile phone networks for online learners (real-time), the paper deals with the application of pay package Vinaphone Vietnam, integrating a wide range of home and school applications that benefit the users, particularly in online teaching and distance learning [3,4,5]. This article also presents the experimental results of English teaching for group of students in level 1,2 in BimSon, Thanhhoa with teacher in Hanoi. Teaching mathematics and literature for students in Trungvan, Tuliem, Hanoi. Connecting class from Trungvan, Tuliem, Hanoi with 30 Pham Van Dong, Caugiay Hanoi. Experimental results for the distance learning class at the Posts and Telecommunications Training Center 1, Posts and Telecommunications Institute of Technology show that the sound quality is good and stable. During the study period, the sound is not interrupted by the impact of the Internet transmission, not affected by the slide and video demonstration from the teacher's computer to the laptop screen or projector of the learner. The quality is much better than using the current method on the Internet.***
Keywords: Online teaching, online tutoring, real time teaching, family package, Vinaphone, PTIT

I. INTRODUCTION

Nowadays, the application of information technology in the field of teaching and tutoring as well as online conferences has been promoted by organizations and countries to improve the quality of teaching and learning via the Internet. It has brought about certain effects. However, because teaching and tutoring online must use teaching aids such as computers, projectors, cameras and especially network equipment and Internet connections [7,8]. To ensure the success of the session, tutorials or online conferences, support devices and internet access must be a top priority. But in reality, just connecting to the Internet with existing devices such as PCs and webcamera often does not guarantee image and sound quality due to the frequently changing bandwidth that causes interrupts during the transmission of slides and speech from the teacher teaches to the learner. Therefore, the learner sometimes hears little or no sentence from the voice instructor, leading to the learner not knowing what the speaker is saying or pronouncing. Sometimes, the learner can only see the slide and the teacher cannot hear it.In order to solve the lack of synchronization and improve the quality of audio transmission for online classrooms (real-time keeping teachers and learners), the authors implement a device that supports teaching with the Internet connection to the device. Voice over the telephone network avoids the negative impact of an audio channel on an image, slide or video channel from the instructor to the learner.

II. THE USES OF CURRENT POPULAR TECHNOLOGY IN VIETNAMESE CLASSES

A. Online learning system applied Polycom hardware device



a. Equipment connects the Lecturer b. Equipment connects the student

Figure 1. Hardware device connecting the online classroom between learners and teachers

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With the Polycom hardware device [4], it allows to set up an online classroom between instructors and learners for consistent audio and video quality. On the other hand, the high cost of hardware, high connection costs because of the need for a separate connection to the system. When the teachers do not have available offline students, projector is not necessary.

B. The Online Classroom System Connection Using The Cloud Video Conference (CVC)

With the Cloud Video Conference, which allows to create classrooms, online conferencing applied high-quality cloud computing [4,5].

Teachers and learners use available PC devices, using anywhere with internet connection. Sound and images are high quality. But the cost is still a matter of concern.

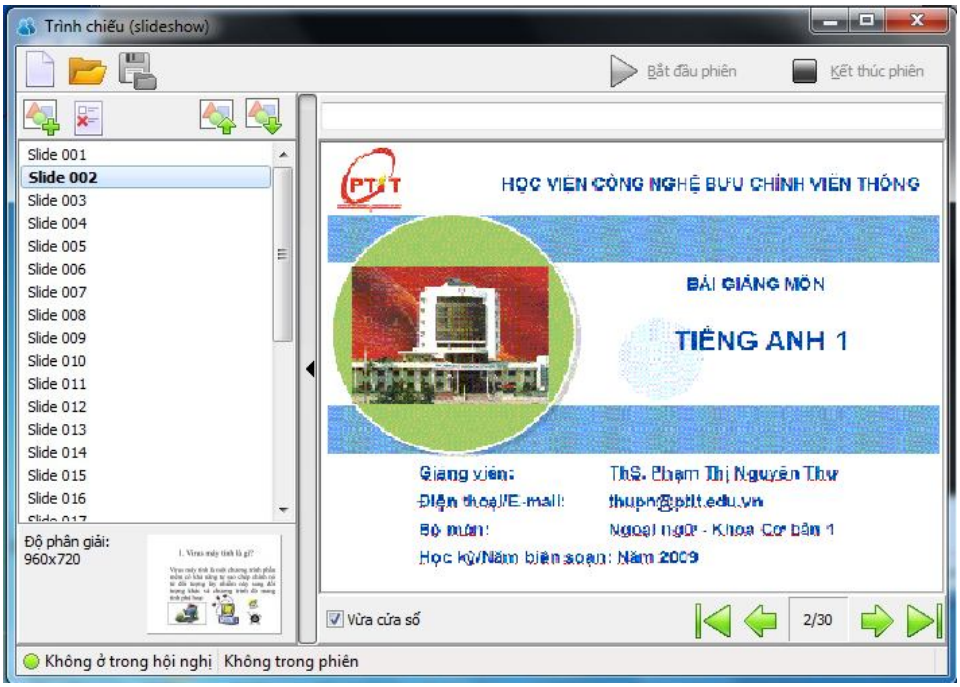


Figure 2. Online classroom connection using the Cloud Video Conference

C. The Online Classroom System Connection Using Nren And The Internet

By connecting online classrooms via National Research Training network with the Internet in order to create an environment that connects classes between schools and research institutes. But the expansion of the connection to the local has to hybrid with the Internet and has their own device to connect so the connecting is also much limited.

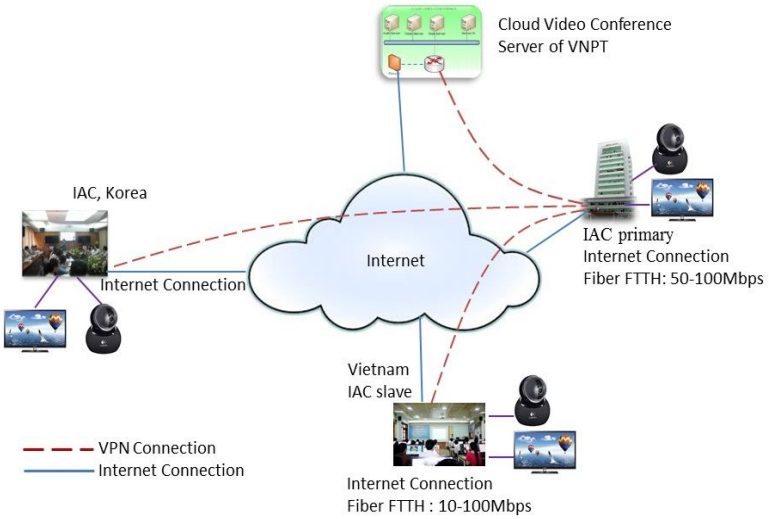


Figure 3. Online classes connection using NREN and Internet

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Figure 4. Connection between PTIT Vietnam and NIA, Korea

D. Virtual classroom system using LMS system

The Learning Management System (LMS) of the Posts and Telecommunications Training Center 1 is designed to manage the training process of the center. Learners log on to the system by the account which is granted and teach themselves according to the process, learn online



Figure 5. PTTC1-PTIT login interface

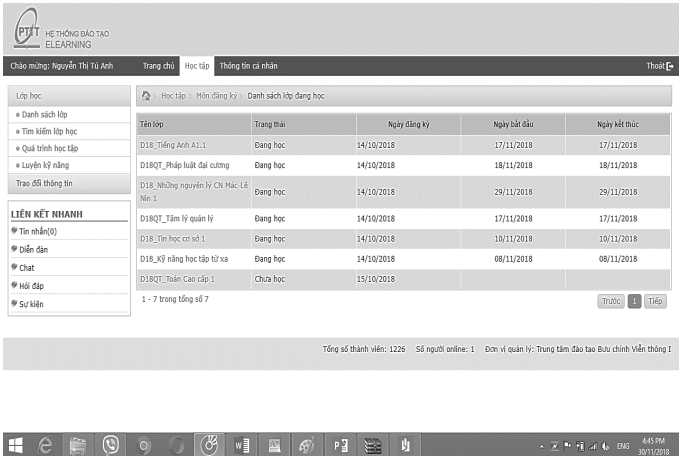


Figure 6. Course information of learners on PTMS1-PTIT system

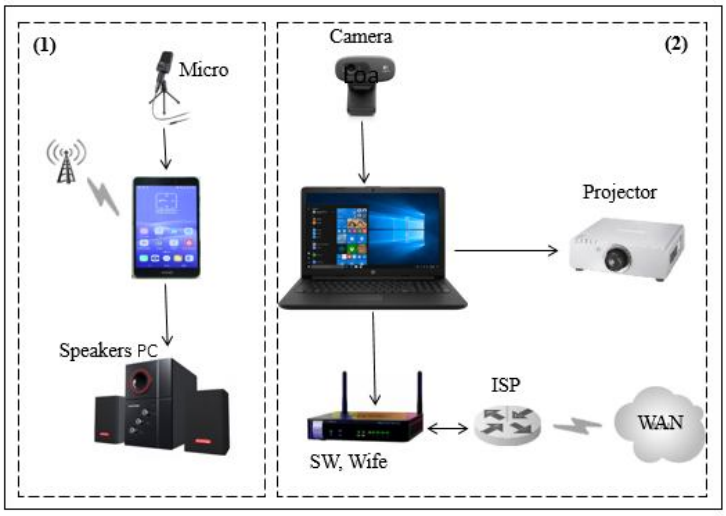
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With LMS, to improve the quality of training, teachers must appear on the LMS to support learners in the learning process. In this case, the teacher will assist the learners through some forms of chatting, discussion on the forum, designing exercises to enhance the learner's receptivity. In many cases, the LMS can only be used when the teacher is available online for a certain period of time. So when the teacher comes to class, the student is not online and the question is answered while the student is offline. Thus, the face-to-face interaction will not be high.

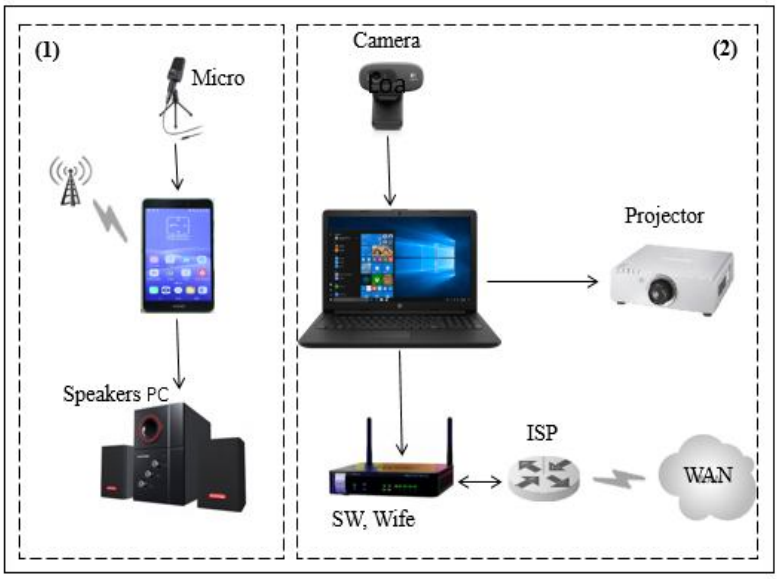
III.SOLUTION OF COMBINING THE METHOD OF CONNECTING VIRTUAL CLASSROOM VIA THE INTERNET TO THE TELEPHONE NETWORK

To solve the limited issues of connecting to the Internet for online classes with online learners (face to face) such as: Synchronization of images with sound between teachers and learners is interupted, it leads to the problem that sometimes learners cannot hear the teachers clearly, sometimes the teachers give lectures for a long time but slides still do not appear on the screen or sometimes students only hear the voice without Slide or distortion, rattle, etc.

The authors propose a hybrid phone network solution for giving the teacher on the basis of stable voice channel quality and proposed to use with Family Package GD3 of VNPT integrated multi-service in one.



a. Equipment in the classroom on learners'side



b. Equipment on the teacher's side

Figure 7. Connecting laptop with teaching aids, Internet, telephone network

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In Figure 7, teaching aids are assembled into two blocks. The first block (1) consists of a mobile phone or landline pairing with micro and computer speakers to transmit lectures from teachers to learners and computer speakers to receive feedback from learners and teachers; The second block (2) consists of a computer (Labtop) connected to WebCam, Projector and the Internet.
With this connection model, teachers can use remote support programs like Teamview to transmit lecture files from their computers to the classroom computer.
The attached device in Figure 7 is used for 2 classes, 01 offline class and 01 online class. With this pairing, online learners can interact directly with offline learners at the same location as the instructor.

IV. EXPERIMENT

A. Make Plans To Unify Teaching Schedules Between Teachers And Learners

Because the learners do not directly go school to learn offline, the learning of the learners will be gathered in a suitable place so that the majority can gather according to the agreed schedule. Before each lesson, lecturers send the lessons to students in advance from 1 day to 1 week depending on the amount of knowledge and difficulty of the subject to learn or preview.

B. Prepare Computers And Connected Device

For classroom connection, device requirements: Labtop Personal Computer and classroom are connected to internet; HD quality Webcams such as Logitech HD C270 Webcam, Microsoft Lifecam HD-3000, Microsoft Lifecam Studio or equivalent for recording the teacher and writing board content (can use WebCam of computer if the teacher does not write on the board); PC speakers need to be loud enough for the classroom if offline classes are available. If you do not have offline classes, you can use the laptop's internal speakers; Mobile phones for teaching to learners (phones using VNPT family's GD3 package integrated multi-service in 1). Make a connection between the two phones at a pre-assigned telephone number and ensure the power supply for the two phones during the teaching and learning period.

C. Prepare Software On The Computer

To take the initiative in controlling the Slide during the teaching process via the Internet, the teacher’s computer and the classroom computer must be installed remotely with interactive computer software such as Windows Remote desktop (available in Windows); Teamview, UltraViewer ... depending on the actual needs that teachers can choose the appropriate software to use.

D. Teaching when the device is connected in the following steps

1) Step 1. Teachers use the telephone for teaching which is connected to the phone in the classroom. It results in dood sound with no echo or no whistle.
2) Step 2. The teacher remotely accesses the classroom computer using a remote interactive software installed; download slides of the lecture on the computer of the classroom that was connected to the projector.
3) Step 3. The teacher opens the lecture on the class computer and performs the lecture; Lecturers can observe the classroom using a webcamera connected in the classroom.
4) Step 4. Discuss during class, teachers and learners can talk to each other through the wireless microphone in the classroom where learners can exchange and discuss with the teacher without being interfered with distance and bandwidth.
5) Step 5. End

E. Result

By linking experiments to college and elementary students, the pairing solution proposed by the group of authors has yielded more stable results than the Internet connection as before. The use of VNPT's GD3 family package integrated multi-service into 1 and every 9000 VND / 30 days for 01 mobile subscriber with unlimited 30-day talk time is useful and cheap while the normal package is 900VNĐ to 1200VNĐ / min.
Therefore, in a 4-hour session will be equal to 240 minutes • 900VNĐ / minute = 288000VNĐ / session. Each semester will cost 1,728,000VND per semester, so one month will be VND 6912000 / month.
While using the Family package is only 9000VND / month.
On the connection to the Internet, use with the connection bandwidth is used to transmit slide and images of teacher’s lecture in class at 297000VNĐ.

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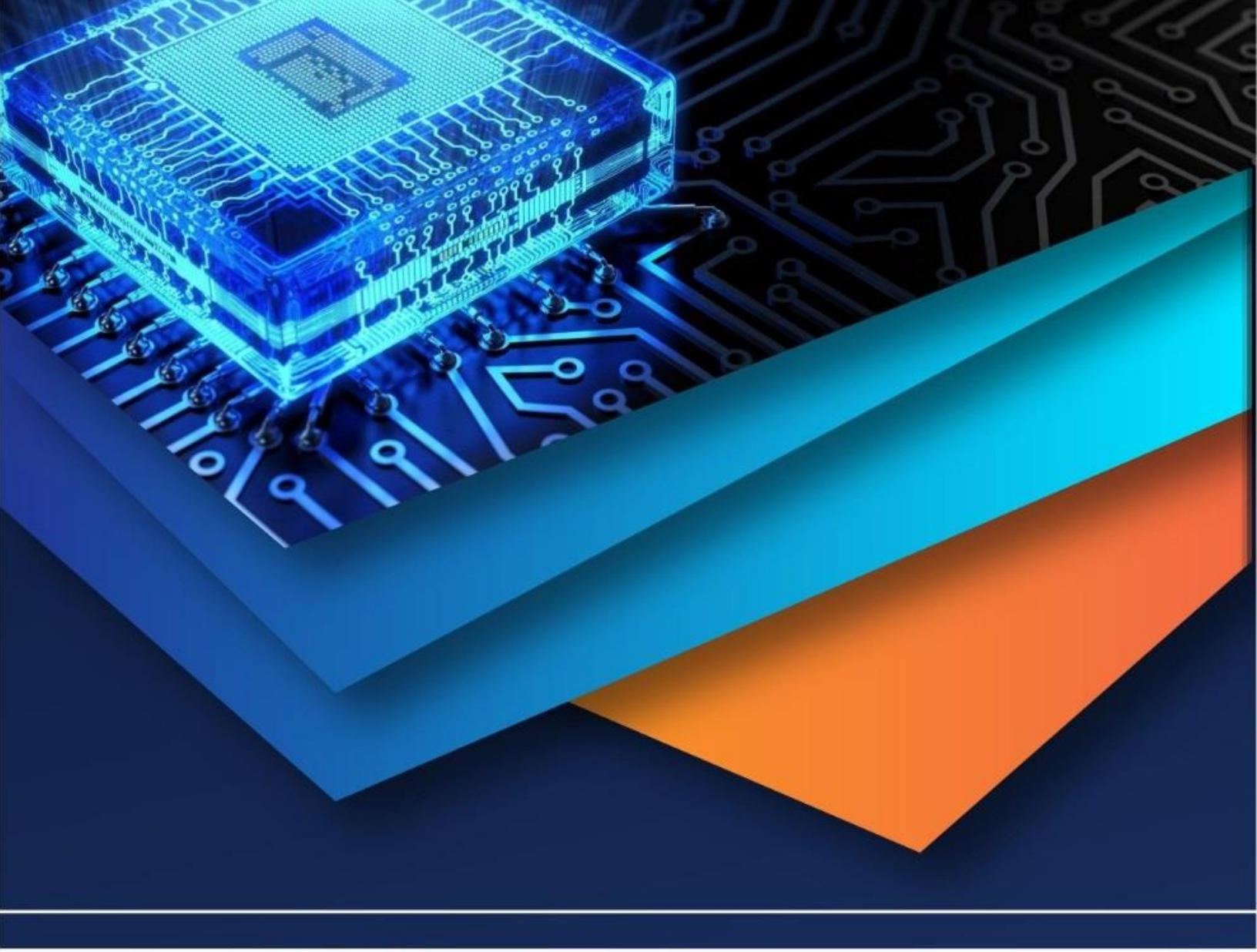
V. CONCLUSIONS

This paper presents an overview of the application in teaching foreign languages and tutors via the Internet and the telephone network with online learners and presents the limitations of the method of pairing that have been applied. The authors have come up with a limited solution to the old and experimental method for primary and university students in Thanhoa and Hanoi, Vietnam to improve the quality of the audio channel for classes with real time.

REFERENCES

[1] Nischal Guragain, E-Learning Benefits and Applications, Helsinki Metropolia University of Applied Sciences, Bachelor of Engineering Information Technology, Thesis 11 February 2016
[2] Curtis J. Bonk, Professor, E-Learning Trends and Overview for Corporate Training Environments, Indiana University
[3] http://elearning.ptit.edu.vn/default.aspx?tabid=112
[4] http://trueconf.com
[5] http://ccck.com.vn/aver-conferencing/multipoint-system.html
[6] https://www.britishcouncil.vn/cac-chuong-trinh/giao-duc/du-an-ket-noi-lop-hoc
[7] http://elearning.vnpt.vn/DesktopModules/ElAdmin/resource/resources/2015/9/25/2015_9_25_1_Kien-Thuc-Ve-Dich-Vu-Vien-Thong-Va-Cntt.pdf
[8] http://vnpt-technology.vn/HomeAction?request_locale=vi

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