Analysis on Free Video Call Applications Reliability as a Tool a case study of Online Islamic Matrimony

Sigit Prianto Tjokronolo, Anggia Dyarini Mohammad

Faculty of Engineering and Information Technology, Swiss German University

ABSTRACT

The internet era has been improved so much over this past decade; where people can easily get connected without having to consider distance between different locations. The way people communicate also has changed from texting using conventional letter or SMS, to audio using phone call and now video call where we can see and hear the person who we talk to. Due to distance problem, nowadays some people prefer to use Online Video Call to perform weddings. Although some Moslems are still debating the validity of an online matrimony where some Islamic scholars agree by considering certain condition while some others disagree, this paper won't be discussing about the debated issue. This paper will only be focused on the video call application reliability in order to have a valid online Islamic matrimony. The comparison will be using free video call applications such as Skype, Google Hang-out and Facebook Video Call.

Keywords: *Online, Video Call, Wedding, Matrimony*

1. Introduction

A. Background

Through the years, many Indonesian students study in overseas colleges. Some study with their own money, while some other got lucky by getting scholarships. Their study can take years until their graduation. Due to the high transportation cost, they won't be able to go home to Indonesia even if they really want to.

During their stay in overseas, sometimes they meet people whom they love then finally decide to marry them. The only problem they usually have is that they don't have enough money to get home to get married or to bring their parents overseas to do the wedding. It will take years if they have to postpone their wedding until their graduation days.

This problem occurs only for Moslems, since Islamic Law doesn't allow people to do matrimony in different forums. The people involved in the matrimony must be together in one forum. This problem has brought the idea of doing wedding using video calls where they would be able to have their holy matrimony together with their parents in one forum although they are separated thousands of miles away.

Conducting wedding using video calls according to Islamic Law is still debated, where some Islamic scholars agree while some others still disagree with this concept. This paper won't be discussing about the matrimony validity from the Islamic Law perspective. This paper will only be focusing on the reliability of free video call application technology in fulfilling the requirements to do an Islamic matrimony.

B. Research Question

Are current technology of free video call applications like Skype, Google Hang-out and Facebook Video Call sufficient enough to conduct online matrimony based on Islamic Law requirements?

2. Marriage in Islam

According to Law of the Republic of Indonesia Number 1 Year 1974, marriage is legal if it is held based on the law of each religion. This paper will discuss the marriage law according to Islamic Law.

According to Article 14 of The Compilation of Islamic Law, there are some requirements needed for matrimony to take place:

- There must be bridegroom (man as husband)
- There must be bride (woman as wife)
- There must be guardian of bride (usually her father)
- There must be two men as witnesses
- There must be an agreement between the bridegroom and the guardian of the bride (*ijab* and *qobul*/ offer and acceptance). The *ijab qobul* (offer and acceptance) must be said clearly and understood by guardian of the bride, the bride groom and the witnesses of this matrimony.

The *Ijab* requirements for a valid matrimony are as follows:

- The offer must be clear and straight
- The matrimony must be for eternity (without any time limitation)
- The offer must be said without any reservations or other terms or conditions
- The offer will be said by guardian of the bride

Example of ijab = 'Hereby I wed ….(name of the bride groom) with my daughter….(name of the bride) with (amount of money) cash as dowry.

Meanwhile, a *Qabul* must be:

- The acceptance must be clear and straight
- There no time limit about the marriage agreement
- The *qabul* must be said without any reservations or other terms or conditions
- It will be said by the bridegroom, mentioning the name of the bride

Example of qabul = 'Herewith I accept the wed to … (name of the bride).

Based on the above requirements, beside the requirement of the parties involved in the matrimony, the Ijab-qobul or offer and acceptance must be done in real time, without any interference. This must be fulfilled by a video call application in order to do a valid matrimony.

3. Video Call

Video Call or video conference is a tool of doing a conference which allows two or more parties in different locations to communicate by simultaneous multi-way video and audio transmissions. According to Microsoft, Video Calling enables users to not only hear the other attendees but also see them, a face to face video call with your contact; this can be done with one or multiple people at the same time.

Components required for a video call:

- Video Input, Video Camera or Webcam
- Video Output, Computer Monitor, Television or Projector
- Audio Input, Microphones
- Audio Output, Loudspeakers
- Data transfer, Internet Connection
- Computer, a Data Processing Unit

A. Skype

Skype is a telecommunications application software product that specializes in providing video chat and voice calls from computers, tablets, and mobile devices via the Internet to other devices or telephones/smartphones. According to Pahul Singh (2016) Skype is one and the only most popular voice and video software calls online by Microsoft. Skype is free software which almost available for all Operating systems and devices.

B. Google Hangout

According to Forbes (2015) Google, Inc. was founded on 1998, focuses on improving the ways people connect with information. Kobayashi (2015) said that, Google Hangouts is one of the videoconference systems available through Google Plus. Google Hangouts is similar to Skype, as it provides a free audio/video conference along with a text chat capability. Both programs offer a free mobile app, making it easy for iPad, iPhone, or Android users to access the programs. However, Google Hangouts also has other unique features. Unlike Skype, Google Hangouts is free for a group conference.

C. Facebook Messenger

According to Forbes (2015), Facebook, Inc. is a social networking company, which allows people to communicate with their family, friends, and coworkers. According to Pahul Singh (2016), Facebook video chat is another best way to do online video chat. As we use Facebook for sharing updates and for doing text chat with our friends. So it better idea to make then free video though Facebook without wasting time on another software.

D. Video Call Comparison

According to A.Watson (1998), the most widely used methods for measuring the subjective quality of speech and video imageshave been standardized and recommended by the International Telecommunications Union (ITU). This paper will try to analyze comparison between Skype, Google Hang-out and Facebook Video Call with five people in different location put together in one online video call forum.

a) Listening-quality Scale

While doing video call using different application, there are scores to be collected:

a. Quality of The Speech/Connection

Quality of speech	Score	Skype	Hang Out	Facebook
Very Good	5			
Good	4			
Fair	3			
Poor	2			
Bad	1			

b. Effort to Understand the Meaning of Sentences

Listening -effort Scale	Score	Skype	Hang Out	Facebook
Complete relaxation possible; no effort required	5			
Attention necessary; no appreciable effort required	4			
Moderate effort required	3			
Considerable effort required	2			
No meaning understood with any feasible effort	1			

c.Conversation Difficulty Scale

Did you or your partner have difficulty in talking or hearing during the conversation	Score	Skype	Hang Out	Facebook
Yes	1			
No	0			

d.Image Quality Scale

Image Quality	Score	Skype	Hang Out	Facebook
Very Good	5			
Good	4			
Fair	3			
Poor	2			
Bad	1			

e.Image Impairment Scale

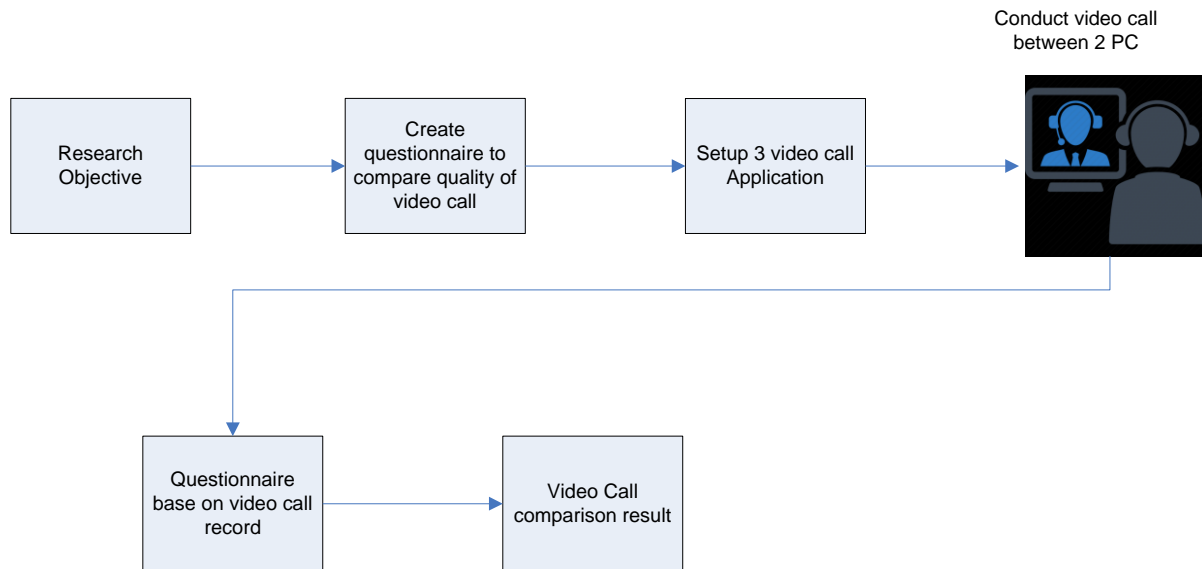| Image Impairment	Score	Skype	Hang Out	Facebook
Imperceptible	5			
Perceptible, but not annoying	4			
Slightly annoying	3			
Annoying	2			
Very Annoying	1			

4. Research Methodology

Based on the above research question, the research methodology used is qualitative research with quantitative approach through questionnaires to evaluate the quality of a video call application.

A. Research Approach

The approach that will be used is the experiment of conducting a Video Call which are described as follows:

- Based on the research objective above, we created a questionnaire to evaluate and compare the quality of video call applications.
- We setup three video call applications for two PCs.
- Video calls are being conducted with these following conditions:
   a.Using the same PC for one to one video call.
   b.Using the same internet connection with WLAN wireless local area network
   c.Using three different video call applications which are Skype, Facebook Messenger and Google Hangouts
- Filling questionnaires to evaluate the video calls.
- Analyzing the questionnaires in order to find out the video call comparison result.

Fig. 1. Conduct Video Call between Two PC

5. Test Result

The preliminary test was conducted using two PCs within the same network with three video Call Applications which are Skype, Google Hangouts and Facebook Messenger. The video calls are also being recorded. Each person involved in the video calls must answer the questionnaires to evaluate the test result.

- For the result of listening quality of the speech/connection, Skype has the best result followed by Facebook Messenger, while Google Hangout is in the last place.
  Score: a. Skype score is 3.5
           b. Facebook is 2.5
           c. Google Hangout is 1.5

- For the result of effort to understand the meaning of sentences, all applications almost have the same result, but Skype is slightly higher than the other two.
  Score: a. Skype score is 4
           b. Facebook is 3.5
           c. Google Hangout is 3

- Based on the conversation difficulty scale, all applications are still acceptable in understanding conversation between parties.

- While based on the image quality scale and image impairment scale, all applications also almost has the same result, which is fair image quality scale.

6. Conclusion

Based on the above test result, Video Call applications can be used in having good and clear conversation between two places, which in this case is to conduct online Islamic matrimony. Further research need to be done with several more numbers of tests to get better measurement with different hardwares.

From the test result we can also conclude that Skype is still the best and the most reliable free video call application, where the audio is quite clear and conversations are easy to understood with fair image quality.

References

Forbes.   (2015).   *'The   World's   Most   Valuable   Brands"*.   Online   Available: http://www.forbes.com/companies/google/

Kobayashi, M. (2015). "Students Evaluation of Google Hangouts Through A Cross-Cultural Group Discussion Activity".

Law of the Republic of Indonesia. "The Compilation of Islamic Law".

Law of The Republic of Indonesia. (1974). "No. 1 Marriage".

Singh, P. (2016). Top 8 Best Free Video Calling Software App for PC 2016. Available : http://www.safetricks.com/voice-video-calling-software-pc/.

Watson, A., Sasse, M.A. (1998). "Measuring Perceived Quality of Speech and Video in Multimedia Conferencing Applications".