

# Introducing Video calling in WhatsApp

Rahul Kadam, Prerna Mhatre  
MCA (IMCOST), Mumbai University  
C-4, Wagle Industrial Estate, Near Mulund (W)  
Check Naka, Thane (w) - 400604

**Abstract** — WhatsApp Messenger is a proprietary, cross-platform instant messaging application for Smartphone. Moreover, to basic messaging WhatsApp Messenger users can send each other images, video as well as audio media messages. WhatsApp Android is not compatible with only Android it is available for iOS, BlackBerry OS, Symbian and Windows Phone only. WhatsApp synchronizes with the phone's contact's book, so users do not need to add contacts in a separate book. As the underlying technology the application uses the open standard XMPP. Video calling has become increasingly available as camcorders have spread through the online environment, cameras have been built into smart phones, and as video-chat services like Skype, Google Talk, and Apple iChat have become a feature of the online and smart phone environment. Video chat solution uses the open-source technology WebRTC. It is intended for the organization of streaming media data between browsers or other supporting it applications for peer-to-peer technology without any additional plug-in.

**Keywords** — Whatsapp, ios, Symbian, Asha platform, Yahoo, XMPP, WebRTC

## I. INTRODUCTION

Communication among people has been fundamentally revolutionized by the Internet. Text messages and emails are still the traditional means of communication; however, we are now at the cutting edge, welcoming the next generation of communication: voice/video telephony. Video calling has become increasingly available as camcorders have spread through the online environment, cameras have been built into smart phones, and as video-chat services like Skype, Google Talk, and Apple iChat have become a feature of the online and smart phone environment. The most popular example of these applications is Skype, which provides high quality voice/video transmission in a variety of network conditions. Due to the nature of video calls, which require real time communication between users, its quality can be more sensitive to network impairments, such as bandwidth variations and packet loss. In addition, as video calls demand more bandwidth than do voice calls, their traffic and quality can be also affected by other cross traffic. It is therefore of central importance for

researchers, application developers and users to evaluate Whatsapp video call behaviour and quality under a variety of network conditions. However, to date, there has been very little research conducted in this area. In this paper, we present our recent study of Introducing Video Calling on Whatsapp.

## II. Whatsapp

Undoubtedly, Whatsapp emerged as king of Social networking messengers. As it was first launched by a small team later MARK ZUCKERBERG founder of facebook bought it. WhatsApp turned as a defending champion in the race, Whatever the app enters with awesome features, Still whatsapp is the king. Primarily Whatsapp was released for higher end Smartphones working with Android Operating System GingerBread, Honeycomb, Icecream Sandwich, Jellybean, KitKat, Lollipop. If you are not having Whatsapp get from here [Whatsapp for Android](#). Soon the Whatsapp Popularity was much more than expected. Whatapp team decided to extend it's support providing Whatsapp for iOS/iPhone, Whatsapp for Blackberry, Whatsapp for Windows Phone.

## III. Current Features of WhatsApp

WhatsApp Messenger has become the app of choice for millions of users who want to send text messages for free. But there's plenty more to the application than just typing a message and sending it. There's lots of features in WhatsApp that can make chats more enjoyable - and perhaps you don't know all of them. Here, we list ten things you can do with WhatsApp that are not immediately obvious in the application. Some are available only in the Android version of WhatsApp, while others can be enjoyed across all the platforms that have the app.

### A. Send WhatsApp conversation history to someone

You can send an entire conversation history from WhatsApp via email. In Android, click on the Menu option

in a conversation (it's on the bottom-right of the screen), go to 'More' and select 'Email Conversation', before entering the address of the recipient. WhatsApp will create an email with the whole text conversation, including any pictures, voice or video clips.

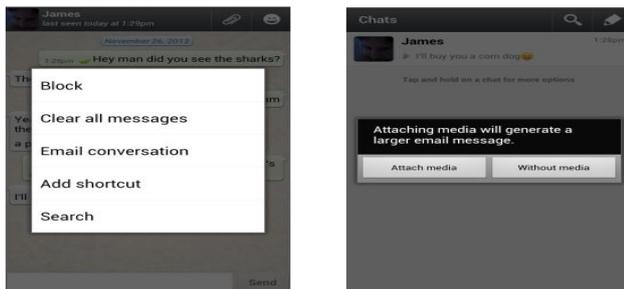


Fig. 1 Send WhatsApp conversation history to someone

### B. Change the WhatsApp chat wallpaper

You don't always have to stare at the same, boring background in the chat screen. You can choose a background to appear in this window by going to the 'Wallpaper' option in the chat menu. You can either select a picture that's on your Android phone, or choose to use one of the delightful backgrounds in the WhatsApp Wallpaper app. This app is automatically downloaded when you choose the 'WhatsApp' option in the Wallpapers menu.

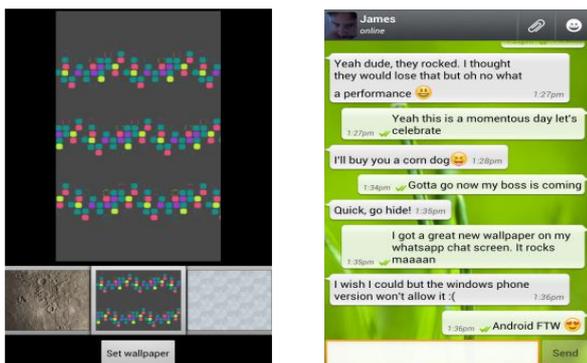


Fig. 2 Change the WhatsApp chat wallpaper

In the iOS version, choose 'Conversation Settings' in the Settings menu and tap 'Chat Wallpaper', before choosing which image you want.

### C. Save photos you've received

The images and videos that you're sent in WhatsApp chats remain stored on your device in the WhatsApp\media\WhatsApp Images folder. In Android, you can view these images in the Gallery, and can share them on Facebook, apply them as

contact photos, and more. In iOS, WhatsApp images are stored in the Photos app.

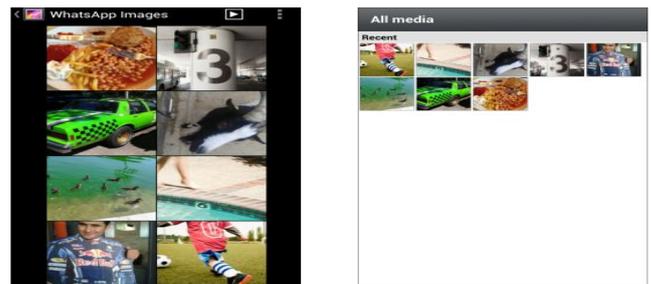


Fig. 3 Save photos you've received

In WhatsApp for Android, you can see all the files you've sent and received by clicking on the Media button in the chat menu.

### D. Make back-ups of your WhatsApp conversations

If your WhatsApp conversations are important to you, it's a good idea to make backups of them so that you don't lose them if there's a problem with the app. To do this, go to the Settings menu, choose 'Chat preferences', then click on the Chat history backup option.

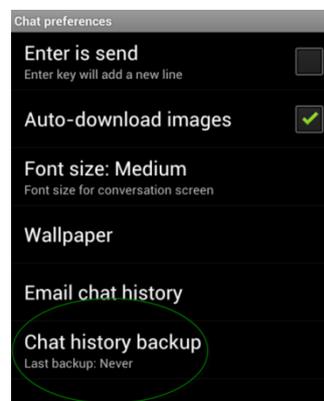


Fig. 4 Make back-ups of your WhatsApp conversations

Don't worry about remembering to make daily backups, because WhatsApp automatically saves a copy of your conversations at 4AM each day.

### E. Use the Enter key to send WhatsApp messages

How often do you write multiple lines of text in a single WhatsApp chat message? Surely not very often. As such, the Enter key on your phone is not really of much use. There's an option in WhatsApp, however, that lets you use the Enter key on the Android virtual keyboard to send messages instead of having to press the Send button in WhatsApp.

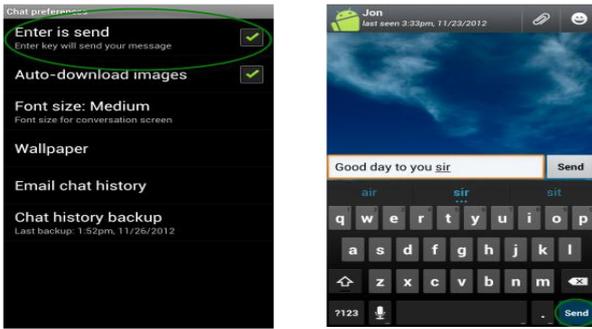


Fig. 5 Use the Enter key to send WhatsApp messages

To enable the option, go to 'Chat preferences' within the Settings menu and check the 'Enter is send' box. This option is not available in the iOS version of WhatsApp.

*F. Create shortcuts to WhatsApp conversations*

If you're a WhatsApp addict, then you probably get fed up with launching the app every time you want to speak to someone. In the Android version of the app you can create shortcuts to conversations that appear on your home screen so that you don't even need to open the application to pick up on conversations - just tap the icon with the name of the contact.



Fig. 6 Create shortcuts to WhatsApp conversations

To set this up, choose 'More' in the chat menu and tap the 'Add conversation shortcut' option.

*G. Choose a WhatsApp profile picture*

It's possible to set your own WhatsApp profile picture, by going into Settings and choosing 'Profile'. Just tap on the existing profile image and select a picture you'd like to replace it with. You can pick an image that's stored on your phone already, or snap a photo using your device's camera.

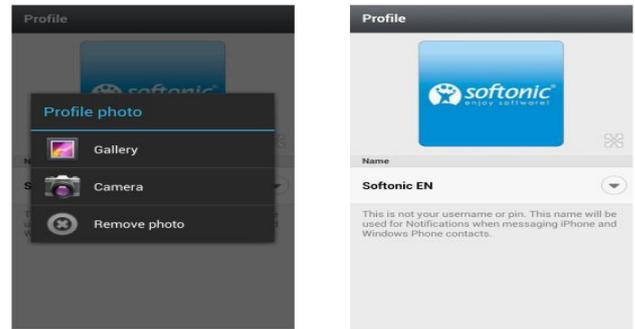


Fig. 7 Choose a WhatsApp profile picture

This image then shows up as your profile picture in WhatsApp on someone else's phone, rather than the contact picture they have set for you on their device.

*H. Send much more than just text*

Don't settle for just sending text messages through WhatsApp: you should also take advantage of the various other sharing options the app has. With WhatsApp, you can also send pictures, videos, voice messages, your location, and even contacts.



Fig. 8 Send much more than just text

*I. Change your WhatsApp status*

You can change your status message in WhatsApp to reflect what you are doing, and warn people why you aren't available to chat. This status message then appears next to your name when you appear in people's contact lists.

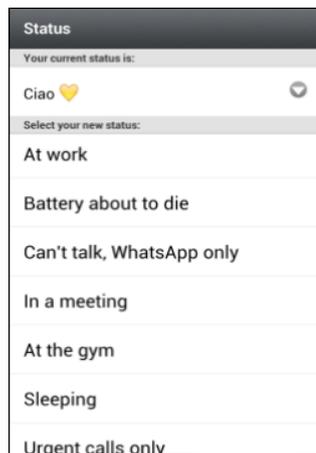


Fig.9 Change your WhatsApp status

There's a Status option within the main WhatsApp menu, and you can type your own message or choose one of the preset status messages in the list.

#### J. Broadcast a WhatsApp message to many contacts

If you need to quickly get a message out to more than one person at a time, the easiest way to do this is to 'broadcast' a message in WhatsApp.

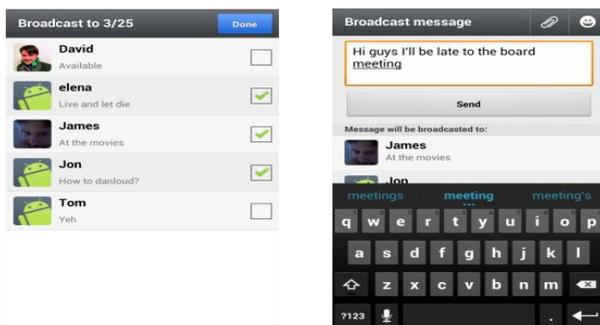


Fig.10 Broadcast a WhatsApp message to many contacts

Just select the 'Broadcast message' option in the More menu and select the contacts you want to send it to. Now type your message and hit 'Send'.

#### IV. WebRTC Technology

WebRTC (Web Real-Time Communication) is an API definition drafted by the World Wide Web Consortium (W3C) that supports browser-to-browser applications for voice calling, video chat, and P2P file sharing without the need of either internal or external plugins.

WebRTC enables all kinds of real time communication such as audio, video and text between users by utilising the browsers. Using WebRTC bears different benefits for different market segments. For end users it has two major advantages:

- Ease of use: Real-time communication is supported without the need for additional applications or plug-ins
- Security: WebRTC enforces the usage of encryption for both the media and the signalling. Thereby, WebRTC provides a higher security level than most currently available commercial telephony systems.

For enterprises WebRTC can provide even more benefits:

- Cost savings: Save on the costs of toll-free telephone number for call centres
- Rich communication: Enhance the communication to users and between employers with video and messaging without the need for special applications and servers.
- Un-interrupted communication: Keep the customers on the web page and at the same time start a voice and video call with customer.
- Security: Secure the communication with the customers as well as employees in the home office and remote branches using state of the art encryption standards.

For operators, WebRTC can additionally provide new opportunities:

- Mobile Telephony: By relying on WebRTC technology, service providers can enable users to access their VoIP service while on the go without specialised applications.
- Hosted Services: By deploying a WebRTC gateway end users would be able to access the SIP based hosted PBX and call centers without the need to change these services.
- WebRTC as a Service: Similar to hosted PBX services, service providers can host WebRTC Gateways on behalf of enterprises. WebRTC calls destined to the enterprise are handled by a WebRTC Gateway of the service provider. Incoming WebRTC calls would be translated into SIP calls and routed to the enterprise. The enterprise would not have to change anything in its infrastructure, as it will still be only handling SIP calls

### V. WhatsApp video calls Process

In the case of making a video call means making a voice call first. Select your contact, tap the Free Call button, and wait for the call to connect. Once it connects, you'll need to tap the Video Call button to move into video calling mode, and the person you're calling needs to activate it too or you won't be able to see him, her or them.



Fig. 11

*What if you don't want to receive or make WhatsApp video calls?*

- Receive calls from: choose who you receive WhatsApp video calls from. You can use this option to stop unwanted video calls from unknown people.
  - Answer calls automatically: select this option if you want incoming voice and video calls to be answered automatically.
  - Enable video calling: on most devices, video calling is enabled by default.
  - Technical info: select this option if you want to see technical information about your call.
- Video quality: choose your video call quality. The higher the quality, the more data a video call will use.



Fig. 12

### VI. Objectives

The researchers attempted to understand the perceived high-level of usage of social Whatsapp Messenger at a worldwide range by looking at the intensity of it usage and how it benefits a way of communication.

- The main objective of this research paper is the wide use of whatsapp and how it would result to add the option of video calling in addition to the existing options of mass communication.
- As the Whatsapp has users worldwide, the option of video call will result in a great way of fast and easy communication.
- And finally, some recommendations for overcoming these problems will be discussed.

### VII. Methodology

The idea behind this particular section is to reveal the rationale for the research methodology, the method and Strategy adopted in collecting data for the research. This part also seeks to reveal how the researchers conducted the research is done on the wide use of whatsapp and how it would result to add the option of video calling in addition to the existing options of mass communication.

- 3.1 Research Methods
- The researchers made use of both primary and secondary data, which were gathered from diverse sources, including, archival sources, text books, journals/articles (both publish and unpublished), and internet sites.
- 3.2 Primary Research
- The primary research is tailored to suit the needs of the research. This research involves the collection of raw data, which forms the main basis for achieving the research objectives. The sources of which includes, unpublished documents, research institutes and other agencies. An attempt was made at collecting and analyzing primary data which has gone a long way to validate the findings and conclusions drawn from the research. The qualitative research approach was deemed to be appropriate by the researchers hence its adoption. It has been observed that the use of multiple data collection methods, such as observation, interviews, document analysis and questionnaires are very important.

**REASONS FOR USING WHATSAPP:**

REASONS	FREQUENCY	PERCENTAGE
ACADEMIC WORK	28	7%
GENERAL INFORMATION	50	12%
CHATTING	300	72%
FAMILY	40	9%
TOTAL	418	100%

**TIME SPENT ON WHATSAPP:**

TIME	FREQUENCY	PERCENTAGE
1-2	18	4%
3-5	70	17%
6-7	130	31%
OVER 8 hours	200	48%
TOTAL	418	100%

**VIII. CONCLUSION**

The study shows that WhatsApp is the most used App amongst chat apps like Facebook, WeChat. WhatsApp is mostly popular among youth & working professionals. Word of mouth is major source of spreading of WhatsApp popularity. Users of WhatsApp are of mostly 16-25 age. WhatsApp users are those respondents whose monthly family income is 25001 to 45000. The study shows that most of the respondents use WhatsApp all the time. Word of mouth is the major contributor in spreading information about WhatsApp. It shows that users of WhatsApp are satisfied with WhatsApp so they will suggest anybody for using WhatsApp. Most of the WhatsApp users want video calls as one of the features and privacy is also given on priority by some of the users.

**REFERENCES**

[1] Boyaci, O., Forte, A. G. & Schulzrinne, H. (2009) Published. Performance of Video-Chat Applications under Congestion. *Multimedia*, 2009. ISM '09. 11th IEEE International Symposium on, 14-16 Dec. 2009 2009. 213-218.

[2] Web RTC Wikipedia

[3] Google

[4] *WhatsApp*. (2010, November). Retrieved April 11, 2012, from BlackBerry App World: WhatsApp. (2010). BlackBerry App World. R <http://appworld.blackberry.com/webstore/content/2360>

[5] Quickblox Web Site <http://quickblox.com/developers/>

[6] Makey Updates-<http://www.makeyupdates.com/whatsapp-video-calling-feature/>

[7] <http://timesofindia.indiatimes.com/tech/apps/WhatsApp-video-calling-appears-in-latest-update/articleshow/52265517.cms>

[8] <http://indianexpress.com/photos/technology-gallery/whatsapp-video-calling-android-end-to-end-encryption-text-formatting-top-new-features-2803799/>

[9] <http://www.bgr.in/news/whatsapp-update-to-bring-features-like-callback-voice-mail-video-calling-and-the-ability-to-share-zip-files/>

[10] <http://phoneradar.com/whatsapp-video-call-image-hints-video-chat-feature/>

[11] <http://www.theverge.com/2016/5/16/11682704/whatsapp-video-calls-feature-testing>

[12] <http://www.techslates.com/whatsapp-video-calling-feature-enable-video-call/>

[13] <https://www.youtube.com/watch?v=fs04Dj-MHCE>

[14] <https://www.androidpit.com/how-to-make-whatsapp-video-calls>

[15] <http://www.makeyupdates.com/whatsapp-video-calling-feature/>