



# Messaging Application like WhatsApp

Prof. Kishor Sakure<sup>1</sup>, Manas Phanse<sup>2</sup>, Mayuri Sakpal<sup>3</sup>, Kajal Mishra<sup>4</sup>, Omkar Salian<sup>5</sup>

Department of Computer Engineering, University of Mumbai, Mumbai, MH, India<sup>1-5</sup>

**Abstract:** Social media apps are proving to be very effective in today's generation and have a great impact on society. So, we came up with the idea of preparing an application like WhatsApp - one of the top social media apps. Web application is nowadays in the demand of the web development sector. We have tried to develop a message application like WhatsApp (like a clone which is a process of creating a website with similar architecture, features, and functions of a website / web application).

**Keywords:** Django, Python, SQLite, App-Cloning.

## I. INTRODUCTION

### A. Aim and Objective of Project

As said earlier, social media apps have been proven to be very effective in today's generation and have a great impact on society. Messaging (Text, Emoji, GIFs), Chats, etc. have always been in high demand. Messaging apps like WhatsApp, FB Messenger, Telegram, etc. simply gave new and efficient means for personal or group messaging to people, and it was accepted in daily lives in no time.

## II. RELATED WORK

As per findings, around 58% of people prefer social messaging Apps (Mobile or web Apps) to keep in touch with people. Whereas the conventional options like email, sms, etc. have become obscure [1]. Plus, most of the WhatsApp Clones use FIREBASE. Our Project is using Simpler Framework in Django (Python + SQLite). Also, we did refer to the Whatsapp Architecture despite not being the sole focus of this research[2].

## III. MODEL ARCHITECTURE

### A. Single page Application –

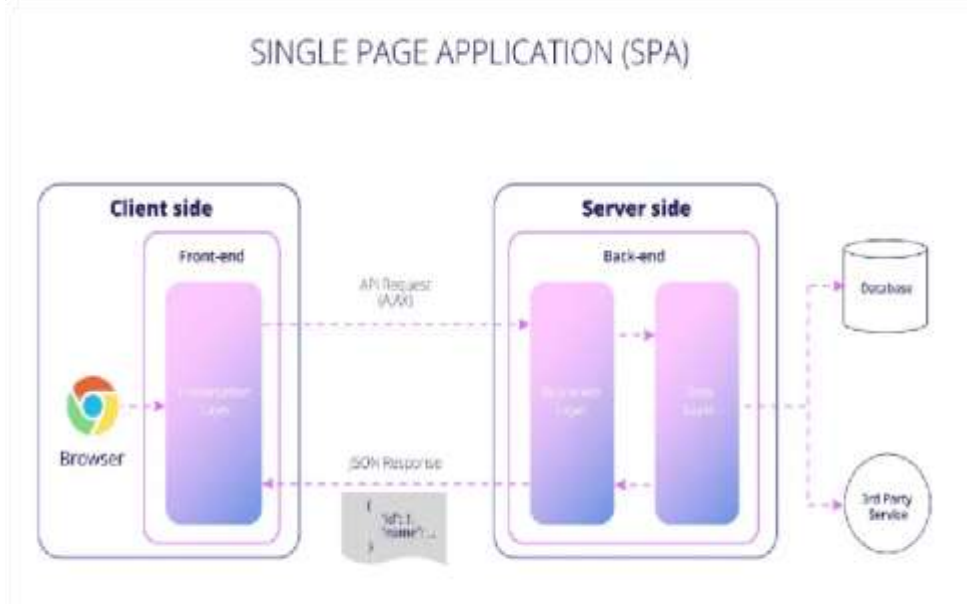


Fig. (1) Example of Single Page Web Application

As seen in the above image, our web application is based on Single Page Web App Architecture. This is because of the following reasons: [3]

1. It is a type of web application that works within a browser. [3]



2. It doesn't require reloading the page when new data needs to be displayed. [3]
3. Such architecture has become common in use: Facebook, Gmail, Google Maps, GitHub and Twitter – all of them use single-page web architecture. [3]
4. It uses an API to communicate with the server. [3]
5. This architecture works well if you want to easily scale your product. [3]

**B. Chat-Specific Architecture Diagram –**

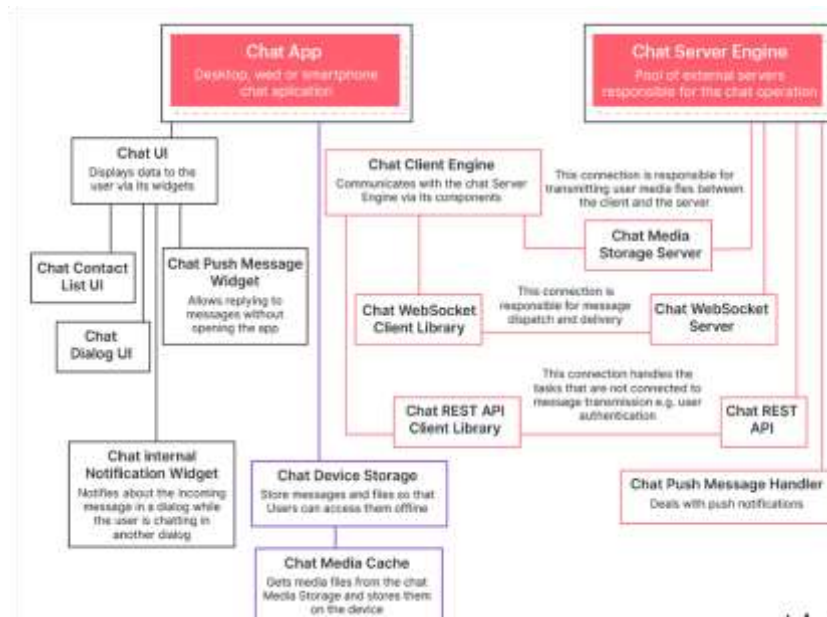


Fig. (2)

Like the Diagram, our real-time message will use Web-Sockets for Message Flow from User to User.

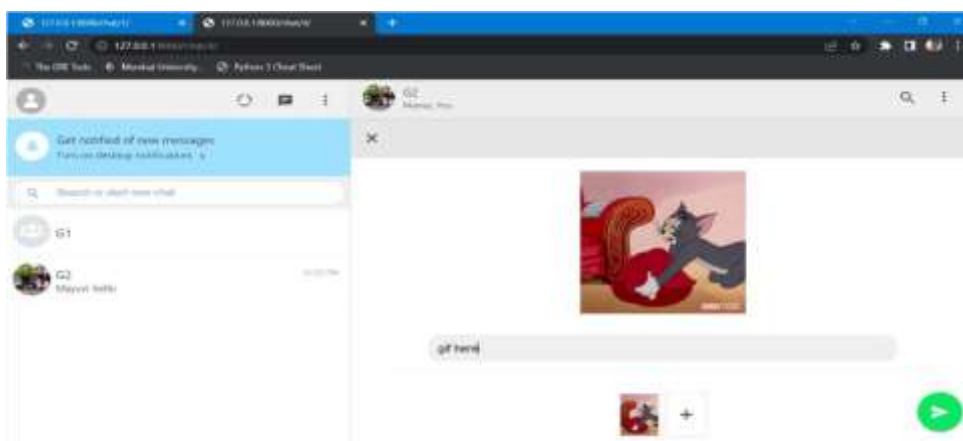
**IV. EXPERIMENTAL SETUP**

**A. Experimental Tools-**

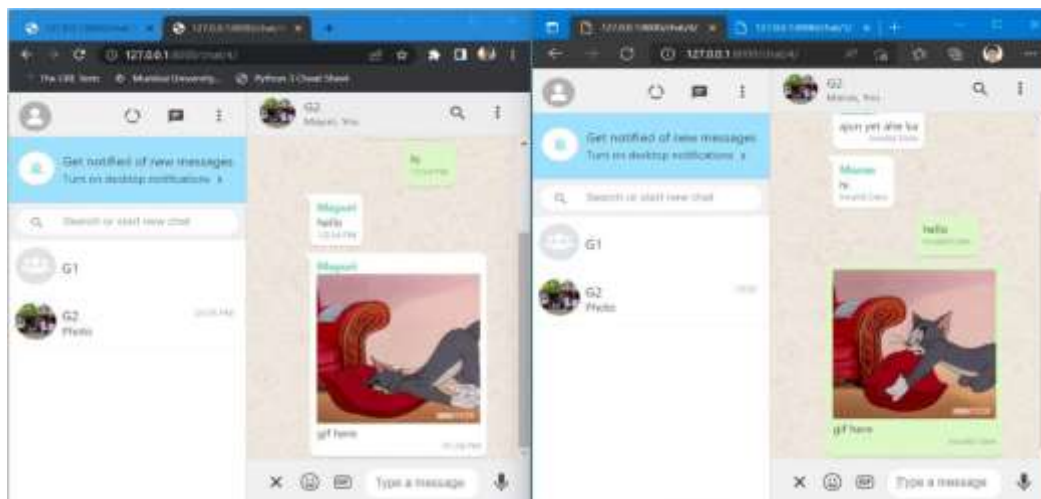
As we can see in the pictures below, they are very similar when it comes to the interface of Whatsapp and the presence of certain commands for chats or GIFs or any other features.

**B. Experimental Result –**

We used the Django Framework (thanks to the MVC mechanism). This Framework uses Python in the Backend and SQLite as DataBase. Also, in the front end, we had used HTML and CSS.



(a) Uploading a Message



(b) Sent and received message  
Fig3. App Interface

### C. Qualitative Evaluation –

We asked volunteers for qualitative analysis. Volunteers in this analysis were asked to rate the overall quality of this application on a scale of 1 to 10.

### v. CONCLUSION

As you can see, we performed an ambitious project in a WhatsApp-esque Messaging Application. This shall provide us great experience in learning Web App Framework.

### vi. REFERENCE

- [1] Customer Satisfaction Towards Various Features of WhatsApp – <https://www.slideshare.net/MDEJAZREZA/customer-satisfaction-towards-various-features-of-whatsapp-messagingapplication>
- [2] Juan Martin Vanerio and Pedro Casas. 2016. WhatsApp Calling: A Revised Analysis on WhatsApp's Architecture and Calling Service. In Proceedings of the 2016 workshop on Fostering Latin-American Research in Data Communication Networks (LANCOMM '16). Association for Computing Machinery, New York, NY, USA, 13–15. DOI:<https://doi.org/10.1145/2940116.2940132>
- [3] Web Application Architecture in 2021: Moving in the Right Direction –<https://mobidev.biz/blog/web-application-architecture-types>
- [4] Understanding the Architecture & System Design of a ChatApplication <https://www.cometchat.com/blog/chat-application-architecture-and-system-design>