

aChat auto reply - tech solution building

Requirement:

The primary goal is to send appropriate auto reply after certain time to “from user” when “to user” is offline. Users should be able to customise the auto reply data.

Solution:

A feasible solution for this problem is to go with key - message association. User has to provide keys and auto reply message for those keys, so that if an input message is received with the key, a key search should be performed and matched auto reply message should be sent.

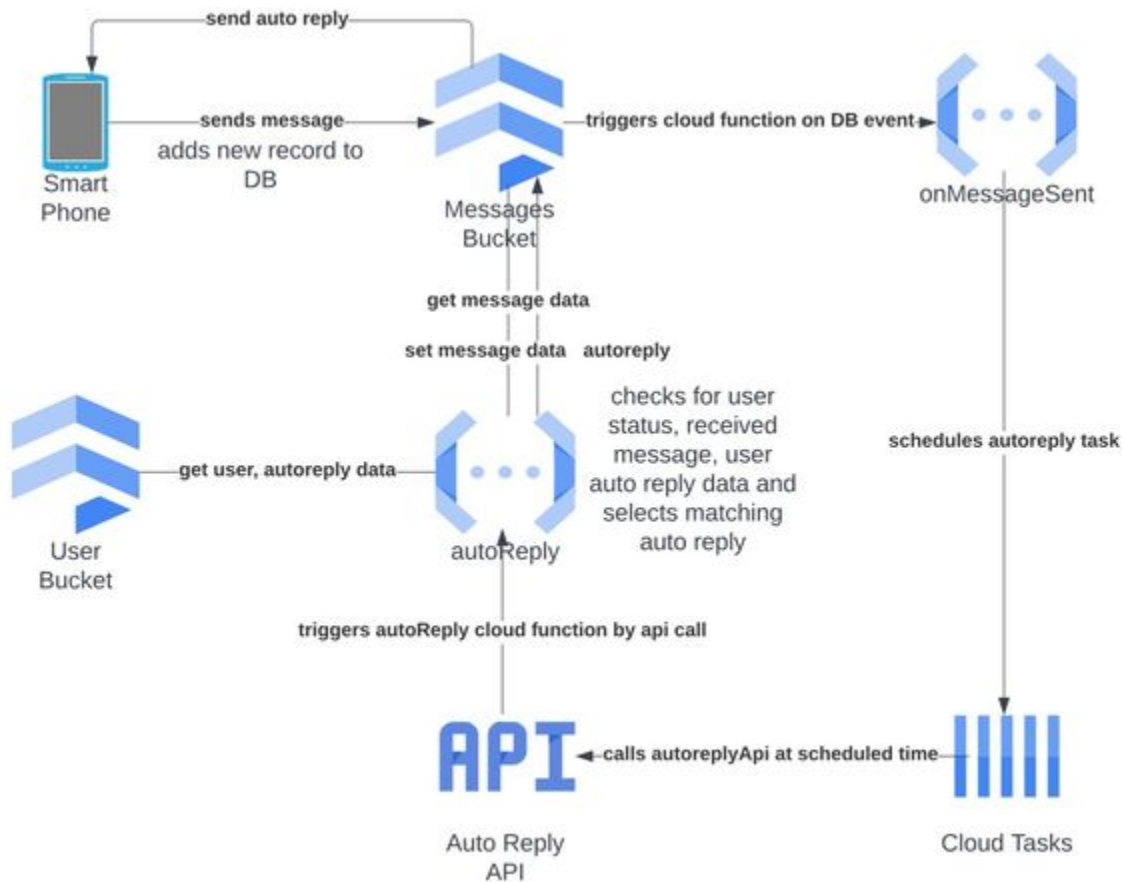
At the basic level, user can give multiple keys for an auto reply.

For example: keys - [hey, hi, hello], auto reply: “hey how are you doing”

To add security, user can also categorise his/her contacts into friends, family and both. Assign auto replies to these categories. The system should check for user category and check auto reply if auto reply category matches.

This can be further expanded to covering all the synonyms and part of speech of keys.

Infra Diagram for Identified Steps:



Identified Steps:

1. User should give auto reply input data (key - message associations)
2. System should maintain user offline/online status. Android application should update the user status in firebase user bucket. Implement online/offline code in **app lifecycle** methods. Add a **user status** attribute in user bucket.

3. System should send auto reply message asynchronously after certain time. To implement this, we can use pubsub implementation or **cloud tasks** which supports scheduling. When a message is received, **onMessageSent** cloud function is triggered by DB event on messages bucket in firebase. Create a task queueing system. Create **message-queue** in **cloud tasks**. onMessageSent function should add a scheduled task in message-queue.
4. Cloud Task: The task should call a **autoReplyApi** with user_id, message_id as params.
5. **autoReplyApi**: It checks for user online status. If user is offline, retrieve user data from user bucket using user_id, message from messages bucket using message_id. Match proper auto reply using message words, auto reply keys, user category and auto reply category.

Sample auto-reply schema:

