Software Engineering Requirements Specification (SRS) Document

RealTalk

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RealTalk is a One-To-One Realtime Chatting app like Whatsapp, Viber etc.. It has all the functionalities like Mobile OTP Login, chat with user without saving number, voice and video calling, file sharing, user status updates, read contacts, showing status (istyping, online, Last seen at etc..), double tick on message read by peer, unread message count, hide & block user, share media, set wallpaper, group messaging & other cool features.

Most importantly, it has End-to-End Encryption features which make it secure and safe to use application for users. Conversations between users can only be read by themselves. No one including admin can see the sensitive information from the server also since it has been encrypted using different algorithms.

RealTalk is targeted for Android with operating system Jelly Bean, v16, 4.1.x or newer, and iOS or iPhone smartphone with iOS 8 or newer or the IOS operating system (OS). RealTalk also supports 50+ languages, which means a wide range of global audience can easily use the application in their own local.

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APIs / Technology Stack

RealTalk app is built with the following technologies**;**

a. Google's Flutter as app development framework
b. Firebase Cloud Firestore as database for mobile apps.
c. Firebase Storage as cloud storage for mobile apps.
d. Firebase Authentication for Mobile OTP authentication.
e. Firebase Messaging for sending Push Notifications.
f. Firebase Cloud Functions to invoke Push Notification.
g. AGORA SDK for audio & video calls - https://www.agora.io/en/pricing
h. Giphy Gif API for Gif in Chat

App Permissions

RealTalk requires the following Users Permissions**;**

a. Internet Connectivity to run app.
b. Read Storage to upload Media files.
c. Write Storage to save a file on storage.
d. Read Contacts to find Users available to chat.
e. Microphone access to make calls & record audio.
f. Camera access to make video calls.

Monitoring

RealTalk user mobile app can be monitored with 4 different ways;

    a. Admin Mobile App
    b. Admin Web App
    c. Firebase Console
    d. Google Play Console

1. Monitoring Using Admin Mobile App:

Admin app, which will not be distributed on the AppStores is used to manage & Control the RealTalk User app and it comes with following features:

- Clean Design, just like the user app
- Secure Login with Admin Security PIN Screen
- Dashboard
  - Real-time Statistics
  - Country Wise data
- Manage User
- Search by Name, Phone Firebase UID of Users
- Viewing User Profile
  - Users Profile details (Audio/Video call made & received, Media Sent, App visits)
  - See User Call History
  - See User Last-seen
  - See User Joined On time
  - User app version control
  - User app Settings
- Allow/ Block User
- Settings & Control Panel
- Manage User app Settings
  - Time Format Switch to Switch between 12hour or 24hours time format
  - Toggle Group Creation ability for users
  - Toggle Status Creation ability for users
  - Toggle Broadcast Messages Creation ability for users
  - Toggle Logout button display switch
  - Set Maximum file upload size
  - Allow/ Block Calls for Users
  - Allow/ Block Media Sending for Users

- o Allow/ Block Text Message Sending for Users
- o Allow/ Block New Logins
- o Other user usage controls
- ➢ Collect User Device Info for analytics and demographic purposes
- ➢ Allow/ Block Emulators to ensure users only access the app using real devices
- ➢ Android Maintenance Switch to toggle maintenance mode on/off
- ➢ iOS Maintenance Switch to toggle maintenance mode on/off
- ➢ See Total Users
- ➢ See Recently joined Users
- ➢ Admin app version control
- ➢ Admin app Settings
- ➢ Send Notifications to Users
- ➢ See Notifications Received by admin
- ➢ Set Terms Conditions & Privacy Policy for user app
- ➢ Edit Admin Profile, Picture
- ➢ Set feedback Email Field

2. Monitoring Using Admin Web App:

An Admin web app is hosted on a remote server and provides access to only admins. Built untop of PHP's Laravel Framework, the features of the admin web app includes but not limited to features of the admin mobile app.

3. Monitoring Using Firebase Console:

To monitor the Firebase project login to Firebase Console using credentials provided at the Secret Information section. The Flutter development framework is backed by Firebase backend products like – Cloud Firestore as No-SQL database, Firebase Storage as cloud storage for app, Firebase Authentication for user mobile authentication, Firebase Functions as cloud functions, Firebase Messaging for push notifications, Remote Config for app version control and app links, Stream View for real time users count across the globe.

A few important points to note;
- ➢ Firebase billing is the monthly billing for the usage of the app consisting of the Firebase Products based on following key points:
  - o Documents read, write and delete counts.
  - o Amount of GB stored in Firebase Storage and its bandwidth.
  - o Cloud Functions invoked by user activities.
- ➢ By default Firebase billing is set to SPARK PLAN for each project that is under free tier quota. For more pricing information visit
  https://firebase.google.com/docs/firestore/pricing

> ➢ Once the free tier quota is consumed Firebase restricts and interrupts the usage of the app. To continue, it should be upgraded to the BLAZE PLAN which bills you monthly depending upon the app usage.
> ➢ Real time read, write and delete count can be monitored through "usage" tab in Database and Storage section.
> ➢ You can preset the monthly budget for Firebase billing which reminds you once your usage limit is about to exceed your preset amount.
> ➢ Lastly, every Firebase project is also a Google Cloud Project (GCP), so it can be monitored through Google Cloud Console other than Firebase Console.

4. <u>Monitoring Using GooglePlay Console:</u>

To monitor the Google Play Console Account managing the app's publicity, login to Play Console using credentials provided at the Secret Information section. A few important areas are worth noting while using the Google Play Developer Console;

> ➢ Manage Developer Info
> > o Go to Settings > Developer Account, manage account details, users and permissions, activity log, API access, linked accounts, payment settings and bench marking preferences.
> ➢ Publish/Unpublish App
> > o Publish app as per section 5.4.
> > o In the current version of Google Play Console as of (August 2020) here is the procedure of unpublishing any app.
> > > ▪ Choose the app you wish to unpublish.
> > > ▪ Go to Store presence > Pricing & distribution.
> > > ▪ You will see unpublish button in the app availability section. After clicking Unpublish a dialog will pop up, confirm and save the changes.
> ➢ Store Listing
> > o To manage the listing information of your app in Google Playstore go to Store presence to edit store listings, store listing experiments, custom store listings, pricing & distribution, content rating, app content.
> ➢ Manage Release
> > o In this section, all your app versions are listed along with version code and version number with real time statistics.
> ➢ User Metrics
> > o App installs, Active devices, device type, uninstalls all these datas will be shown under Statistics section and User acquisition section in Google Play Console.
> ➢ User Rating & Review
> > o Find ratings, review analysis, reviews under User feedback section in Google Play Console. You can also respond to the user reviews.