Telegram's Big Picture

Key stakeholders

- People who need more secure means of communication (Business owners, etc.)

  Telegram has a lot of features/policies that contribute to its information security, such as not accepting private funding and message encrypting when being stored on cloud. Thus, it claims that it is a more secure means of communication. Therefore, in an ideal world important information would not be unwantedly sold to or stolen by other organizations.

- Vendors and any of those who have daily small-amount transactions

  The bots payment API allows for users to accept payments, and the platform does not regulate the type of product that are sold. Thus, it can serve as a nice platform for vendors to get more customers. Meanwhile, one can simply use the service as a Telegram-plugin version of Venmo, which eliminates the need for multiple applications.

- Website/other content creators

  Similar to all other social networking tools, Telegram allows for sharing of web contents in/out of the application. This is also one of the features which they directly profit from. The sharing feature naturally helps content creators with getting their work better advertised.

- Developers/managers/marketers/anyone who participates in running the organization

  The better the developers are doing their jobs, the more powerful the application will be. The amount of both users and donations will in turn increase. Similarly, fundraisers and marketers need to ensure the organization, which keeps them employed and paid, is sufficiently funded. Individual developers can also utilize the APIs provided by Telegram to code for their own purposes.

- People who chat on a daily basis (and find that they like telegram better for their reasons)/ people who need to collaborate

  The most basic functionalities of Telegram, despite all the fancy bots and APIs, is to enhance the efficiency and effectiveness of (remote) communication. People who choose Telegram as their major communication app are certainly the major stakeholders. Same applies to those who need to collaborate on their works.

- People in certain country where Telegram is the only (or one of the few) communication that is fast enough

Functionalities

Telegram is an app in the domain of cloud-based mobile and desktop messaging with a unique focus on security and speed. The essential functionalities are actually partially covered in the previous section, as only the users who have the need for certain functional aspects provided by Telegram can be counted as stakeholders. Below is a list of stand-out essential functional aspects which are user-driven as well as non-functional properties that achieve user's need.

functional aspects:

- Deliver messages faster than any other application
- Keep messages safe from hacker attacks
- Synchronize messages across multiple devices
- Share large documents up to 1.5GB and access them from any of your devices
- Build your own tools on provided API, including transactions

Non-functional aspects:

- Distributed servers around the globe for speed and security
- Heavily encrypted messages which can also self-destruct
- Cloud storage of messaging history
- Open API and protocol free for everyone

Key developers

Founder and initial developer: Pavel Durov and Nikolai Durov.

The Telegram development team is originally from St. Petersburg and currently based in Dubai. There is a group of volunteers named Telegram Support Force helping on the application. They could be described as the developers and testers of this application. The contributors on GitHub have all made no more than 2 commits, which are all very trivial.

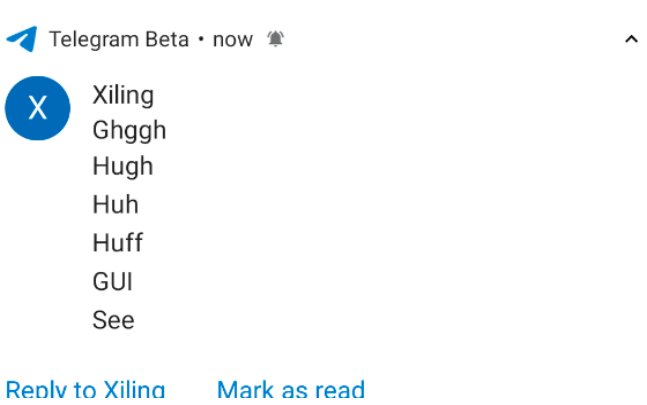
Open Issues

Since the project has no open issues on GitHub, we chose five issues from the unmerged pull request we think we can work on. Some pull requests we chose may be old, however, we checked the code and functionality and they have not been solved yet.

The first one is to add choices when sharing location with other apps. Currently, it only shares location information with Google Map by default. If the user prefers other map services, there is no option to choose. Thus, it could be better to add a selection of location service when users would like to share location with other apps.

The second one is that Telegram inverts the order of the messages in the notifications. It is weird if the user is familiar with notifications of other applications. Also, the Android version

we focus on works differently with the iOS version. Thus, it could be better to add an option in the setting page so that users could set which order of notification messages they would like to work on.



The third one is to add a code to clear all secret chats history. As security and privacy are essential features of this application, adding this function could make the app more reliable. Suppose the users are forced to unlock the app and show their secret, they could use this code to unlock and their secret would be deleted at once to protect the user.

The fourth one is about the cache. Currently the application is using external cache to store all thumbnails and images now. However, considering the security, the secret chat should use internal cache instead of the external cache. If the external cache is used, other apps may have access to the images from the secret chat, which damages the security and privacy of the app.

The fifth one is related to the application UI. When working on some newest model of phones, like Xiaomi MI 8, part of the application header is overlapped by the phone camera. To solve this problem, the UI of the app should be updated based on different phone models.