



# **Enterprise Instant Messaging Usability Testing Results**

**Prepared by the Digital Collaboration Division  
Treasury Board of Canada Secretariat**

# Research Overview

## Executive Summary

The Digital Collaboration Division has conducted usability testing to compare and evaluate the user experiences of two leading open-source enterprise team chat platforms, RocketChat and Riot.IM, to determine which platform is the most suitable for Government of Canada (GC) employees.

This research included 5 participants. The usability testing sessions took place on February 23, 2018. None of the participants were able to complete all the tasks. Participants completed an average of 7 out of 9 tasks (78%).

From the results of our analysis, we have concluded that RocketChat is the best platform to use. The participants all preferred RocketChat's desktop web-browser application. As research has shown that more public servants use their desktop/laptop for work than their mobile device, selecting the superior desktop application is more important. RocketChat also has better open-source community support.

## Platforms

The participants were asked to complete a series of tasks for two different leading open-source enterprise team chat platforms: Riot.IM and RocketChat. Usability testing included the desktop web-browser and mobile application versions of both platforms.

## Tasks

Participants were asked to complete the following tasks during this system testing:

1. Create an account
2. Change profile picture
3. Start a chat with a person
4. Start a video chat
5. Set notifications to mention only
6. Create a group chat and invite users
7. Join an already existing group
8. Log out
9. Reset a forgotten password

Each participant was also asked to provide comments and suggestions about both platforms

## Conclusion

After completing usability testing on both desktop web-browsers and mobile applications, participants preferred RocketChat over Riot.IM.

In the **registration process**, participants navigated both platforms easily. Users suggested indicating password requirements, and a few text changes for clarification.

The **main problem was receiving emails** as it took too long. Participants were unsure if the registration had worked.

Participants found it **easier to locate their user profile on RocketChat**. Changing the profile picture on RocketChat was the simplest; participants were able to locate their profile easily. Users had difficulty locating their user profile in Riot.IM because the location of the main navigation wasn't obvious.

**Participants had found it easier to start a chat in RocketChat**, though they expressed their desire for the buttons and colours to be more prominent. In Riot.IM, when participants were asked to start a chat, some suggested the start chat button looked like a user profile icon. An issue for both platforms was that unless user was invited to a group or server, they had no idea how to get connect with people.

**Starting a video chat was easier in Riot.IM**. The RocketChat video chat button would benefit from being repositioned in the global navigation to give it more prominence.

Riot.IM has two locations for **settings**, these settings offer different options which makes it confusing for the users to know where to find what they're looking for.

**Logging out** on both mobile application and desktop web-browser was easily completed with RocketChat and Riot.IM on both mobile and desktop versions.

**Resetting a password** on both Riot.IM and RocketChat desktop and mobile version was easy to complete, other than a few issues receiving emails.

RocketChat is easier to navigate than Riot.IM as the high contrast makes the features distinctive, unlike Riot's pastel palette. Riot.IM's features are spread throughout the application so learning its functionality is difficult for users. The Android app for RocketChat does not have many features as it is still in version 1, so usability and functionality is more limited than Riot.IM. The Riot.IM mobile app is easier to use than its desktop version, however participants felt Riot.IM would benefit from modifications to navigation and colours to distinguish different sections and functionality. Riot.IM's mobile app was easier to use than RocketChat's mobile app.

Both Riot.IM and RocketChat let providers privately host their enterprise team chat service, allowing developers to build on and evolve the code. On GitHub, RocketChat has 14,336 commits while Riot.IM's 5,224 commits. Commits are revisions individuals have made to the code. RocketChat has had 3,532 forks, while Riot.IM has only had 319. This means more users have made a copy of RocketChat to make changes to the platform. GitHub allows users to "star" messages which allows them to save and bookmark messages to make them easy to find again. RocketChat was starred 16,503 times, while Riot.IM was starred 1,661 times. The watch feature on GitHub allows users to receive notifications on new discussions; RocketChat has a total 808 watches, Riot has 115. RocketChat has 398 contributors who have helped with the platform, while Riot.IM has 142.

Riot.IM has 100 more issues (tasks, enhancements and bug fixes) opened than RocketChat. Riot has 2,982 issues closed versus RocketChat's 4,508 closed issues meaning that more people are fixing bugs in RocketChat. Given the level of development activity shown above, RocketChat is more active and has more support from the open-source community.

In 2016, the GCTools User Study report was conducted to find which device public servants used more for work. The results showed that 41% used their employer-provided smartphone, 60% used their provided laptop, 29% used their personal smartphone and 15% used their personal laptop.

After analysing both options, we have concluded that RocketChat is the best platform to use. All participants who participated in this usability testing felt that RocketChat was the superior desktop application. As research shows that our users use their desktop more than their mobile phone for work, desktop functionality is the most important consideration. In addition, RocketChat has more open-source community support.

### *User Feedback*

After releasing the usability testing report and receiving feedback from users, we recommend RocketChat as the preferred application for open-source enterprise instant messaging for the Government of Canada, and have decided to proceed with it as our chosen application.

RocketChat is preferred over Riot.IM for overall aesthetic and user interface design. RocketChat works on Internet Explorer (IE), the web browser found on most GC computers. Riot.IM does not and would require installing another web browser (e.g. Chrome), which most departments do not allow. RocketChat has extra features that Riot.IM does not offer like the status indicator, being able to react to chat messages with emojis, and the ability to @mention everyone in the conversation with the @all function. The simplicity of RocketChat makes it easier for users to navigate and find what they're looking for. However, we received feedback that the desktop web-browser version of RocketChat lagged a lot.

Users preferred the Riot.IM mobile app. Riot.IM lets you change the colour theme, gives users the ability to sign up using their phone number or email address, and can encrypt channels. The user experience on the mobile version of RocketChat is inconsistent depending on device and platform.

Some users believe Riot.IM is easy to learn and use on desktop. Users found it difficult to find settings as they're in different locations. As well, Riot.IM lacks features like the ability to create voice channels. It also does not show image previews for links.

After conducting this usability testing, we recommend using RocketChat as our main messaging tool.