Indian Institute of Technology, Bombay

CS699 Project Report

Implementing Slack Like Application

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1 Objective

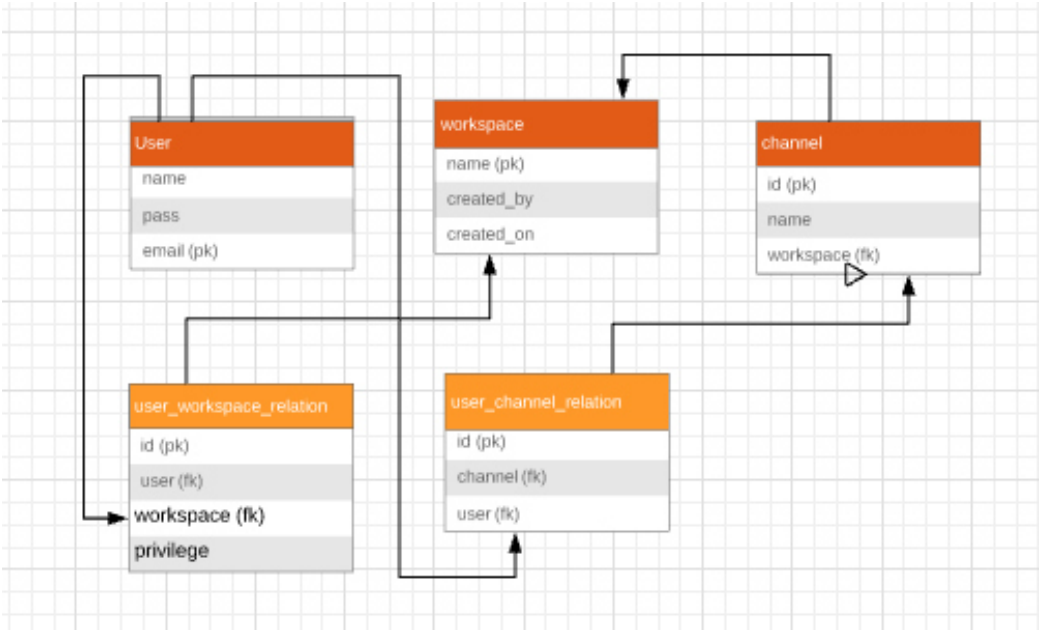
The goal is to build a coordination system similar to Slack. Slack is a tool that allows multi person teams (geographically spread) to coordinate over projects. At the core, Slack is a messaging system where users can send messages that are received instantaneously by others. Slack allows these messages to be directed to select groups of users via "channels". Membership to a channel is controlled by anyone having admin rights to the Workspace. Each of these Workspaces will have multiple channels within them.

2 Technologies Used

1. Django Channels
2. Redis
3. Elastic Search

3 Entity-Relationship Diagram

The Entity Relationship Diagram of the application is described below:



4 User Manual

1. There are 2 options by which a person can use this Slack like application.
2. First, either one can register in this application and can create a workspace for his or her use and can add members to the workspace.
3. Second, one can get invitation from some other user's workspace.
4. Once a user is logged in, the session is created which is cross checked at each stage and the current webpage displays all the workspaces one is involved in.(either self-created or added). When the user logs in, he is directed to "general" channel of which every member of the workspace is a part.

If the user logged in via invitation then he/she is redirected to a page where they need to change password i.e. one provided in the invitation mail and fill in the other details. Until and unless the invited user follows the above step, he/she is not allowed access to the workspace.

5. Now, the workspace page is divided into 3 sections for user convenience.

   (a) Left Pane: Channels and Users in the channel
   (b) Middle Pane: Discussion Area
   (c) Right Pane: List of workspaces associated with the user and users in this workspace.

6. In this page, all sorts of work can be done as listed below:

   (a) Create Channel
   (b) Add Members to the channel
   (c) Switch to other workspace
   (d) Initiate/Delete a discussion.
   (e) Reply to the discussion

5 Future Works

1. Develop Android Application
2. File Upload Facility
3. Security Issues

6 Conclusion

By the end of this project, we have learned the technologies like Django Channels, Redis Elastic Search and have faced the challenges of developing a running application and have successfully brought it to working.

7 References

1. https://redis.io/documentation
2. https://channels.readthedocs.io/en/latest/
3. https://www.elastic.co/guide/index.html