

[illegible]

Mobile Test Service Platform

MobileTaaS

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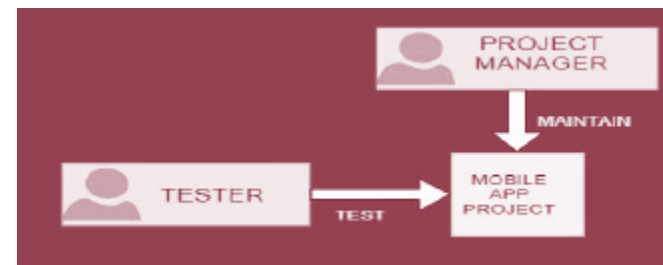
WHAT IS MTAAS?

“Mobile Testing as a Service (known as Mobile TaaS) provides ondemand testing services for mobile applications and/or SaaS to support software validation and quality engineering processes by leveraging a cloud-based scalable mobile testing environment to assure pre-defined given QoS requirements and service-levelagreements (SLAs)”



FEATURES

- On demand mobile test services
- Mobile test management
- Platform for Project Managers to host their projects
- Testers can join projects and test
- Project Managers and Testers can collaborate
- Multi tenancy
- Scalable





COMPONENTS

- Tester Management
- Project Management
- Community Service
- Test Runner

FUNCTIONAL FEATURES

- PROJECT MANAGER

- Project manager can create and account and log in using it
- Project manager can maintain project information and its resources
- Project manager can add or view projects
- Project manager can manage testers
- Project manager can notify its testers regarding project
- Project manager can post messages regarding project

FUNCTIONAL FEATURES

- TESTER

- Tester can create an account and log in using it
- Tester can maintain their profile
- Tester can join projects
- Testers can access project resources
- Testers can update testing result
- Testers can log bugs using a bug tracking tool
- Testers can chat with other users

FUNCTIONAL FEATURES

- GUI

- Using the login screen, all types of users should be able to log in
- After logging in, project manager user can see his dashboard with project information and resources
- After logging in, tester user can see his dashboard with his project information and can update testing results

CLOUD SYSTEM

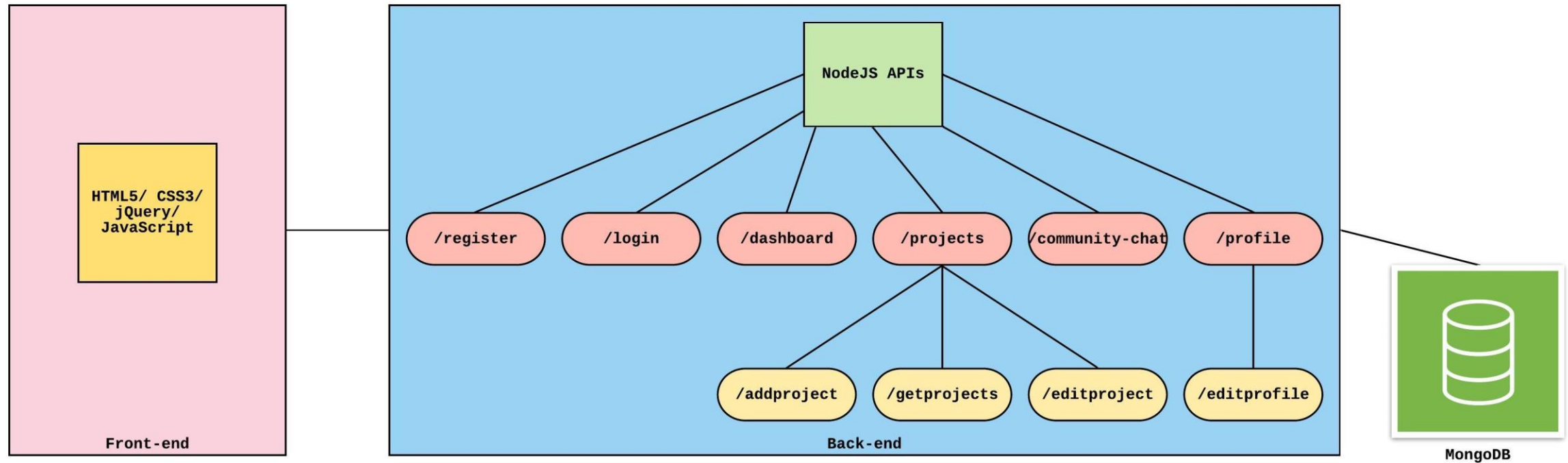
AWS is the cloud system

- One Amazon Linux 2 AMI EC2 instance for application deployment
- One Amazon MongoDB Atlas instance for MongoDB
- One Amazon Linux 2 AMI EC2 instance for Lets Chat
- Multi tenancy
 - Multiple project managers can host their projects and testers can test

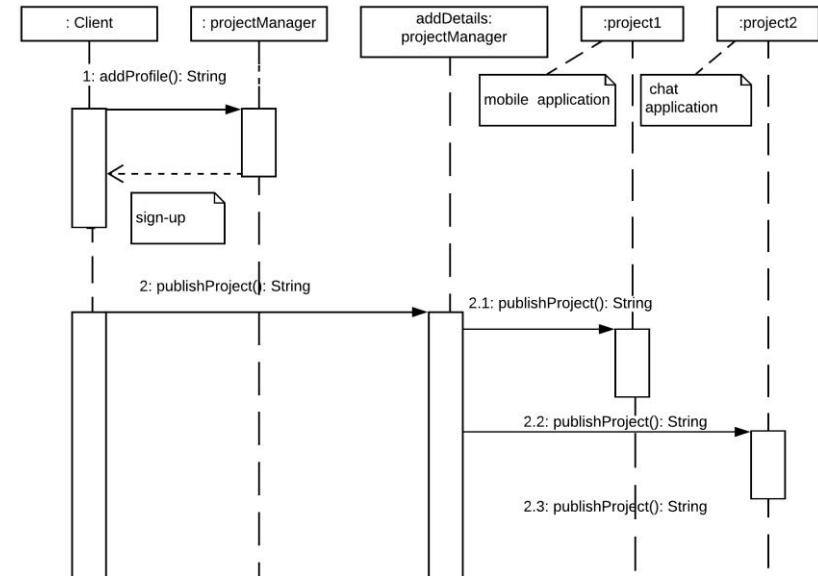
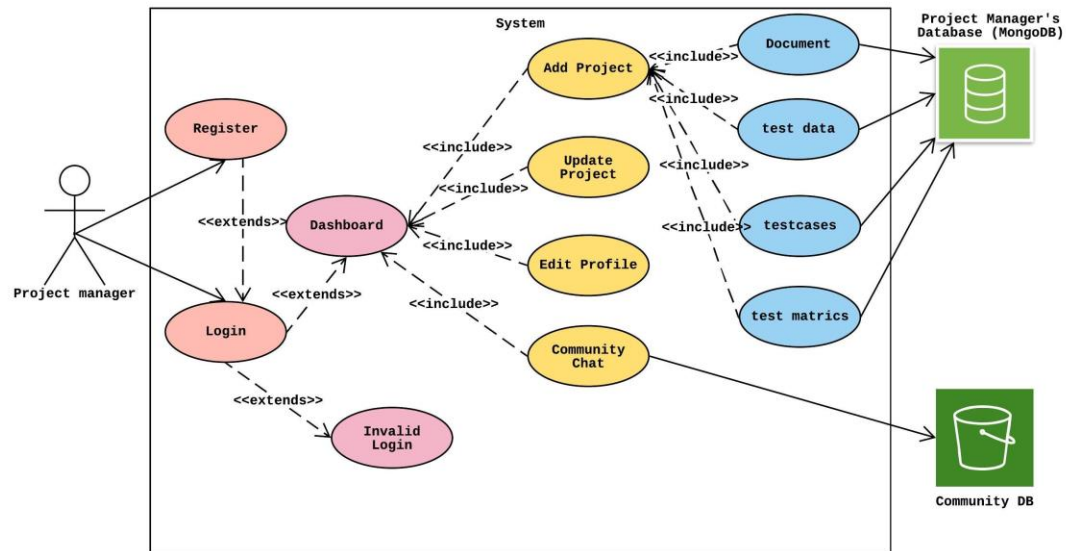
PROJECT MANAGEMENT

The objective for this component is that, mobile application owner can develop their application and can publish it to their dashboard. Once the application is published the freelanced testers can do testing for the respective assignments and can find out usability and any technical glitch in the application. This will enable project manager to have an awesome application and project manager can then launch the application on the web.

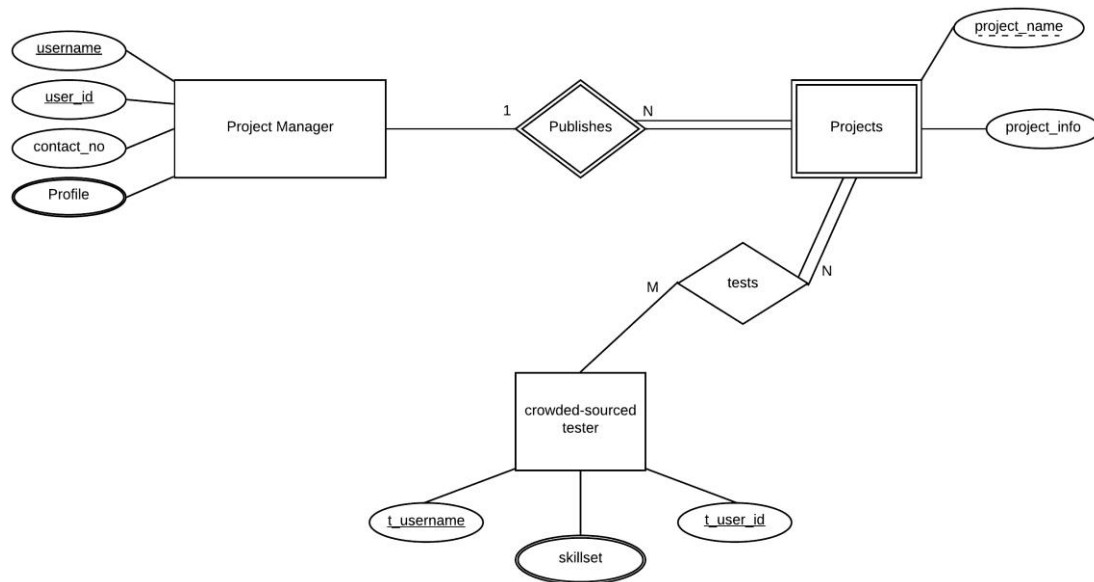
DESIGN



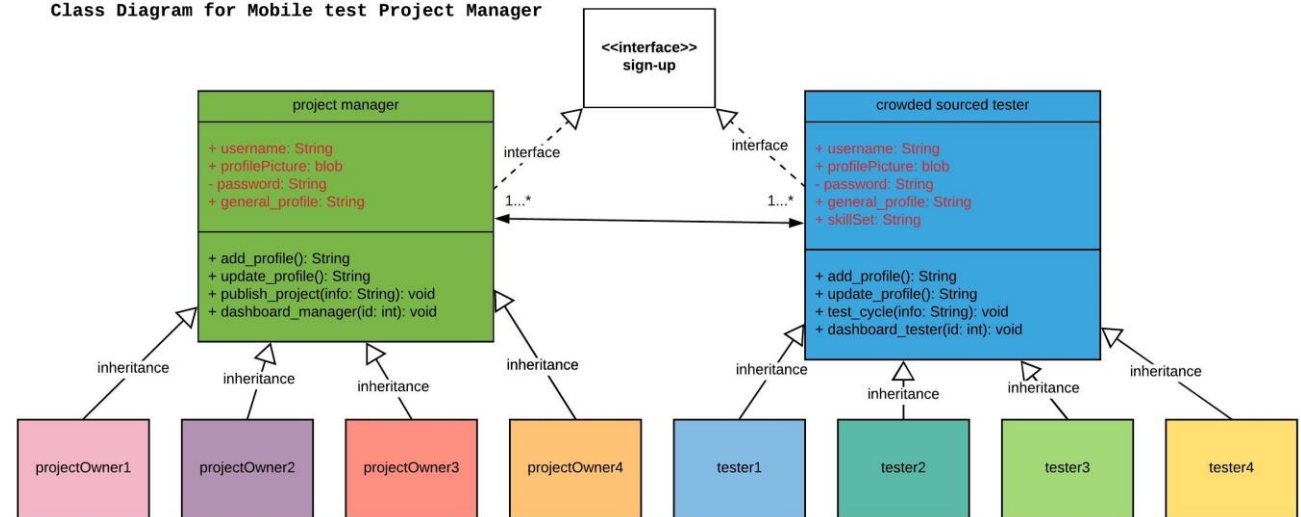
COMPONENT DESIGN



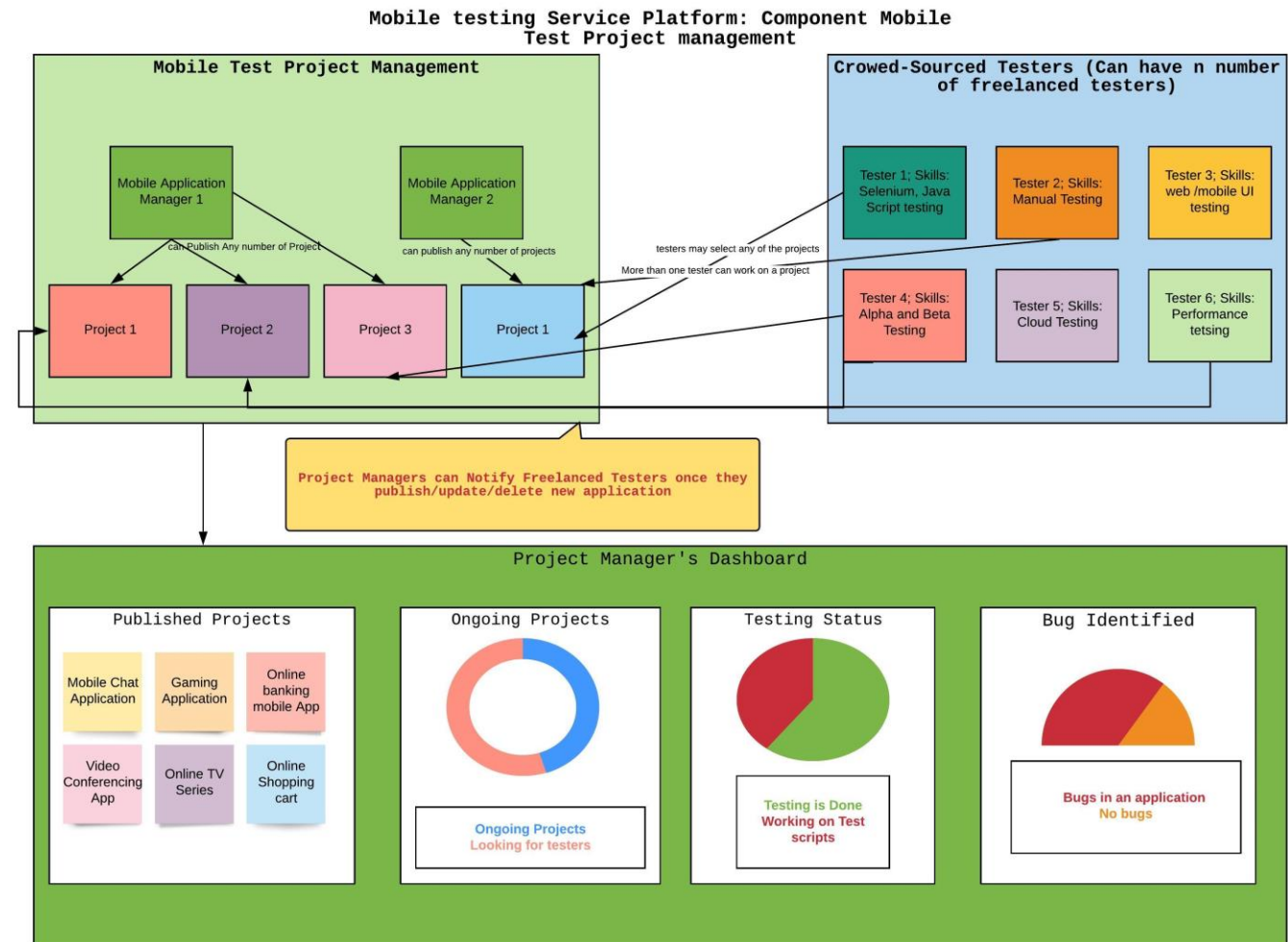
COMPONENT DESIGN



Class Diagram for Mobile test Project Manager



COMPONENT USAGE

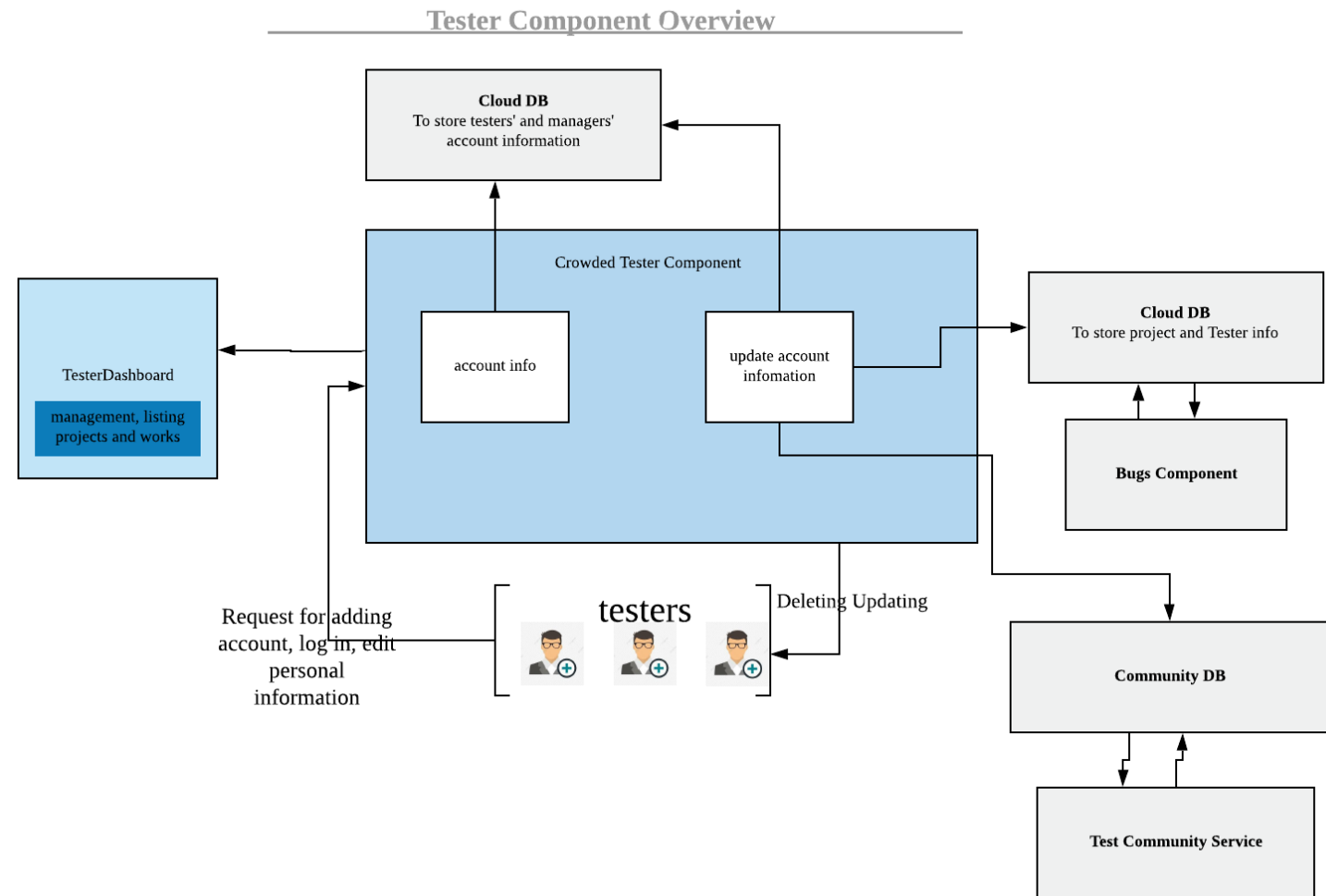


TEST MANAGEMENT

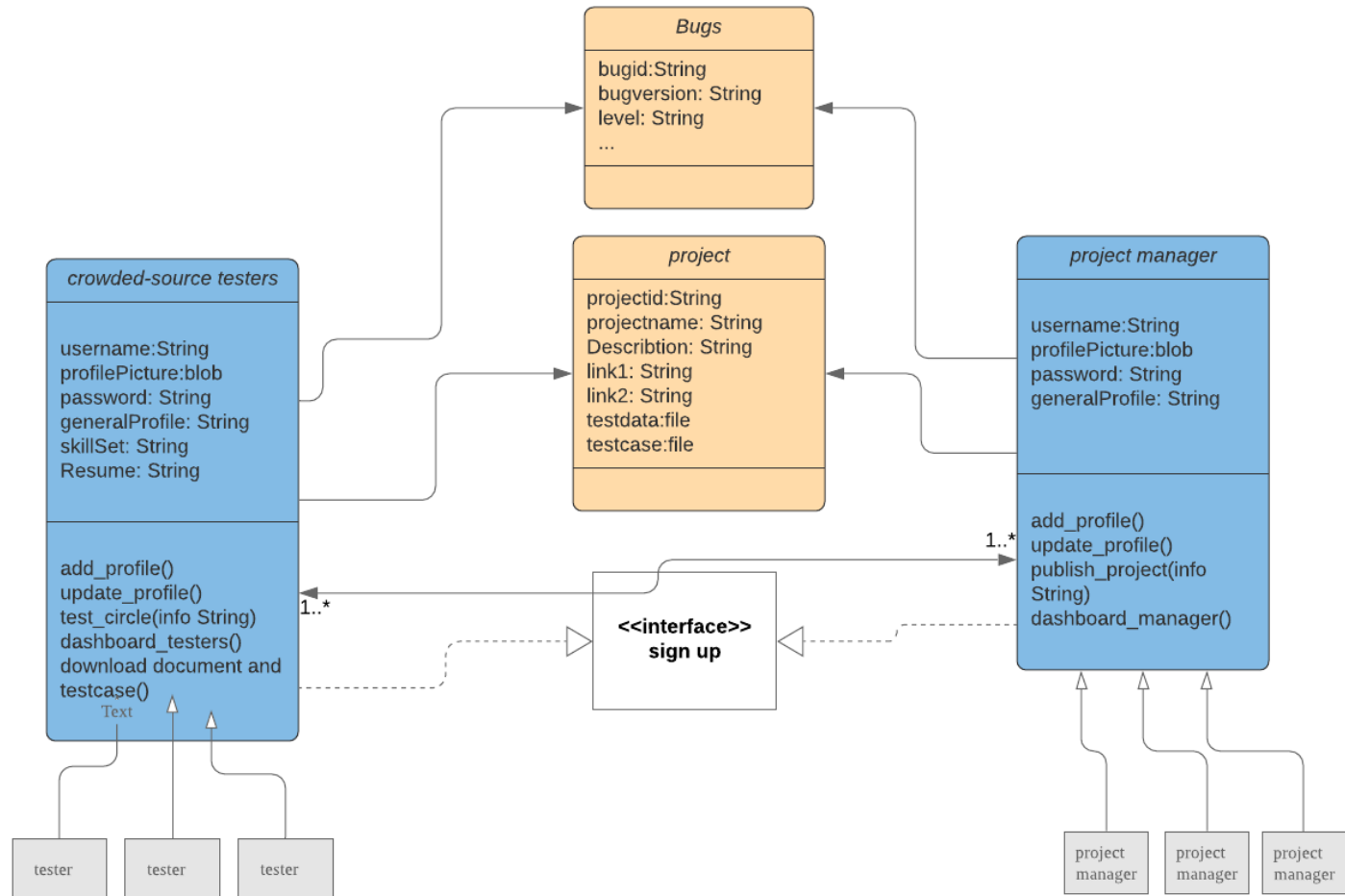
The Tester component is responsible for interacting with testers and allow crowd-sourced tester to act their testing activities.

- Sign up or sign in with their accounts.
- Update profile and resume.
- Interaction with projects and project managers:
Join and leave the project, report bugs of projects. Join the chat community with a group.

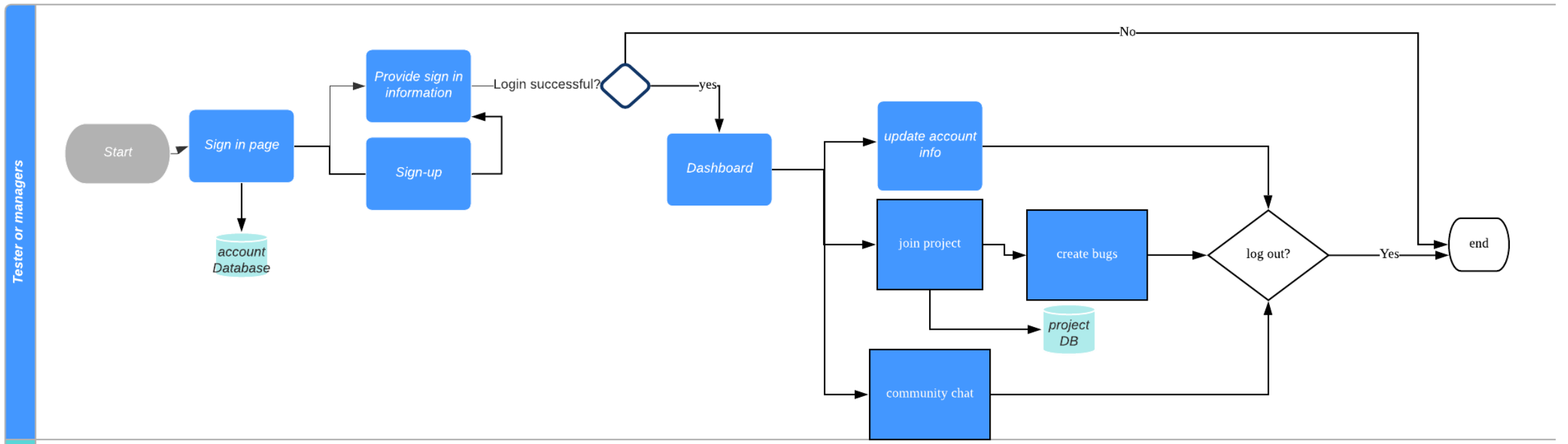
DESIGN



OBJECT MODEL

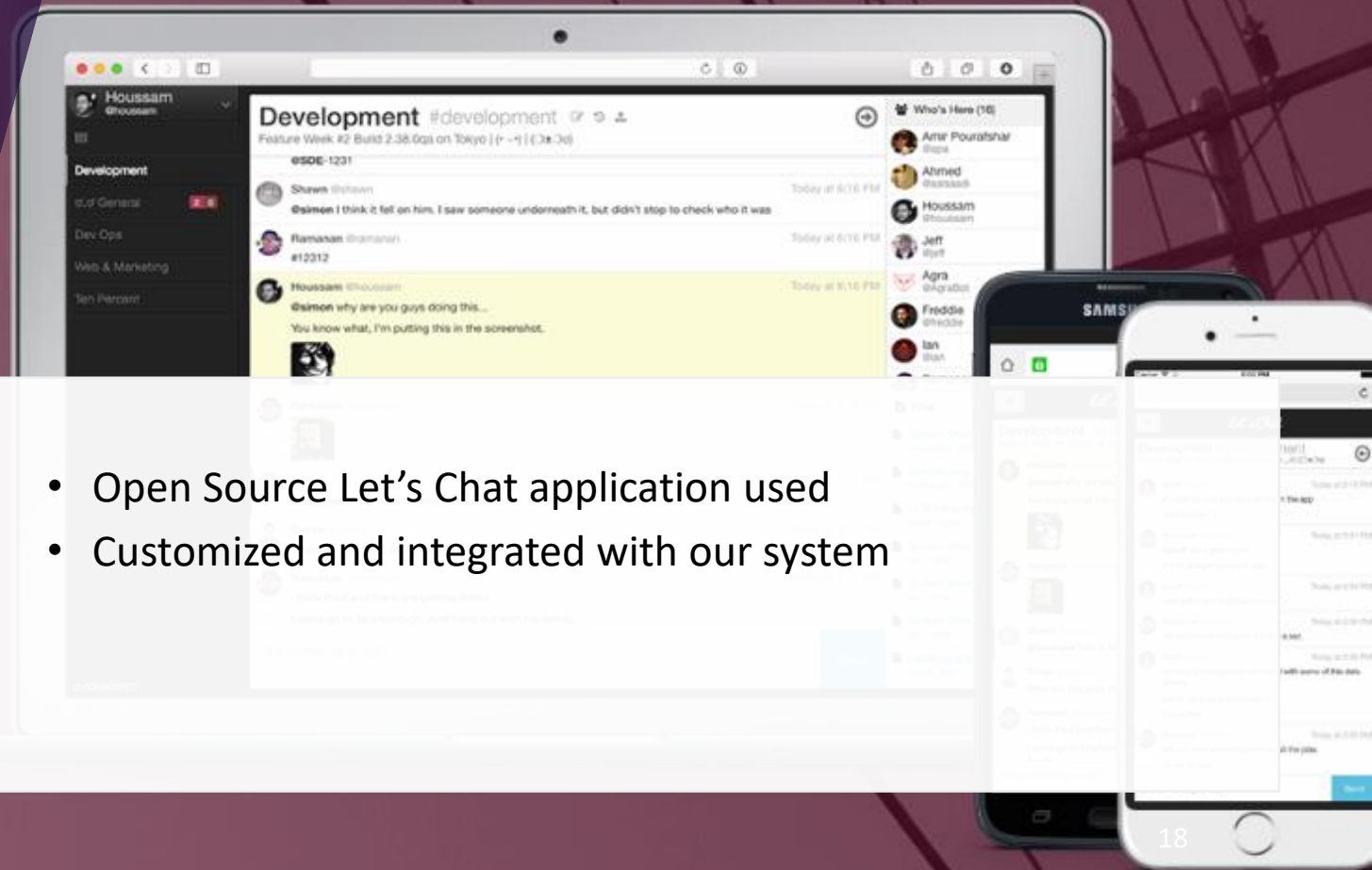


DESIGN FLOW



Let's Chat

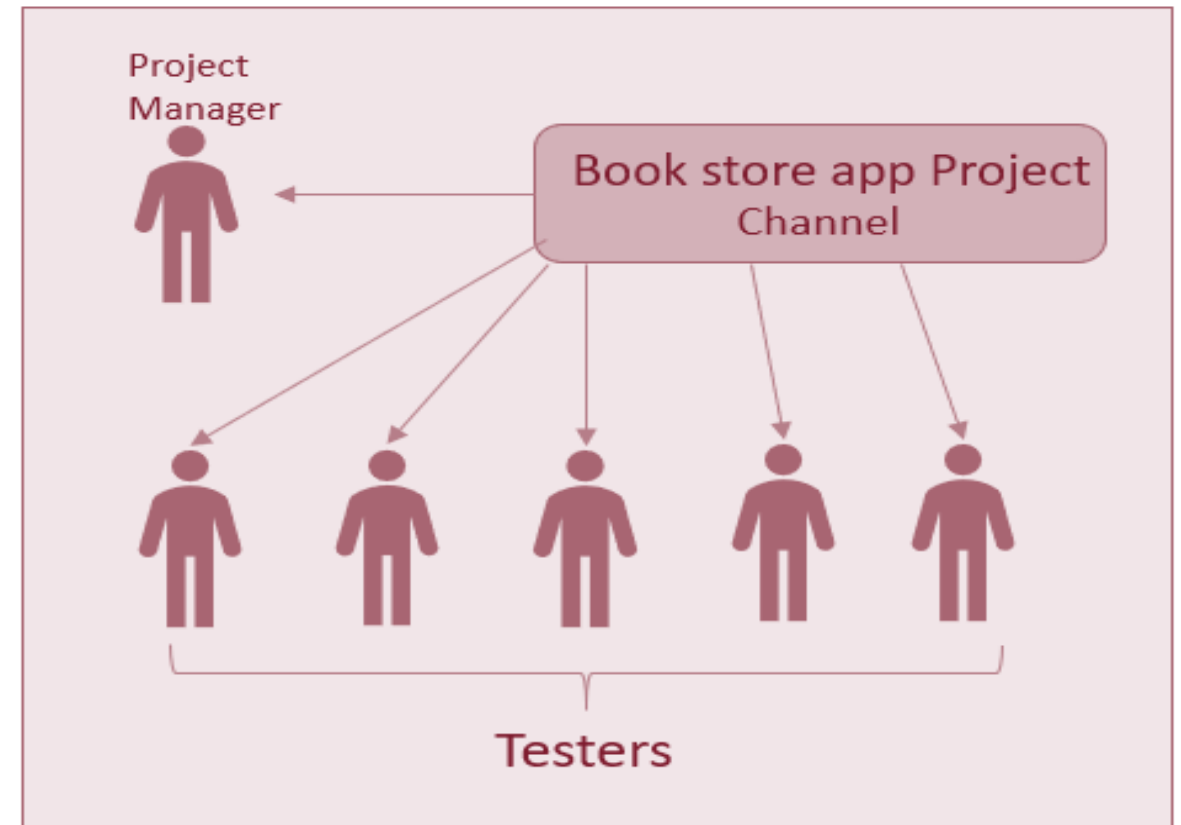
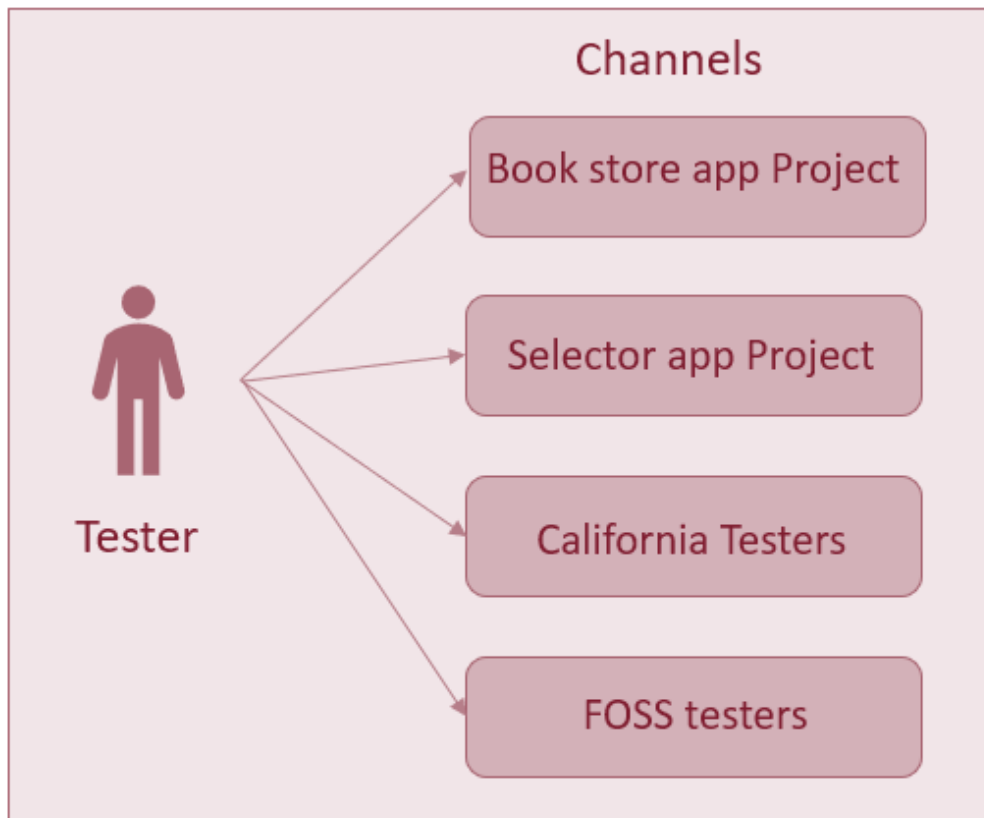
SELF-HOSTED CHAT FOR SMALL TEAMS.



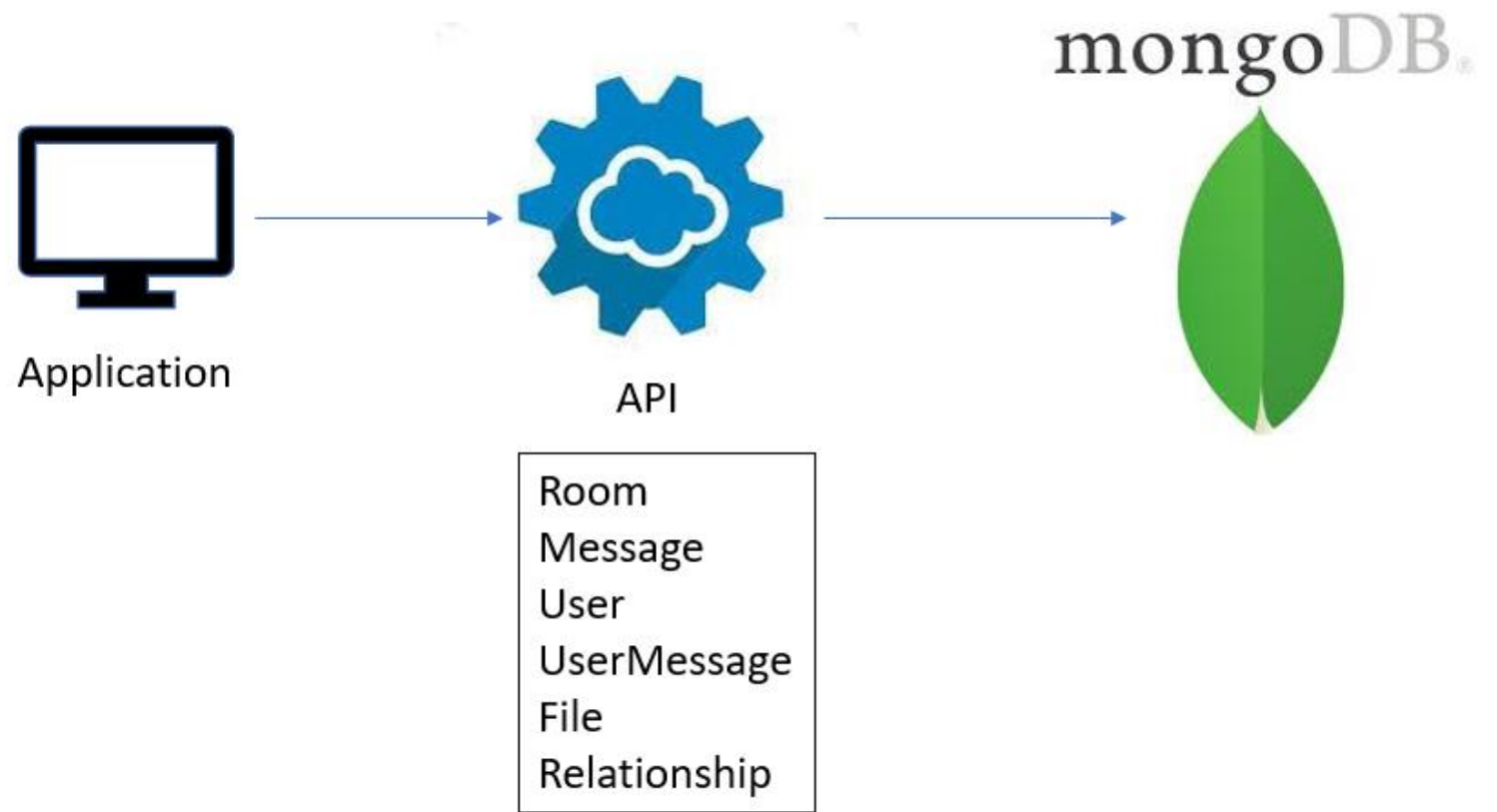
- Open Source Let's Chat application used
- Customized and integrated with our system

COMMUNITY
SERVICE

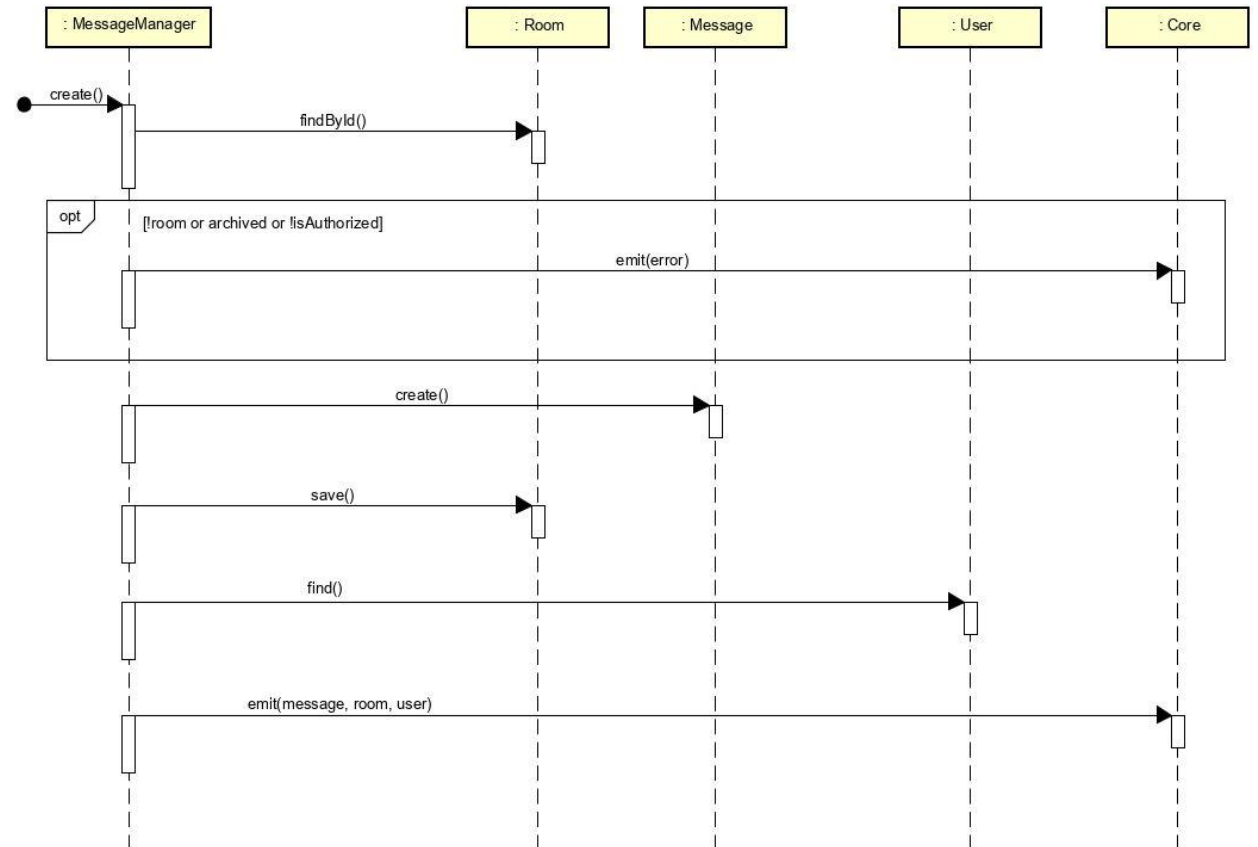
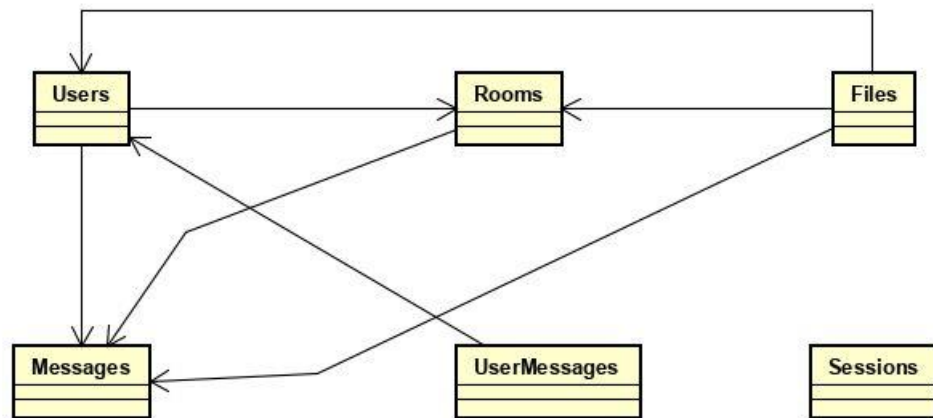
CHAT COMPONENT



DESIGN



COMPONENT DESIGN



DATABASE DESIGN - MONGODB

- Allows to store data in JSON format
- Easy to add more fields to an object
- All the details of an object can be stored in a single collection unlike relational data base, where we must store data in different objects due to normalization and perform a join to fetch all required data
- Easy to scale
- Suited for large quantities of data

Collections

- MESSAGES
- ROOMS
- SESSIONS
- USERMESSAGES
- USERS

TEST RUNNER

- Test Runners create bugs so that the software application is presented to clients without any defects/issues.
- Once they raise a bug, an assignee is assigned to the bug, who presents the priority and status of the bug.
- The QA can close the bug if the issue has been resolved by the Developer.
- The “priority” of the bug states the intensity of the bug and the no. of areas it has affected, cosmetic issues like Name, font are of low priority
- Once the bug has been resolved- the status can be changed to “Resolved”

COMPONENT DESIGN

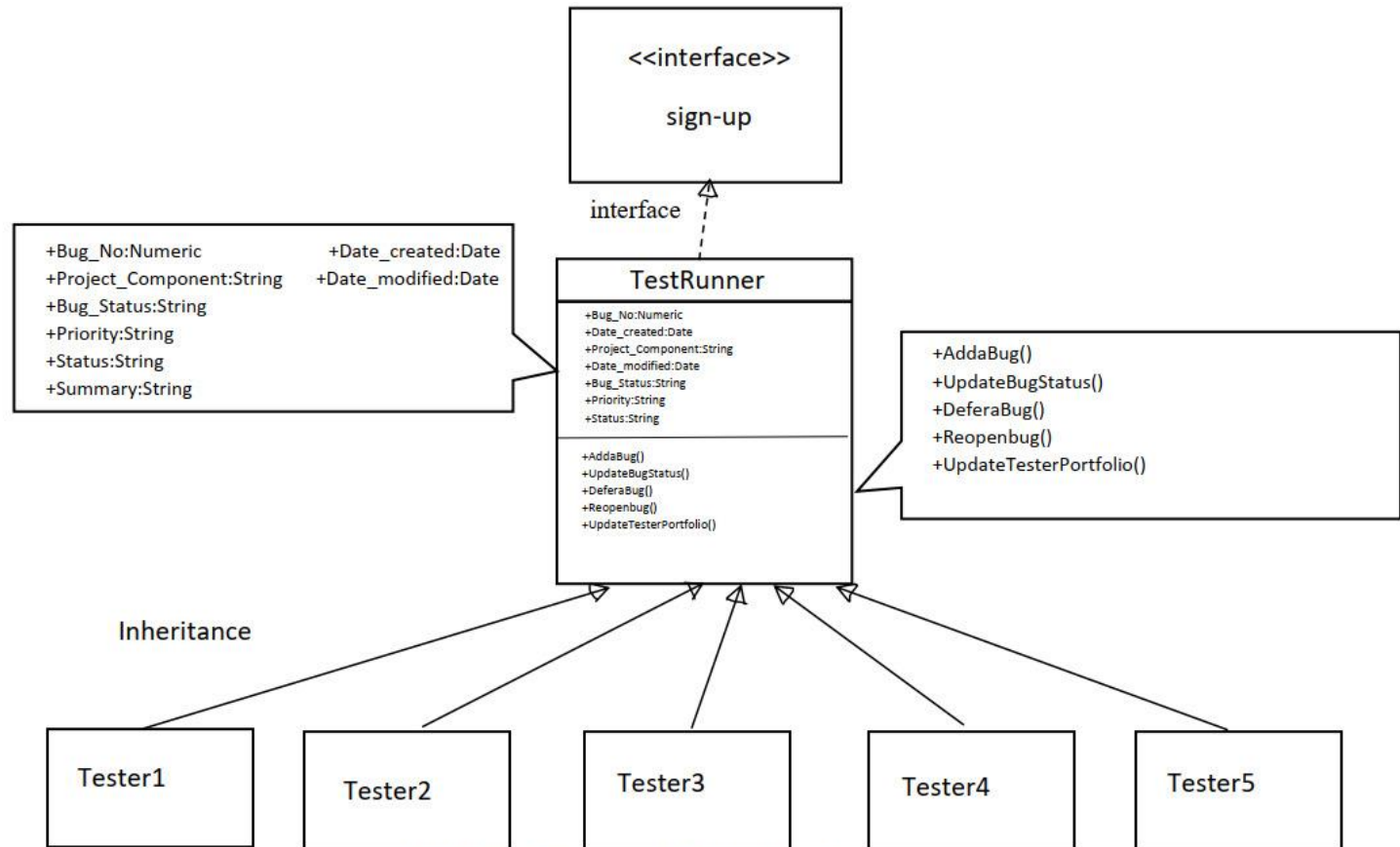
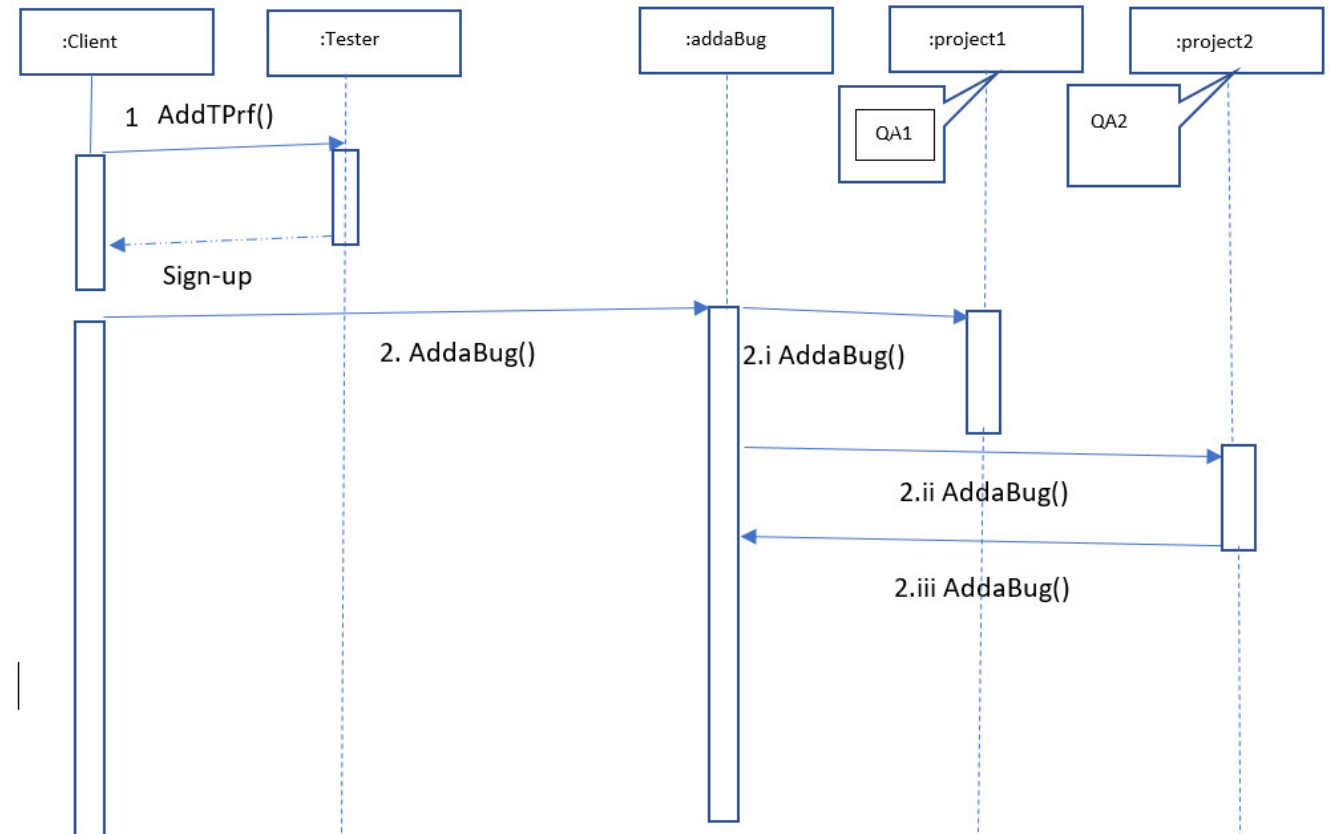


Fig 3: Class Diagram to depict Test Runner component

COMPONENT DESIGN

Class Sequence Diagram



REFERENCES

- Mobile Testing-as-a-Service (MTaaS)
Infrastructures, Issues, Solutions and Needs
By Jerry Gao ; Wei-Tek Tsai ; Ray Paul ; Xiaoying Bai ; Tadahiro Uehara
- <https://sdelements.github.io/lets-chat/>





THANK YOU