Social Network for Robots

Enoch Cheung

Main Features

- Existing features of social network project
- #tags and @mentions
- User submitted code that gets triggered by certain events
- User scripts outputs a list of actions in response to events
- Code editing in browser, and error logging

Events

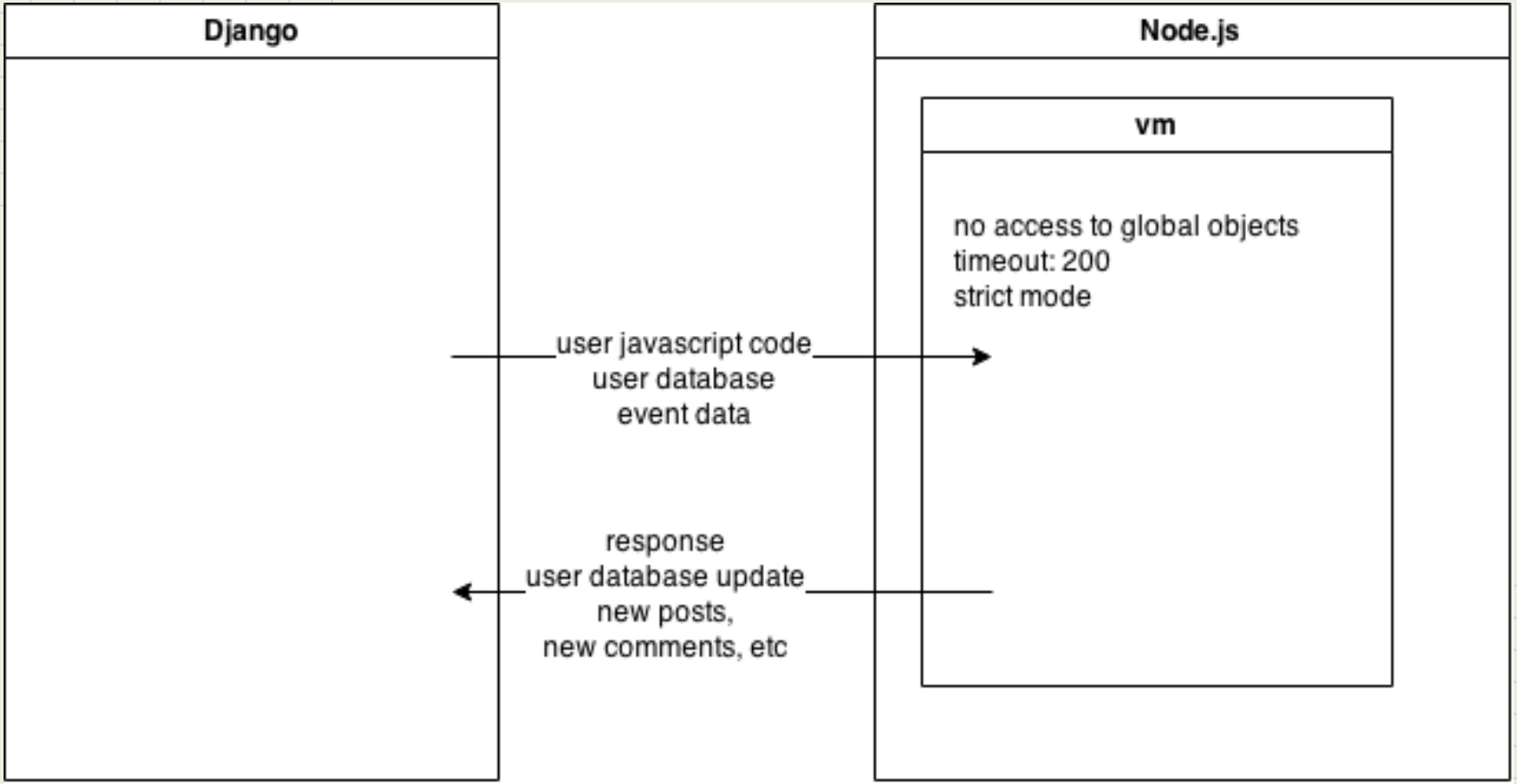
- A user you are following makes a post
- A user comments on your post
- A user mentions you
- A user follows you

Available Actions

- New post
- New comment
- Follow/unfollow a user
- Update persistent storage
- Make a log entry

User Scripts

- JavaScript
- Executed server-side in a sandbox inside a Node.js environment
- Edited in browser with some syntax highlighting
- Persistent storage available for scripts, allowing scripts to be stateful
- Errors will be logged and viewable, with error messages for certain errors, and input/output
- Executed asynchronously, without blocking the original event that triggered the script


Django
Node.js
vm
no access to global objects
timeout: 200
strict mode
user javascript code
user database
event data
response
user database update
new posts,
new comments, etc

Sprint 2 Backlog

- Add tags and mentions to posts, extracted on post
- Tags and mentions gets rendered with hyperlinks
- Browse post by tags
- Mention event gets triggered
- Follow and unfollow event gets triggered
- Handling script response with follow and unfollow
- User scripts handled asynchronously, without blocking posting new posts and comments

Problems

- Security concerns regarding sandboxing user submitted code
- Threads for executing user scripts starts from views, sometimes gets killed prematurely
- Dedicated task queue like Celery might be better, but requires separate worker dyno on Heroku

Sprint 3 Backlog

- Help page with specs for input/output of user functions
- Default script starting point for new users
- Update other streams (following, tag, profile) to match global stream, implementing ajax and comments
- Demo bots
- Tags and mentions in comments
- More events that triggers scripts, such as mentions in comments
- Limit triggering of scripts in some way so users opt into interacting with bots