

High-level Design

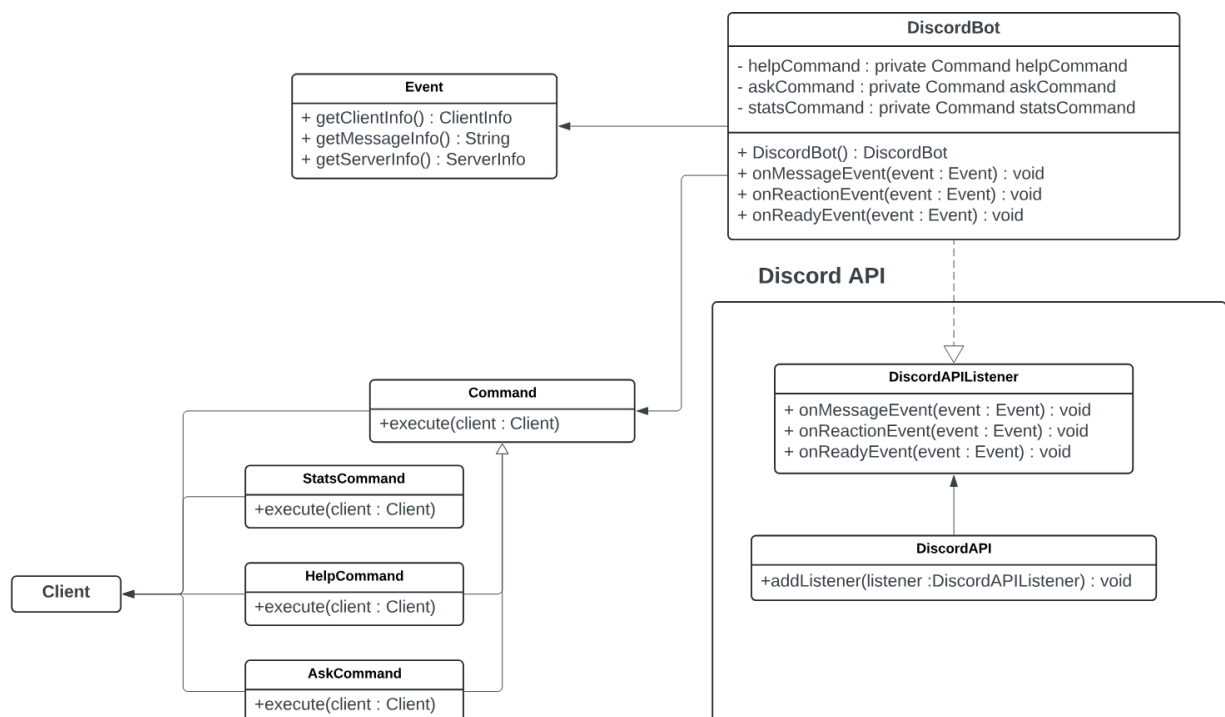
Describe which architectural pattern you would use to structure the system. Justify your answer.

An event-based architecture would make the most sense for this project. Reword needs to be able to respond to messages made by users at an appropriate time and modify/display data based on those messages. Furthermore, the Discord API is structured around the usage of events—user messages, changes in the server, and other moment-to-moment changes. Thus, an event-based architecture, one that specializes in the promotion and reaction of events, would be ideal for this application.

Low-level Design

Discuss which design pattern family might be helpful for implementing this project. Justify your answer, providing a code or pseudocode representation *and* an informal class diagram.

Code Representation: <https://github.com/MiguelALopez1/Reword>



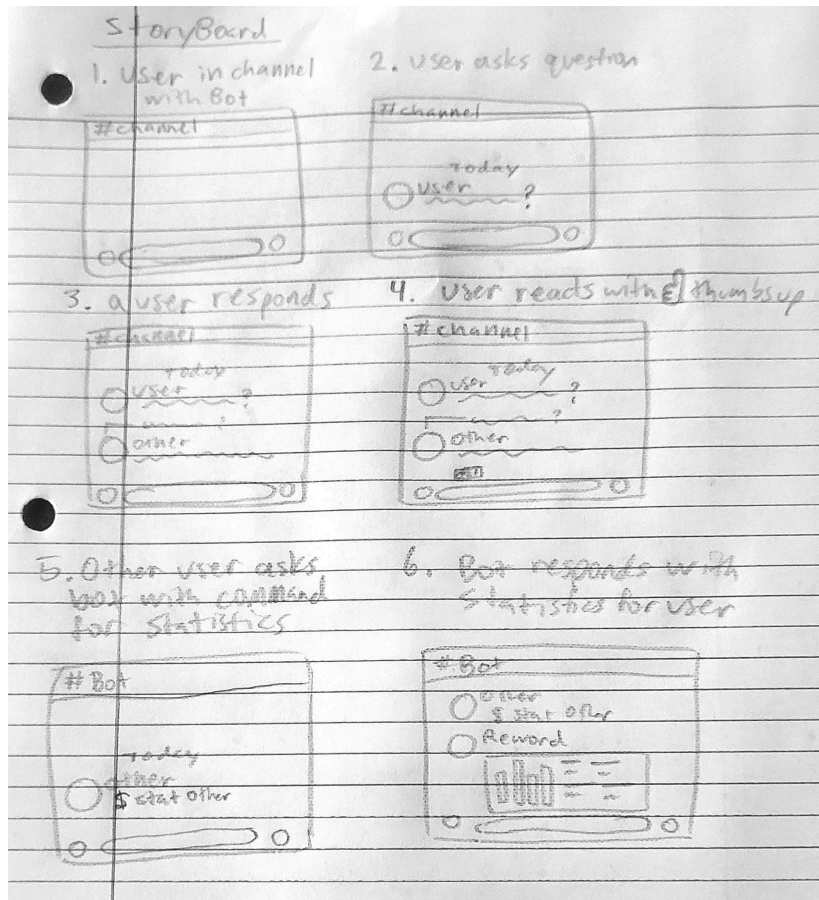
The behavioral design pattern family would be helpful for implementing this type of project. It deals with the interaction and communication of different objects; something that the Discord bot will frequently encounter as it receives a large volume of user requests. To narrow things down further, we will be implementing the command design pattern, which allows us to turn requests made by the user into stand-alone objects. This allows for both the parameterization of clients with different requests and queuing of different requests. This last requirement is especially important for a Discord Bot that could be operating on hundreds of servers simultaneously.

Design Sketch

Design sketches provide a visual overview of the look and feel of your project. This may include but is not limited to one of the following:

- **Creating a wireframe mockup of your project user interface in action.**
- **Creating a storyboard that illustrates a primary task that a user would complete with your project.**

Provide a brief rationale (no more than 1 paragraph) explaining some of the design decisions for your program based on the provided sketch.

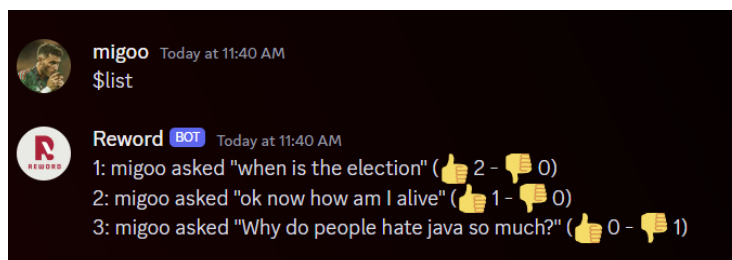


The Bot keeps track of when a user responds to a question and the reactions to the answer. The Bot will respond with statistics when a command is given with the username.

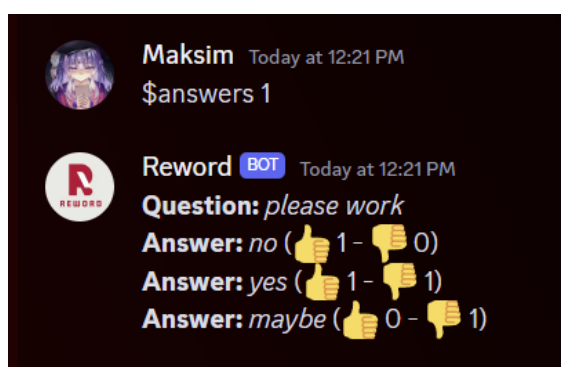
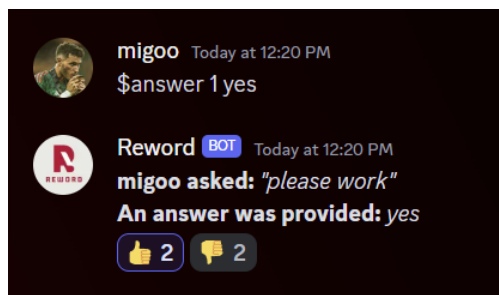
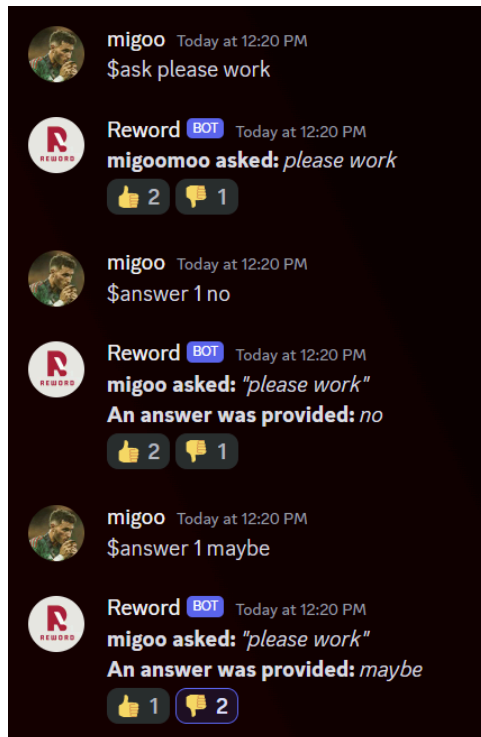
Process Deliverable

Code for the prototype of the system is available at <https://github.com/MiguelALopez1/Reward>

Screenshots of the prototype working:



The users can use the "\$list" command in order to see the questions and the question ID in order to answer them.



This showcases the core functionality of our bot, which is “asking and answering” questions from users, ranking the answers based on user votes