Here is an explanation of the API views. Additionally, later we can use tools like Swagger or drf-yasg to generate interactive API documentation to further enhance the user experience for API consumers.

1. `user\_question\_count\_view`:

- Purpose: This view is used to retrieve the count of total favorite and read questions per user. It provides a paginated list of users, with each user's ID, display name, favorite question count, and read question count.

- HTTP Method: GET

- URL: /user\_question\_count/

- Query Parameters: `page` (optional) - The page number for pagination. Default is 1.

- Status Codes:

- 200 OK: The request was successful, and the list of users with their question counts is returned.

- 400 Bad Request: If an invalid page number is provided.

2. `filtered\_question\_view`:

- Purpose: This view is used to filter questions based on their read, unread, favorite, or unfavorite status. It returns a list of questions matching the specified status.

- HTTP Method: GET

- URL: /filtered\_questions/

- Query Parameters: `status` (required) - The status by which questions should be filtered. Valid values are 'read', 'unread', 'favorite', and 'unfavorite'.

- Status Codes:

- 200 OK: The request was successful, and the list of questions matching the specified status is returned.

- 400 Bad Request: If an invalid status parameter is provided.

3. `add\_favorite\_question`:

- Purpose: This view is used to insert a favorite question for a user. It expects a JSON payload with the user's ID and the question ID that the user wants to mark as a favorite.

- HTTP Method: POST

- URL: /add\_favorite\_question/

- Request Format:

{

"user\_id": 1,

"question\_id": 123

}

- Status Codes:

- 201 Created: The request was successful, and the favorite question was added for the user.

- 400 Bad Request: If the request data is invalid.

4. `add\_read\_question`:

- Purpose: This view is used to insert a read question for a user. It expects a JSON payload with the user's ID and the question ID that the user wants to mark as read.

- HTTP Method: POST

- URL: /add\_read\_question/

- Request Format:

{

"user\_id": 1,

"question\_id": 123

}

- Status Codes:

- 201 Created: The request was successful, and the read question was added for the user.

- 400 Bad Request: If the request data is invalid.

5. `get\_favorite\_and\_read\_questions`:

- Purpose: This view is used to retrieve the favorite and read questions for a specific user. It takes the user's ID as a URL parameter and returns the list of question IDs that the user has marked as favorite and read.

- HTTP Method: GET

- URL: /favorite\_read\_questions/{user\_id}/

- Status Codes:

- 200 OK: The request was successful, and the user's favorite and read question IDs are returned.

- 404 Not Found: If the user with the specified ID does not exist.