

## Main Features

### **Account Registration and Login**

Users can register for an account with a unique nickname and password. They can then log in to access the application's features.

### **Channel Management**

Users can create channels with names and descriptions. They can also join existing channels and view messages within the channel.

### **Messaging and Replying**

Users can send messages within a channel, view the messages sent by other users, and receive real-time updates when new messages are posted.

### **Message Likes and Dislikes**

Users can like or dislike messages, and view the number of likes and dislikes for each message.

### **Search Functionality**

Users can search for messages containing specific strings, users with similar nicknames, and the most liked or disliked messages.

### **Admin Access**

An admin account has special access to manage channels, delete messages, and delete user accounts.

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## Design Decisions

### **Frontend**

The frontend is built using React, a popular JavaScript library for building user interfaces. React Router is used for handling the routing between different pages of the application.

### **Backend**

The backend is built using Node.js with the Express framework, which provides a simple and easy-to-use server setup. MySQL is used as the database for storing user accounts, channels, and messages.

### **RESTful API**

A RESTful API is implemented to facilitate communication between the frontend and backend, allowing the frontend to request data and interact with the backend server.

### **Database Structure**

The database consists of three main tables: Accounts, Channels, and Messages. These tables store information about user accounts, channels, and messages, respectively.

### **Server-side Routes**

The server-side routes handle various actions, such as account registration and login, channel creation and joining, message posting and retrieval, and admin actions.

### **Frontend Components**

The frontend is built using various React components, such as Landing, Register, Channels, ChannelPage, Find, and admin-specific components. React Router is used to handle navigation between these components.