

Develop a device driver that will act as a simple message box between the users on a system. Placing a message into the message box will be achieved through a write operation on the device, starting with a constant prefix such as "To USERNAME: " that will specify the recipient. When a user reads from the device he/she will only see the messages addressed to him/her.

For example, if user "alice" wants to send a message to user "bob" to say "hello", she will write to the device the text "To bob: hello". Later, when user "bob" reads from the device he will see the message as "From alice: hello". Although the message box is global for all users, user "bob" will not see any messages sent to other users.

When a user reads a message, the message should be marked as "read". In the default mode (EXCLUDE_READ), a read operation on the device will only return unread messages. If the message box is in "read all" mode (INCLUDE_READ), both unread and read messages should be returned. The mode can be changed using an ioctl command. Only the superuser is allowed to change the mode.

What you need to implement:

- Write the device driver as outlined. The device should be usable through standard utilities like "cat" and "echo" and using redirection as in:

```
echo "To joe: hello" > /dev/messagebox
cat /dev/messagebox
```

- Write a program that will change the mode of the message box.