

Programming Project 3: Persistent and Asynchronous Multicast System

Project Members:

Ben Prestel, Jordan Harman, Timothy Vo

Compile Instructions:

First terminal:

```
$ make
```

```
$ ./coord coord_config.txt
```

Second terminal:

```
$ make
```

```
$ ./part part_config.txt
```

Command list:

1. **Register (register [portnumber]):** Participant has to register with the coordinator specifying its ID, IP address, and port number where its thread-B will receive multicast messages (thread-B has to be operational before sending the message to the coordinator). Upon successful registration, the participant is a member of the multicast group and will begin receiving messages.
2. **Deregister (deregister):** Participant indicates to the coordinator that it is no longer belongs to the multicast group. Please note that this is different than being disconnected. A participant that deregisters, may register again. But it will not get any messages that were sent since its deregistration (i.e., it will be treated as a new entrant). Thread-B will relinquish the port and may become dormant or die.
3. **Disconnect (disconnect):** The participant indicates to the coordinator that it is temporarily going offline. The coordinator will have to send messages sent during disconnection (subject to temporal constraint). Thread-B will relinquish the port and may become dormant or die.
4. **Reconnect (reconnect [portnumber]):** The participant indicates to the coordinator that it is online and it will specify the IP address and port number where its thread-B will receive multicast messages (thread-B has to be operational before sending the message to the coordinator).
5. **Multicast Send (msend [message]):** Multicast [message] to all current members. Note that [message] is an alpha-numeric string (e.g., UGACSRocks). The participant sends the message to the coordinator and unblocks after an acknowledgment is received.

Statement:

"This project was done in its entirety by <Ben Prestel, Jordan Harman, Timothy Vo>. We hereby state that we have not received unauthorized help of any form"