

Work groups meeting - 6

INF5040 (Open Distributed Systems)

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October 19, 2009



Agenda

- The programming assignment
- Deadline and deliverables



Programming assignment #2

- This assignment is mandatory and must be approved to be allowed to take the INF5040 exam
- Comments and corrections are welcome (assignment, tools, ...)



The application

- A distributed application
- That models a replicated bank account
- Implementation
 - “Replicated state machine” paradigm
 - Group communication
- System Architecture
 - A standard Spread server
 - A client



Tasks

- Develop a client
- Link the client with the spread library
- Requirement
 - Supporting a single account should be enough
 - The application should be tolerant to the departure of individual clients
 - Choose a unique name when running the client (per group)



Tasks

- Create a connection to a Spread server.
- Initialize the balance on the account to 0.0.
- Join a group whose name is <account name>.
- Wait until it detects that all <number of replicas> clients have joined the group.
- The client should receive and analyze messages about membership changes.



Commands to be accepted by the client

- balance
 - Print the current balance on the account.
- deposit <amount>
 - Increase the balance by <amount>.
 - On all the replicas in the group.
- addinterest <percent>
 - Increase the balance by <percent> percent of the current value.
 - On all the replicas in the group.
- sleep <duration>
 - Let the client to do nothing for <duration> seconds. It is only useful in a batch file.
- exit



Development tools

- Spread toolkit for group communication
- Java or C/C++ interface
- Links for download and further details are available at the group homepage

Development tools

- Spread is installed in all linux ifi computers
- /local i.e. /local/bin, /local/lib etc.
- Daemon configuration/addresses for the assignment
 - Will be put on the homepage soon



Synopsis of running the client

For java

```
java accountReplica <server address> <account name> <number of  
replicas> [file name]
```

For C/C++

```
accountReplica <server address> <account name> <number of  
replicas> [file name]
```



Deadline and Deliverables

- I will be available on 26th September, 9:15 –11:00 – IFI, Room 3B to discuss if you have any questions about the assignment
- No work group meetings on the 2nd and 9th of October, but you can email the me if there are any questions/queries related to the assignment.
- Group formation: If you want to change the group, please let me know
- Deadline: 23:00 on Friday, 14th November, 2009
- Submit the deliverables by email to sabita@simula.no
- More details are given in the assignment specification

