CMP636 Distributed Systems gRPC Lab

Ayman AboElHassan, PhD

Assistant Professor

ayman.abo.elmaaty@eng.cu.edu.eg

Requirement

Implement a voting system using Python

1. Server collects votes (2 Server Stubs)

2. Client threads send votes (12 Clients)

3. Client send vote through gRPC

gRPC Installation

We will follow the installation tutorial from

- https://grpc.io/docs/languages/python/quickstart/

Python Implementation

Server

1. Initialize shared variables
2. Create semaphores/locks
3. Collect votes
4. Print voting results
5. If votes reach 12 OR vote reaches majority ➔ Finish voting
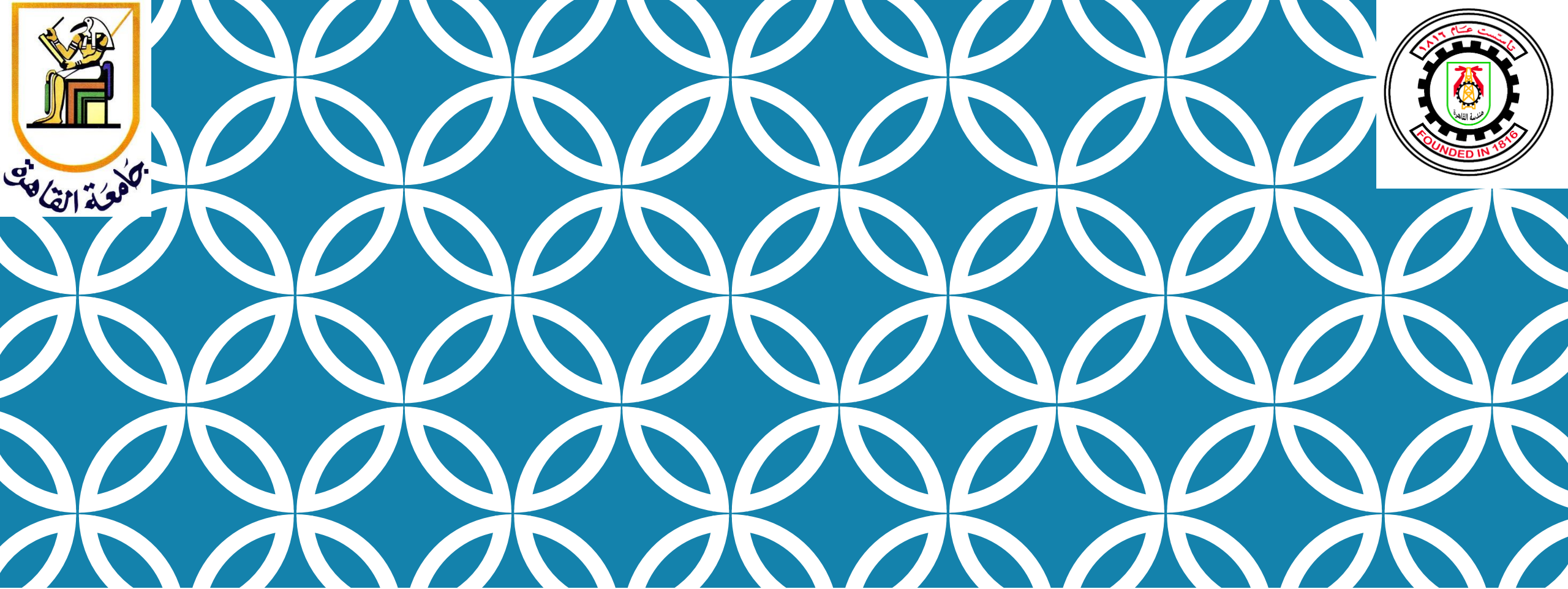
Client

1. Generate random Y/N vote
2. Send vote to server

Python Implementation

gRPC proto

- Service: Voter

- RPC procedure: SendVote

- Message: ID, VoteValue

- Response: ID, Success

Thank you