PRESENTATION

DISTRIBUTED DATABASE

Group 2

Group member:

- Lê Huy Đức

- Bùi Vũ Huy

- Huỳnh Vinh Nam

- Nguyễn Ngọc Trung

Outline

- Objectives

- What

- Why

- How

- Demo

- Conclusion

OBJECTIVES

Goals

- Create a **Distributed database**

- Socket as connectors between Server-to-Server, Server-to-Client

- Serve multiple guests at once

WHAT

Features

- Store the database by replication, not partition

- Multiple Servers – Multiple Clients

- Deposit/ Withdraw/ Query accounts

- Add more servers without affecting the clients

- Serve guests concurrently

WHY

Banking server database

- Backup is a MUST!

- Multiple clients/servers need to has high integrity

    (synchronize between servers)

- Socket programming: simple, easy to implement

How

Brief

- **No libraries used, only raw C/socket**

- All servers are connected

- A client connects and makes request to ONE server

How

Brief

- When receive a request for withdraw/add balance:

  - Check if the requesting account is locked?

    + Yes $\to$ error then ignore

    + No $\to$ lock and process it $\to$ broadcast the updated values

  to other servers $\to$ wait for them to finish update $\to$ unlock

How

Details

- Use multiple threads

    - Server-to-server threads

    - Server-to-clients threads

- Separate ports for servers and clients

How

Details

- Message passing using raw socket

- Client send RPC request, server execute request

DEMO

CONCLUSIONS

- Need more user-error checking

- Need more security measures

- Need more servers

THANK YOU FOR LISTENING!