

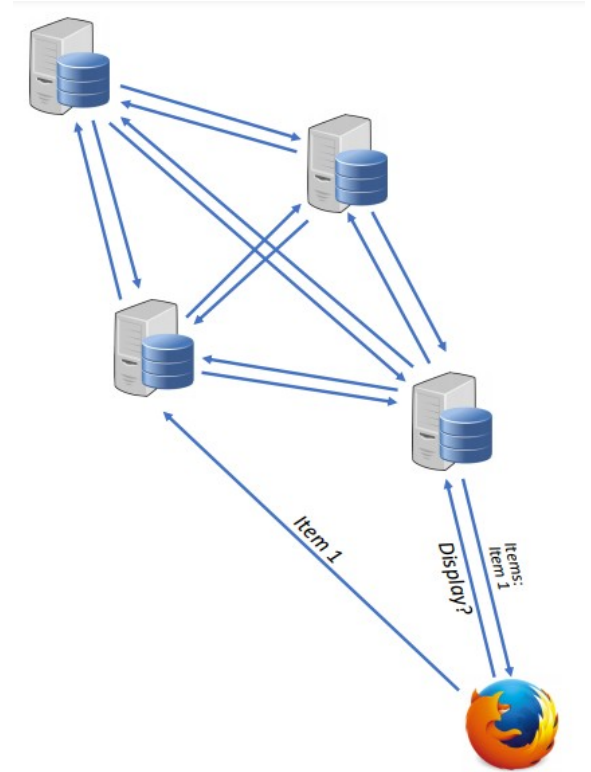
Distributed Systems

Lab 1

Muhammad Muzamil

Design

- Web Application on multiple servers.
- Clients can connect to any 8 servers.
- Server receives, stores and displays data.
- Display data on server.



Design - Client-Server Communication

Action	URI	Explanations	Parameters
GET	/	Display index page	
GET	/board	Display blackboard content only	
POST	/board	Add new value to blackboard	entry
POST	/board/ <number>	Modify or delete an element from blackboard	entry, delete

Design - Server-Server Communication

Action	URI	Explanations	Parameters
POST	/board	Add new value to blackboard	entry, propagated
POST	/board/ <number>	Modify or delete an element from blackboard	entry, delete, propagated

Evolution

Type	Action	Function calls	Result	calls
Client-Server	GET /		1 (read)	1
Client-Server	GET /board		1 (read)	1
Client-Server	POST /board	board_add, propagate_to_all_servers (w/ propagate)	0	7
Client-Server	POST /board/<number>	board_branch, propagate_to_all_servers (w/ propagate)	0	8
Server-Server	POST /board	board_add	0	4
Server-Server	POST /board/<number>	board_branch	0	5
In-server	propagate_to_all_servers	contact_another_server	0	3
In-server	contact_another_server	POSTs to \board or \board\<number>	0	2
In-server	board_branch	board_modify or board_delete	0	
In-server	board_add		2 (read, write)	3
In-server	board_modify		2 (read, write)	3