SENG 462 Tutorial #10

Chris Pearson
pearson@csc.uvic.ca

University of Victoria

Updated Quote Server

- Debugged quote server:
  - Same address as before
  - Add 10 to your current port number
    - Ie: 4451, 4452, 4453, 4454
  - Old quote server still running
- You MUST use this quote server for your final workload tests
- Changes:
  - No more NAN, INF, E numbers
  - No more NULL replies
  - Prices are much more volatile
    - Triggers should fire much more frequently

Final Documentation

- I will review your documents for omissions and other problems
  - Your documents will be reviewed only once
  - Your documents must be complete
- To be reviewed, your documents must:
  - be sent to pearson@csc.uvic.ca
  - arrive before 23:59:59 Thursday, March 31, 2011
- The goal is for you to receive a reply by noon the next day, however:
  - Documents will be read in the order received
  - If all groups wait until the last minute to send, those groups must expect a delay in the reply

Website and N97 Demonstrations

- Monday, April 4th in ELW B203
  - (Tuesday, April 5th if needed)
- A time must be booked by April 1st

- During this meeting we will:
  - Discuss how your system functions
  - Discuss who did what work
  - Use your system via the web interface
  - Use your N97 application and confirm changes via the web interface

Final Documentation

- This following is a list of SUGGESTIONS
  - Consider them to be the bare minimum requirements

- The project description requires a “complete documentation for your solution”

Final Documentation

- Remember: THIS IS WHERE YOUR MARKS ARE
- Include as much data as you can
  - Graphs!
  - Charts!
  - Tables!
- Do not become overly verbose or rambling

Documentation

"All documents must be clear, concise, and correct with respect to English usage and grammar.

Documentation that is not comprehensible, overly verbose, rambling, etc. will be viewed by DayTrading Inc. as indicative of the design team's general level of care and attention, and therefore will reflect negatively on the team's overall evaluation."

Web Sites

- Web sites must contain the information outlined in the project overview
- Public section:
  - Project progress
  - “a tracking to the milestones at a daily level”
  - Experimentally confirmed current transaction processing speeds
- Private section:
  - More detail on documentation and development efforts
  - Detailed project plans
  - Task assignments

The Six Documents

1. Overall Architecture and Documentation (inclusive of initial documents)
2. Security Design and Documentation
3. Test plan and Test Documentation
4. Capacity Planning Measurements, Analysis and Documentation
5. Fault Tolerance Analysis and Documentation
6. Performance Analysis, Testing and Documentation

Overall Architecture & Documentation

- Your Group
  - The originally assigned responsibilities
  - How the work was actually divided
  - How was the project plan executed?

Overall Architecture & Documentation

- Work Effort
  - Full documentation of the time put into:
    - Design
    - Implementation
    - Testing
    - Analysis
    - Documentation

Overall Architecture & Documentation

- Design Process
  - Final architecture
  - How did this vary from the original design?
  - Why did this vary from the original design?

Overall Architecture & Documentation

- Design Decisions
  - All design decisions formally documented
  - Rationale why decision was the best available at the time
  - Analysis of the decisions, with hindsight

Security Design

- Security
  - What was done for security?
  - How has this been tested?
- What would be done in a real world scenario?
  - Explain the steps that would be required
  - Do not assume back-end security
- How is the system audited?

Test Plan and Test Documentation

- Test Plans
- How was the system tested?
- Full documentation of test results and analysis

Capacity Planning, Measurements & Analysis

- Quotes:
  - Estimates supported by “solid experimental testing and analysis of the prototype system”
  - “It is insufficient merely to claim a certain level of capacity is achievable through extrapolating incomplete testing scenarios”

Capacity Planning, Measurements & Analysis

- Complete documentation of:
  - Capacity planning
  - Transaction times from experiments
  - Extrapolations based on experiments
  - How was this calculated?
- What is the upper bound on users for the system?
- What can be done to increase capacity?

Fault Tolerance Analysis

- Availability
  - What was done to ensure availability?
  - How does the system react to failures?
  - How has this been tested?
    - Disconnecting servers?
    - Adding random bad data?
- What is the availability of the system?
  - A formal analysis based on the architecture
  - For a given availability, how reliable must the individual system components be?

Performance Analysis & Testing

- How much time is taken for each different command?
- At what point does capacity begin to affect speed?
- Speed
  - Time per transaction
  - How does this vary with workload?
  - How does this vary with additional servers?
  - etc
- DO MANY RUNS

Questions?

SENG 462 Tutorial #10

Chris Pearson
pearson@csc.uvic.ca

University of Victoria