

Profiling

CSE 2311 - Software Development Project

Click to edit Master text styles

Second level

Third level

F

Fifth level

Tuesday, March 19, 2013

Prototype evaluation

- An email has been sent to you
- See Grades link on course website
- We will discuss the feedback at the weekly meeting

Performance optimization

- Your system seems to be working correctly, but appears to be slow, or runs out of memory. What to do?
- One can inspect the code carefully for locations that are inefficient or are allocating too much memory, but this is a painstaking, error-prone process
- Better approach: **Profile!**

Profiling

- Observe the system as it is running
- Keep track of how much time is spent in each method
 - Points out **bottlenecks**
- Keep track of how many objects of what type are created and when
 - Points out **memory leaks**
- Need to run the system in a way that exposes the problem
 - A comprehensive test suite can help

Two Methods of Software Profiling

- Sampling
 - Interrupts program execution and examines current location
 - Approximate but with minimal overhead
- Tracing
 - Keep track of the time execution of every method starts and finishes
 - More accurate but with high overhead

Software engineering guideline

- **Never optimize without profiling!**

Let's see a demo...