ElectConnect

Analysis of Server Implementation: php v. C++
March 15, 2005

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	php	C++
Interfaces		

	• Rich object oriented design possible
	  o Inheritance
	  o Interface classes
	  o Abstract classes
	  o Try/catch statements
	• Memory management
	  o Garbage collection
	  o Also allows manual memory management
	  ▪ destructors
	• Typing is less well defined
		• Compiling/compile time checking
		  o Reinforces importance of solid interfaces
		• Robust typing/return types
		• More physical dependencies

Debugging/Profiling		

	• There are php specific debuggers and profilers
	  o Self described “gprof-like”
	  o http://dd.cron.ru/dbg/
	  o http://gubed.mccabe.nu/
		• Well known, robust debugging tools
		  o Already installed on department machines

HTML Generation		

	• Specifically designed to interact with HTML
	  o Allows HTML embedded in php (or vice versa)
		• Would have to write a parser-like class to write HTML tags to a file
		  o Could easily add preview to creation phase

Efficiency		
	• Proven for web applications • Certainly could handle a project of this scope with no discernable speed issues	• Could be faster than php

	php	C++
Appropriateness		
	• We evolved to this solution because we believe it's the most appropriate solution • This is what is/would be used in the real world for a project like this	• This is what the course description says we are supposed to use
Long-Term Maintenance		
	• Program would be more readable and editable o Especially with respect to HTML generation • Less unnecessary abstraction, complication	• Future CS students may be more familiar with C++
Server Issues		

	• Non-persistence guarantees integrity of election results
	  o Results live in database
	• CIS is familiar and comfortable supporting php5
	• May require installing php5, mySQL on a department machine for ease of testing
		• Could implement a persistent or non-persistent system
		• CIS can support C++ on a different server
		  o They have less experience with C++ and less technology in place for supporting it