**COP 5611 - Advanced Operating Systems**

**Weekly Project Report - 2**

**Team: Diablo**

**Team member: Gaurav Sinha (gs13h)**

**1)** I worked through the Learning Perl (O’Reilly – 6th edition) book. As I already covered the <http://learn.perl.org/books/beginning-perl/> source, I went over and practiced through the first 9 chapters of the book. As for the sake of practicing, I have integrated the Perl environment on Eclipse Standard IDE and implementing Perl code on it. I worked and learnt how to install modules using the command prompt. Regarding coding practice, the topics that I covered were Lists and Arrays, Subroutines, Input and Output, Hashes and Regular Expressions.

**2)** I read through the following paper that is associated with our project.

The Decentralized Coordination of Self-Adaptive Components for Autonomic Distributed Systems - Jim Dowling

The thesis deals with the autonomous functioning of distributed computing systems. It discusses the fact that as the area of autonomic distributed computing has emerged, thus, the issue of designing and self-management of distributed computing systems has been addressed. Adaptive software is a tool that is implemented to build autonomic computing systems. Self-adaptive software exists as a subsidiary of adaptive software. The thesis provides a proposal that self-adaptive elements exist as essential and handy bases for creating autonomic computing systems because they can automatically adapt their functioning and framework at the runtime level. The thesis also demonstrates that self-adaptive elements’ decentralized coordination can structure properties which are autonomous in distributed systems that work under uncertain and dynamic environments.

**Team member: Harish Chetty**

**1)** I finished working through the Learning Perl (O’Reilly – 6th edition) book. I practiced the programming over Eclipse IDE. I also learnt how to install modules and implement them. I used the command prompt to do so. I practiced topics on Regular expressions and hashing as I had already finished practicing the basics in week 1.

**2)** Self-Learning Disk Scheduling - Yu Zhang and Bharat Bhargava

The paper proposes automatic tuning of scheduler performance by laying down proposals for 4 self-learning disk scheduling schemes: Change-sensing Round-Robin, Feedback Learning, Per-request Learning, and Two-layer Learning. Via experiments it has been proven that Two-layer learning is the most effective. There exists integration of workload-level learning and request-level learning strategies. The paper discusses schemes to select functions of workload learning and integrate it with machine learning algorithms over the two-layer learning methodology.