Matthew Austin

Principles of Operations

Dr. Tian

26 April 2018

Reading Assignment 2

In the article “*Parallel Computational Thinking”*, the author Keith Kirkpatrick talks about how “Applications must be programmed to process instructions in parallel to take full advantage of the new multicore processors.” Keith states that there is an advantage to start out simple and gradually build complexity when learning a new skill, especially in programming. In computer science courses students are taught to complete one task at a time, when writing a programming. This is called Sequential Programming, in contrast to programming multiple tasks at once, which is called Parallel Programming.

Today’s technology and applications require parallel programming as they are equipped with multiprocessing cores. Thus, Kirkpatrick thinks that students in computers science fields will be better prepared to program and code such devices if they learn to parallel program and think to solve abstract problems. Having students learn to parallel programm forces them to “look more explicitly and holistically at the interactions that take place among the data and operations in solving the problem, by considering them from more perspectives than the sequential model.” Kirkpatrick states that, of course the concept of parallelism is complex and will be taxing both to the teachers and students when they attempt to teach and learn it. Kirkpatrick continues in his explanation of slowing introducing parallelism into today's academics by explaining that, “There are different ways to teach introductory programming without parallelism that make it harder or easier to add parallelism later,” In conclusion, Keith Kirkpatrick believes that parallel programming should gradually be introduced in curriculum to better prepare students for this multicore processing world.