Pi'sToGo Overview

Pi'sToGo is an affordable Raspberry Pi 2 based Beowulf cluster meant to be usable, approachable, capable, and energy responsible. The purpose of the project is to get distributed computers into the hands of the next generation of students and scientists, not just CS Majors.

Cluster Cost:	$240
Raspberry Pi	$35 x 5
Ethernet Switch	$10
Powered USB Hub	$15
SD Cards	$6 x 5
Ethernet Cables	$2 x 5
Briefcase Cost:	$260
Briefcase	$50
Screen	$160
Keyboard	$20
Assorted Hardware	$30

Pi'sToGo was built to rethink a few key design elements of educational clusters. Its design ethos was consequently guided by the themes of being: green, portable, efficient, self-contained, modular, and familiar.

The Cluster's first iteration employed five first generation Raspberry Pis in a stack format. The Pis were overclocked, and when under load would overheat. Consequently, it was redesigned into a briefcase to include three vents that cool the cluster under a load.

With the introduction of Raspberry Pi 2s, in February of 2015, Pi'sToGo became 4x more powerful (according to HPL benchmarks) at no additional cost.

With this level of power and affordability, students can build clusters to learn about Parallel and Distributed Computing (PDC). It is now our opportunity to focus on letting PDC out of its sequestered server rooms and into the hands of students.

Designed to look and feel familiar, often mistaken to be a briefcase laptop, Pi'sToGo takes a completely unfamiliar machine, and makes students feel engaged and comfortable with distributed computing.

For more information, please visit: http://pages.stolaf.edu/caswell/project/pistogo/