SPARCS@DNS: Middle School Outreach
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Introduction
SPARCS@DNS is an expansion of the SPARCS outreach program and is in its first year of existence. The goal of SPARCS@DNS is to introduce computer science topics to adolescents in order to "spark" an early interest in the field. The SPARCS curriculum consists of basic computer science concepts that include introductory programming, website development, and robotics.

Background
The SPARCS@DNS outreach program targets African American, adolescent males as part of STARS national effort to broaden participation in computing. The SPARCS curriculum is based upon an existing set of lessons that has had proven success over the past four years.

Initiative
SPARCS@DNS sessions:
• CS Unplugged
• Algorithms
• Sorting
• Programming Languages
• Alice Programming
• Object Oriented Programming
• Inheritance
• Web Development
• HTML
• Lego Mindstorms

Impact
SPARCS@DNS team member, Hieu, assisting student with Alice

Student survey results:
• CS Unplugged
  ✌️ Reported learning a lot
  🙁 Disappointed no computer use
• Alice Programming
  ⭐️ Highly interested in topic
  🙁 Difficult to grasp certain topics
• Web Development
  ⭐️ Highly interested in topic
  🙁 Not motivated to use tags etc.
• Lego Mindstorms
  ⭐️ Favorite session overall
  🙁 Less interested in programming

Conclusions
From observations and data collected from sessions, we have reached the following conclusions:
• Lego Mindstorms sessions could be extended over multiple sessions
• Greater focus should be placed on actual programming concepts

Future Work
The initial success of SPARCS@DNS suggests overwhelming support for the continuance of this outreach. SPARCS@DNS team members are interested in resuming sessions in 2010, which would involve creating new sessions that build upon material covered during this semester.

SPARCS@DNS students programming in Alice.