Games or Robots? Restoring Excitement to Introductory Computing

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Goals

- Develop an effective way to interest students.
- Use existing knowledge to teach new concepts
- Encourage students to want to learn
Reality and Programming Together (RAPT)

- Replacement sequence for Comp. Sci. 1-3
- Used video games as an application domain
- Accelerated Sequence
- College Freshmen
NOVA Robotics Program

- Lego NXT Robotics Platform
- 8 day workshop series
- Self Teaching
- 6th-12th Grade
Golf-Bot
Hokey Pokey Bot
Advantages of RAPT

- Low Cost
- Abstract Concepts
- High degree of creativity
Disadvantages of RAPT

- Faster paced, more challenging
- Not self paced
- Works good if the interest is there
Advantages of NOVA

- Self Paced
- NXT-G is simple
- Easy to teach algorithms
- Tactile
Disadvantages of NOVA

- Cost increases per student
- Less creative
- Abstract concepts are more difficult to teach
Future Work

- Run more NOVA Programs (Games and Robots)
- Attempt to bridge the gap
- Use robots for older students
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