Scratch: A Sneak Preview

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Authors and Publication

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What is Scratch?

• Interpreted visual programming language
• Implemented in Squeak
• Refers to the scratching technique of DJs
• A programming language to create rich multimedia (such as animation and games)
Motivation Behind Scratch

- Develop technological fluency
- Move beyond basic computer skills (web browsing and word processing)
- Inspired by creation and manipulation of graphics, animations, videos, and music
- "The algorithmic thinking inherent in programming is essential to comprehending how and why information technology systems work as they do." [National Research Council]
Design Concepts

• Resonates with youth interests
• Presentable end-products
• Proficiency is admired (”cool”)
• Quick to get started with
• Learn additional features incrementally
• Use the tool in more complex ways over time
Core Features

• Building-block programming
• Programmable manipulation of rich media
• Deep shareability
• Integration with the physical world
• Support for multiple languages
Language Concepts

- Sprites, costumes, and sounds
- Blocks and scripts
  - Stack blocks
  - Hats
  - Reporters
- The Stage
- Lists and variables
Demonstration
Influences

Scratch

Squeak
Influences

Scratch

LogoBlocks
Influences

Scratch

Squeak’s Etoys
Influences

Scratch

Alice2
Current Status

- A place for global scripts
- Only one kind of object
- No inter-object script invocation
Reflections

• Is a specialized programming language for children and youth even needed?
• Building blocks
• No compilation, no errors
• Learn through play
• Immediate feedback
• Open source mentality