<table>
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<th><strong>NSF Grant Number:</strong> ITR-0325828</th>
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<td><strong>PI:</strong> Mitchell Resnick, Yasmin Kafai, John Maeda</td>
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<td><strong>Institutions:</strong> MIT Media Lab &amp; UCLA</td>
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<td><strong>Title:</strong> A Networked, Media-Rich Programming Environment to Enhance Informal Learning and Technological Fluency at Community Technology Centers</td>
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**Research Objectives:**
- Advance understanding of the design of new technologies to support learning in informal settings
- Develop new approaches to help inner-city youth become fluent with information technologies

**Significant Results:**
- Building-block approach eliminates syntax errors, makes programming accessible to non-experts
- New broadcast architecture for communication among objects
- New programmable, interactive image-processing

**Approach:**
- Develop programming environment specifically for after-school centers in low-income communities
- Test in Computer Clubhouses, network of 90 community centers for youth (ages 10-16)
- Use data collection and analysis methods most appropriate for informal settings: participatory design, case studies, analysis of digital artifacts

**Broader Impact:**
- Broaden opportunities for youth from low-income communities to become designers and inventors with new information technologies
- Foster collaboration among young people across geographic, cultural, and language barriers

**Scratch programming environment**
- Building-block programming paradigm
- Programmable manipulation of rich media
- Seamless integration with physical world
- Objects sharable across Net, on diverse platforms