The ICT4me Curriculum

About ICT4me

ICT4me is an after school and summer curriculum for middle school youth to develop ICT fluency, interest in mathematics, and knowledge of information, communication, and technology (ICT) careers. This problem-based curriculum capitalizes on youth interest in design and communication technologies. ICT4me provides structured interactions with ICT professionals, including having youth participate in engineering design and development teams. ICT4me's promotes a train-the-trainer approach to building capacity in informal ICT learning.

Build IT vs. ICT4me

ICT4me is a derivative of the Build IT curriculum co-developed between SRI International and Girls Inc. of Alameda County. Questions about the Girls Inc. implementation of Build IT can be directed to them at http://www.girlsinc-alameda.org/about/contact.

SRI is no longer supporting the development of ICT4me, so the curriculum materials are offered as is.

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Electronic Versions of Materials

Electronic versions of all materials in this unit are available for download from the website at http://ict4me.sri.com/.

Contact Information

Please contact the SRI International Inquiry line for questions about ICT4me.
https://www.sri.com/contact/form

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ICT4me
Unit 1 Scope and Sequence

Re-Designing Your World

Big Ideas

- Design is a process that involves identifying and solving problems for a specific group of users. All of the objects, tools, technologies, places, transportation systems, buildings, and media—the human construction of the world—that we encounter every day went through and may continue to go through the design process.
- The design process, composed of specific stages and elements, is a sequence of strategies for addressing user needs and satisfying constraints: brainstorming, planning, gathering user data, scenario development, storyboarding, requirements and documentation, prototyping, user testing, and revising.
- Design is iterative. An initial solution is often revised or improved by iteration, which often causes a refinement in the definition of the problem.
- A "mathematical disposition" toward problem solving requires analyzing given information, drawing on specific strategies, and having the ability to monitor and adjust strategy use.

Essential Questions

- Where do you see design around you?
- What is the design process?

Mapping the Big Ideas

Session/ Core Activity	Description	IT Professional	Perfor-mance Task	Design is a Process	User Needs	Iteration as Refinement	Math for problem solving
Week 1: Your Designed World	Youth learn that they can have an impact on their world through design. Youth are introduced to the Design Process.			X			
Week 2: What Type of Shoes?	Youth explore the design of familiar objects and learn first two steps in the Design Process: defining the problem and brainstorming.	Brainstorming or Sketching		X	X		
Week 3: Gizmos, Gadgets, & Dream Machines	Youth explore simple machines and sketch the process they see. Youth focus on sketching, storyboard, and developing a Dream Machine design.			X	X		

Session/ Core Activity	Description	IT Professional	Performance Task	Design is a Process	User Needs	Iteration as Refinement	Math for problem solving
Week 4: Things that Fly	Youth explore the design of flying toys such as Frisbees, Aerobies, and Boomerangs in order to propose and then construct the best design. Youth engage in researching, prototyping, and building their designs.			X	X	X	X
Week 5: The Perfect Hangout: Interacting with Users	Youth begin a four-week project to design an ideal hangout for others. They are now using all aspects of the Design Process.	Designer of Physical Space Playgrounds, Museums, Bldgs		X	X	X	
Week 6: The Perfect Hangout the Design Process	Youth learn how to investigate the needs of different users and include technologies in their room designs. Youth present and iterate on their designs.				X	X	
Week 7: The Perfect Hangout: New Users' Needs	Youth refine their designs again to take into account more users' needs.	Designers of Objects		X	X	X	X
Week 8: The Perfect Hangout: Performance Task	In this performance task, youth presenting their designs to demonstrate that they understand that the goal of design is to satisfy multiple users' needs and that iteration is necessary in design.	Full		X	X	X	
Weeks 9 & 10: FTN Planning & Presentations	Youth prepare for Family Tech Night (FTN) in Week 9. In Week 10, youth present their designs and demonstrate their understanding of the Design Process at FTN.				X	X	X