TinkerBlocks

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Principles of Programming Languages
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TinkerBlocks Team

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Blocks Languages

TurtleBlocks
Growing in Popularity

**Scratch:** multi-media programs, animations, and games
Over **1 million registered users** and **3 million projects** uploaded to the community gallery

**MIT App Inventor:** apps for Android smartphones
About **600,000 users** and **1.25 million projects**

**Blockly:** being developed as user PL for Google products

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Image of Scratch logo

Image of MIT App Inventor logo

Image of Blockly interface with maze and programming blocks.
TurtleBlocks

TurtleBlocks program

turtle drawing

cardstock  acrylic  drawing boundary
PictureBlocks

PictureBlocks program

beside pic above pic clockwise90 pic hex color Blue

shade pic kite color Red

shade pic flipDiagonally pic wedge color Green

resulting picture

wood artifact

picture boundary
Creating Artifacts
Types by Shape

Number
Boolean
String
Picture
Color
Polymorphic
Polymorphism
Scoping
Marie Vasek's TypeBlocks

3 Constructors:

- list
- pair
- function

int list  string list list  int * string  bool -> string
TypeBlocks Examples

(string * bool) list
(bool * (string -> int list))

(string list) * bool
((bool * string) -> (int list))
Questions?

More information at [www.tinkerblocks.org](http://www.tinkerblocks.org)
And you can see us for a demo!