We have implemented PictureBlocks in Java using the OpenBlocks framework. PictureBlocks is the first-blocks programming language for Peter Henderson’s picture language [1], which was popularized by Abelson & Sussman [2]. Intricate patterns can be created by transforming and combining simple pictures designed by the user using our Java-based sketching tool. Tangible artifacts can be created from these patterns on laser cutters and vinyl cutters by indicating boundaries to be cut and lines or areas to be engraved.

In PictureBlocks, users construct programs by snapping together jigsaw-like blocks, thereby avoiding many of the syntactic problems (missing semicolons, mispelled words, etc.) that frustrate novices using textual programming languages.

OVERVIEW

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ABSTRACTIONS

Function declaration

Function invocation

BASIC OPERATIONS

Putting pictures one over the other

Putting pictures above or beside another

Flipping and rotating pictures

REFERENCES