



**Jabberstamp**

## concept

Jabberstamp is the first interactive craft-based tool that allows children to synthesize their drawings and voices. Children bring their drawings to life with familiar materials like pens and paper: first, kids make drawings on normal paper; and then press a special rubber stamp onto the page to record sound on their drawings. When they touch the marks of the stamp with a small trumpet, kids hear their sounds playback, retelling the stories they have created.

Children ages 4+ use Jabberstamp to embed names, narratives, characters' voices and environmental sound effects in their original drawings. Children's compositions help them communicate their stories with peers and adults, and allow them to record and situate stories in personally meaningful contexts to share with others before they have mastered writing.



## inspiration

Talking book toys bring the printed page to life. How can kids create their own talking stories?

## vision

Kids connect their stories and their drawings using interactive tools that build on familiar design metaphors. Just as talking books help kids learn how to read, Jabberstamp can help them learn how to write: kids who use Jabberstamp discover how to give their oral stories context and structure so other people can read and understand them.



# learning through play

Kids of all ages came up with many ideas about how to use Jabberstamp.

Preschool and kindergarten teachers wanted to let kids annotate traditional classroom materials to share their stories and ideas with each other.

Early elementary aged kids who worked with Jabberstamp progressed from simple mappings between drawings and sounds to complex narratives. Their work falls between pretend play and traditional written literacy exercises.



Child records family dog barking. "Ruff Ruff!"

"This is a forest and it's hard to go through because you have to answer these questions and if you don't answer them right it's not going to be pretty." (laughs)

"The characters in this place are a witch, an ogre an angel and a bird. Those are all the characters."

Children organize narration in a box.

Maracas inspired the rattling of these flying snakes. The children write to instruct the reader to trigger the sound "5 times" sequentially to hear a layering of the rattles.

"CAW CAW CAW CAW" - the bird.

Numbers in the column identify the page.

"Fee fi fo fum, I smell the blood of an Englishman..." - the Ogre

Children record a wind sound effect when they hear a particular musical instrument. To identify the stamp, the eight year old writes "wind." The six year old draws a mountain behind the star to give the wind a context.

# an interactive story-game

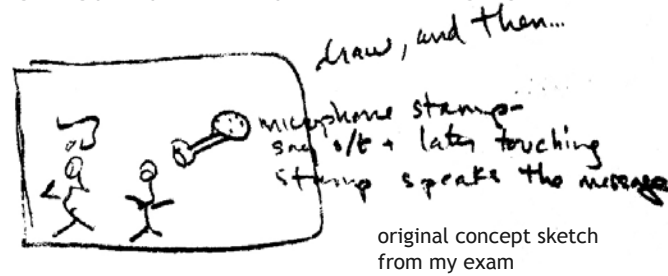


Lucy, an eight year old dyslexic girl, and her six year old friend Luisa create an elaborate interactive story-game (left) for Lucy's mother to play. Character voices, narration, description, sound effects, and hidden clues all provided clues for her mom to navigate the maze-like narrative.



# motivation

**The Assignment:** Imagine that the founders of the Reggio Emilia schools were alive today. Give an example of a "dynamic craft material" that they would design, and describe how they would use it in a classroom. Discuss the guiding principles that they would use in designing the materials and activities for the materials....

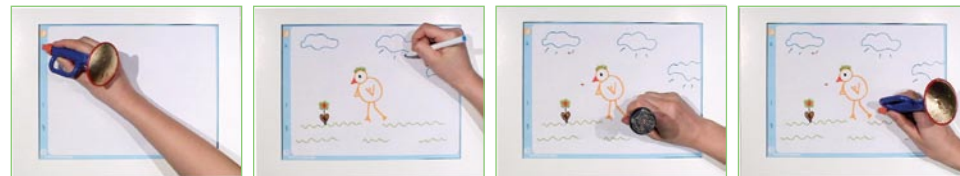


# design principles

- allow for multi-sensory expression, creation, and consumption
- emphasize material qualities
- use design metaphors kids are used to
- amplify kids' playful and creative ideas
- make any computers "disappear"

# dynamic craft materials

Electronic toys and media are central in children's learning today, "dynamic craft materials" invite learning through curiosity and experimentation, and social and collaborative play.



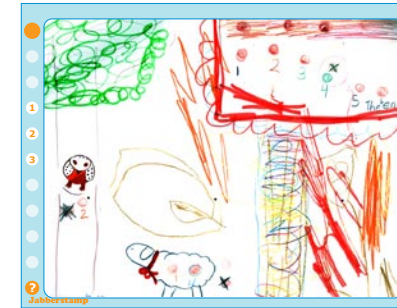
1. start

2. draw

3. record

4. play

# interaction design & proof-of-concept



The user interface supports a variety of paper media (thick and thin, from pages to books), can recall children's old work for revision or listening, and generally is designed to "make the computer disappear." Kids do all system interactions with the stamp and trumpet tools, and special paper templates have pre-printed "buttons" for children to input events to the software. Audio cues provide system output.

Jabberstamp was designed to be built with the low-cost hardware found in today's talking books. We modified digital drawing equipment and wrote software to quickly develop and test a working proof-of-concept.

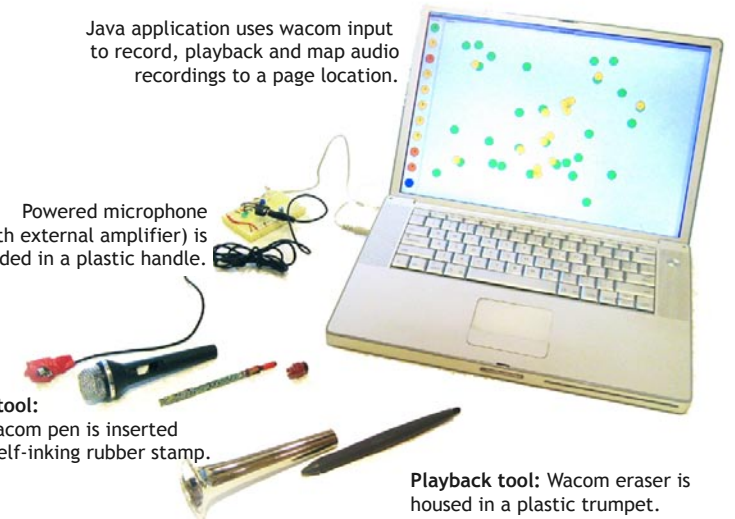
Radio transmitters from a digital drawing tablet are embedded in the tools. The stamp and trumpet are familiar design metaphors that suggest their functions to kids. A Java application listens to the tablet, keeps track of which page children are using, and associates audio recordings to locations on a page. A "secret" laptop handles audio input and output.

Java application uses wacom input to record, playback and map audio recordings to a page location.

Powered microphone (with external amplifier) is embedded in a plastic handle.

**Recording tool:** Modified wacom pen is inserted through a self-inking rubber stamp.

**Playback tool:** Wacom eraser is housed in a plastic trumpet.





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