Children as Designers of Full-Contact Poetry

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Abstract. Full-Contact Poetry is a collaborative, digital environment for children's poetic expression. It is a Squeak environment in which children can create new media poetry, interpret text with digital media and also share and critique these expressions. The environment combines ideas from literary theory and analysis with constructionism to extend tools for poetic expression. Children can experience poetry by experimenting with typographic effects, sound and image.

In this paper, we discuss the design of the Full-Contact Poetry environment. We provide an overview of a preliminary workshop, using the software environment with a group of adolescents. Prior to the workshop, the teenagers had no experience with electronic literature. They combined their previous experience with technology and expression with new examples of poetic expression to create a new genre of expression.

1 Introduction

The phrase "full-contact poetry" was inspired by the collection *Aloud: Voices from the Nuyorican Poets' Cafe*, a compilation of slam poetry [1]. In the introduction, the editor describes poetry as a "contact sport." In the phrase, he captures the essence of slam poetry and of the relationship formed between poet actors and their audiences. Poetry transcends a purely textual or aural experience and becomes an encounter between people. Full-Contact Poetry casts a different spin on the idea of "contact" by providing a digital space in which children and adolescents can embody poetic expression.

Poetic expression has changed with new media and technologies. Text moved from the page into a space where it can move and display behaviors. Studies from the MIT Media Lab have shown how dynamic type can enrich the meaning of a text through highlighting, layering, typographic effects and navigation of text through space [5, 18, 20].

There are many examples of multimedia and hypertext poetry available online as part of a growing collection of electronic literature. The pieces vary in how they combine media for poetic effect. Some illustrate text whereas others combine abstract sounds and images with text [2, 4, 11]. However, most of this work has been limited to adults trying both to extend the poetic form and to create their own poetic communities. Some have created literature for children to view, but children have not had the tools or the opportunity to create poetry with digital media as a tool.

Poets have worked in classrooms and have demonstrated that poetry can be a powerful vehicle of expression for children and adolescents [6, 10]. The Full-Contact Poetry environment extends this work to a digital space. Children can both author new "full-contact poems" and interpret textual poetry with various media. They can then share and critique each other's work in an online space. They can even download and reconfigure each other's work.

Research has been conducted both to develop programming languages and environments for children [9, 13, 19] and to create computer-supported spaces for children to tell stories [17] and practice creative writing [3]. Full-Contact Poetry differs from these environments in two ways. First, it combines programming with poetic expression. Second, it emphasizes a different type of literacy. Instead of supporting the traditional literacy of reading and writing, as many storytelling environments do, it encourages children to express in a new way and to develop fluency with a computational medium as an expressive tool. Children author, critique, program and debug in a process of expressing themselves and defining their own animations and functionality.

Malaguzzi described children as expressing themselves through one hundred languages [7]. Full-Contact Poetry combines some of these languages into a new language of expression for children.

The first part of this paper addresses the design and implementation of the Full-Contact Poetry environment. The second part of the paper describes a preliminary workshop using the software. The paper ends with a discussion of children as creators of new genres of interactive expression.

2 Design and Implementation

The design of the Full-Contact Poetry environment is informed by theories from multiple fields, in particular the theories of constructionism and deconstruction. Papert's theory of constructionism states that knowledge is actively constructed and that this construction can be mediated [13]. The designer John Maeda also spoke about construction, but along different lines. He argued that artists should construct their own tools so that they do not limit their expression to the assumptions of the tool's creators [12].

The theory of deconstruction comes from literary theory and analysis. The two principle ideas influencing the design are that texts contain many meanings and influences and that text is a starting point for response [16]. An individual can form a relationship with a text, find meaning and respond. Text represents the starting point for a dialogue instead of as an end in itself.

Full-Contact Poetry, in accordance with the theories of constructionism and deconstruction, contains spaces for children to create and respond. Children either interpret an already written poem (by a poet, a friend, or the child) or create an original poetic expression. Many poets who work with children ask the children to construct creative responses to poems that they have read [6, 10] as a way to understand the poems, to create relationships to them and to express themselves. Children can also move away from prewritten texts and create original expressions. They can upload their expressions to an online space and see and respond to each other's work. They can post comments, critiques, or even download a project to create an individual version and respond with a project.

The environment is implemented in Squeak for many reasons. Squeak is an open-source SmallTalk environment, written completely in SmallTalk. Developers can create real applications, but Squeak also has a novice interface for children to program. There is a high-level scripting interface of drag-and-drop tiles that children can use to program movement and conditionals (Figure 1). They can also view the code textually and program either with text or tiles. Squeak supports a number of media types and is fully object-oriented, so any object can be programmed. Squeak also has a pluggable web server written in the language, called a "swiki." The swiki associated with Full-Contact Poetry is configured so that anyone using with the project can add or edit content. Users can create new pages and upload projects or images. The swiki contains extensive documentation on the Full-Contact Poetry environment, links to examples of full-contact poems and to favorite poems.

Squeak was chosen in order to give users full control over their expression. Children and adolescents can determine every level of their functionality, from what they want to express to how they want to express it.

Full-Contact Poetry is a modified Squeak environment, implemented in the Squeak web Plugin, version 3.0. The Plugin can be used either as a standalone application or through a web browser. When Squeak is first opened, the children enter a "blank" project. The upper left holds a window with a welcome message and a link to the workshop's swiki. On the lower left are controls for recording sound, a place to store sound files and text objects that the children can drag into the animation space in order to rewrite and animate them. The upper right contains a menu to save projects and import files. The lower right has a control panel that loops, stops or steps through every script open on the screen. A BookMorph appears in the center of the screen. BookMorphs are similar to HyperCard stacks. They consist of a series of pages, each of which can hold scripted objects. Children can either script objects on a single page to form an animation or they can program the BookMorph to automatically flip through pages when animations on each page finish, giving the effect of changing scenes. Squeak was modified to include numerous fonts so that users can experiment with typographic effects and a number of new tiles were added, particularly for text animation.
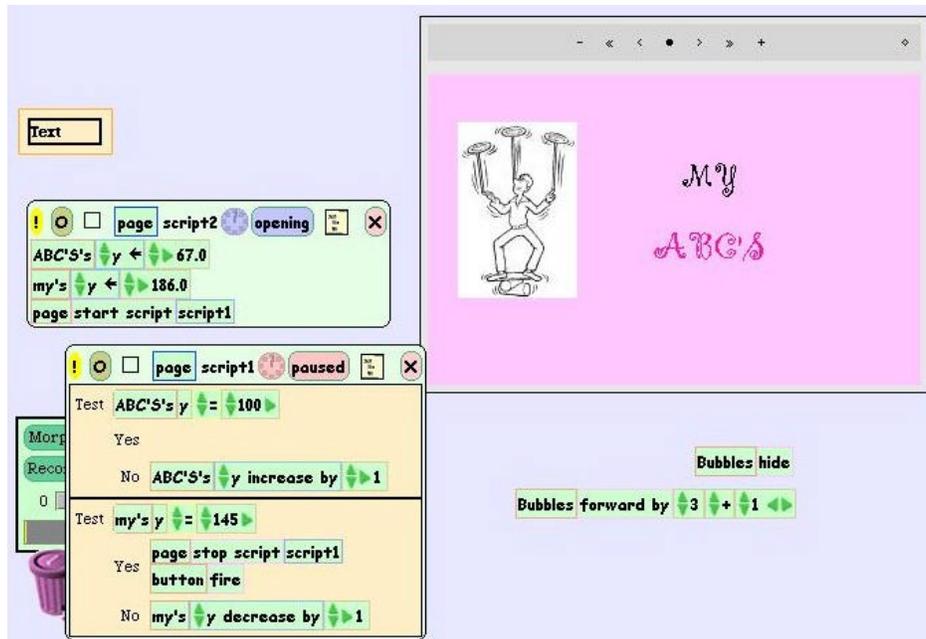
Fig. 1. The workspace of one participant, including a BookMorph and two scripts.

Children can use three media components: text, image and sound. As noted above, dynamic text is a powerful medium for expression. Letters can convey emotions [5]; words in motion depict particular interpretations of their meanings [20]. Similarly, sound colors and interprets static text [14]. One speaks of "reading" into a poem, but never of "hearing" into one [15]. In the environment, children can either record new sounds or import and reconfigure existing sounds. Finally, still images can either be drawn or imported and reconfigured and then animated.

Users can create and many different types of full-contact poems, most of which involve some sort of animation, whether of text or of image. In order to start a new project, a new blank project can be downloaded and imported to the environment from the swiki.

3 Workshop

The preliminary response to the environment came from a workshop held with a small group of teenagers. The workshop served as the first feedback step in an iterative design process. It was used both to see the kinds of expressions the users create and to test the design of the environment.

The workshop was held at a community center in Boston, MA and was advertised to children ages twelve and up. Participants attended voluntarily, so attendance varied over the course of six weeks, although a core group of five participants attended almost all of the sessions. The youngest participant to ever attend was ten years old and the oldest was in his early thirties. The core group ranged between fifteen and seventeen years of age. The workshop met on Mondays and Wednesdays from three to five p.m. for six weeks. The group had access to the center and to computers with the software when the workshop was not in session, and continued to work voluntarily on projects during their own time. There was one facilitator for the duration of the workshop.

From the first day of the workshop, the participants were encouraged to design their own projects, in the constructionist spirit. The workshop, while only a preliminary study, raised some interesting points regarding children as authors of electronic literature. The participants had no prior exposure to any form of interactive literature. During the workshop, they combined their previous experiences with technology and expression with examples of electronic literature to create something new.

The group of teenagers in the workshop was computer savvy. They had email, regularly surfed the web and played games online or downloaded music videos by their favorite artists. Most of them came to the center regularly and had participated in games design and robotics workshops. For all of their experience, however, they had never encountered the computer as an artistic or expressive tool. They saw the computer as a particular type of tool, related to programming, games, finding information and social interaction. The challenge was to provide a new idea of the computer without being too constrictive—letting them experience enough to experiment, but without providing a strict formula to replicate.

On the first day of the workshop, the group learned some basics of Squeak programming. They learned how to animate text and image, import images, draw images and record sound. They did not know much about of "full-contact poetry" except that it had something to do with animation.

Mike and Ron made animations based on characters from the Dragon Ball Z cartoon. They based their animations on recent episodes. At one point, they got into an argument over representation, Ron arguing that Mike's depiction did not match the Dragon Ball Z style. Mike defended himself by saying that the style was from a particular episode, which was drawn in a different style. The children even on the first day showed how they deconstruct, appropriate and reconfigure their experiences. They also demonstrated that they are knowledgeable critics.

Fig.2. One of Mike's animations using a figure from the Dragon Ball Z cartoon.

The children did not have a model of full-contact poetry yet, so they simply replicated what they knew how to do in an animation space, which was to animate cartoons. They understood the full-contact aspect. The next step was to introduce poetry.

4 Examples and Exercises

The facilitator brought numerous examples of poetry to the workshop, from Shel Silverstein to slam poetry to authors like Gwendolyn Brooks. She also showed the group a number of examples of full-contact poetry, both of her own creation in Squeak and from online publications by artists using Flash and hypertext. Some

of the poems were illustrations of a narrative, while others were abstract interactions between text, image and sound [2, 4, 11]. The examples were used to give a broad overview of different types of poetry and how technology can be used as an expressive medium.

Some of the examples did not elicit any responses from workshop participants. The examples were too foreign for the adolescents to find anything that resonated with them. The examples were not familiars [6] for them, pieces of their own lives that they could understand, appropriate and extend. The group needed personal connections to the material, something of their own that they could reconfigure or adapt to this new mode of expression. Offering multiple examples helped the group find those personal connections. Once the group had a few models that they could connect to, they started to build related pieces.

Mike did not visibly react to the poetry examples. But immediately after viewing some examples, he modified his Dragon Ball Z animation to include original rhymes, new images, drawings and later sound. Jennifer and Beley both expressed surprise at many of the pieces, including comments of "This is poetry? I don't think this is poetry," to which the facilitator asked what they considered to be a poem. At other times, they paused, nodded, asked questions, and then returned to their computers to start different project work. Beley, who had only asked questions about how to make a game in the environment, began a project that was solely text animation. He animated the word "Hello," written in festive fonts and colors, to start in different places then swing into position. Jennifer animated a Shel Silverstein poem.

Providing examples sparked the first round of projects. After the group finished their first projects, there was an impasse. The children felt they had exhausted the environment, tools and possibilities. They did not have any ideas or enthusiasm for new projects, nor did they want to keep editing their first projects.

At this point, the facilitator introduced "warm-up" exercises to generate new ideas and types of projects. In one exercise, the group was asked to free write for three minutes. They could write anything: nonsense, a list of things they like, dislike, how their day went, etc. After three minutes, they were asked to underline a sentence that sounded interesting—not because of the meaning, but for the *sound* of the words. Then they were asked to draw and animate the sound of the sentence without text. The activity immediately inspired projects and produced very different work from their previous projects. The exercise provided another foothold for participants. They were encouraged to view the relationship between image, sound and text in a novel way and to experiment with a new way of expression, but were provided with enough constraint that they did not feel lost or overwhelmed.

 In another exercise, the group was asked to import midi files of any song that they liked, and then to change the song by deleting tracks, changing instrumentation and even the sounds of instruments. Once they created a version of the song that they liked, they created animations to the song, or to part of the song.

The music exercise led to long and complex projects in which the children were invested. A full day was devoted to finding a song and making it just right. For the most part, midi recordings of popular songs are tacky, and the children hated hearing their favorite songs warped in such a way. They took a lot of effort to modify the songs, making them quite different from the original recordings. Shawna, for example, made a funk version of Aaliyah's song "Are You That Somebody?" Jennifer animated Destiny's Child's song "Survivor" with a fictitious narrative about herself as a superhero saving a baby. She explained the images and animation showing herself in her "Clark Kent" form, and then the transformed self in which she emphasized her Puerto Rican traits. She explained the hair and clothing and what it symbolized culturally and how she, as a Puerto Rican immigrant, was a survivor. The song was about her.

5 Conclusion

As mentioned above, the workshop provided the first feedback step in an iterative design process. The workshop emphasized the importance of the environment surrounding the tool. The Full-Contact Poetry environment succeeded in that it provided a space in which adolescents could express themselves through various media, but the tool in itself was not sufficient because the concept of "full-contact poetry" was new to the participants. The facilitator made two critical interventions in her choices of examples and exercises.

Children appropriate materials and combine them with their unique experiences in order to create. The Dragon Ball Z animations were not the intended "full-contact poetry," which was closer to traditional interactive poetry and textual poetry, but the boys were building from their personal experience, using characters that they cared about and exchanging opinions. The adolescents used music, public figures and characters that they already cared about to express themselves and to develop that resonance. Henry Jenkins speaks of children as active consumers of media instead of passive observers. They take characters, make up their own stories, and in doing so, make the characters their own. The figures from media become a part of how they understand themselves [8].

In "traditional" electronic literature, artists weave sound, image and text together to express themselves. The children used the same elements, but in very different ways. Their images contained many composites—images downloaded from the Internet which were modified, photographs that were also reconfigured. They created their own narratives with both popular and invented cartoon figures, both with and without text. They did not make "music videos" or "electronic literature," but a mix of all of those genres, combined with their personal experience, for something different and new.

6 References

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