

Games2Learn Lab
presents
Dance Tool



Hanan Alnizami

Jasmine Jackson

CRA-W DMP Summer 2008

Mentor: Dr. Tiffany Barnes

Graduate Supervisor: Evie Powell

CSDT Background

<http://www.rpi.edu/~eglash/csdt.html>

Culturally Situated Design Tools:
TEACHING MATH THROUGH CULTURE

Many cultural designs are based on mathematical principles. This software will help students learn standards-based mathematics as they simulate the original artifacts, and develop their own creations.

African	African American	Youth Subculture	Native American	Latino
<u>African overview: fractal geometry</u>	<u>Cornrow Curves: transformational geometry</u>	<u>Graffiti Grapher: Cartesian and polar coordinates</u>	<u>Virtual Bead Loom: Cartesian coordinates</u>	<u>Pre-Columbian Pyramids: symmetry, pre-algebra</u>
<u>Mangbetu design: transformational geometry</u>		<u>BreakDancer: Rotation and sine function</u>	<u>Alaskan Basket Weaver: Cartesian coordinates</u>	<u>Rhythm Wheels: fractions, LCM</u>
<u>Hexastrip weaving: buckyballs</u>			<u>Navajo Rug Weaver: Cartesian coordinates</u>	
			<u>SimShoBan: geometry</u>	
			<u>Yupik Star Navigator: counting, modular math</u>	
			<u>Yupik Parka Patterns: transformational geometry</u>	

For the teacher: [Standards-based lesson plans, evaluations, and other teaching materials](#)

For STARS: [handouts and evaluations](#)

Internet | Protected Mode: Off 100%

CSDT Background

<http://www.rpi.edu/~eglash/csdt.html>

cornrow_homepage - Windows Internet Explorer

http://www.ccd.rpi.edu/Eglash/csdt/african/CORNROW_CURVES/

File Edit View Favorites Tools Help

cornrow_homepage

HOME PAGE

CULTURE

- History of Cornrow Braiding
- How to Braid

TUTORIAL

- How to Create Braids
- How to Position Braids

START SOFTWARE

TEACHING MATERIALS

BIBLIOGRAPHY

ACKNOWLEDGEMENTS

CSDT Home

Transformational geometry and iteration in cornrow hairstyles

Cornrow hairstyles originated long ago in Africa. African Americans have created many new cornrow styles. Like African art and architecture, cornrow hairstyles show the use of four geometric concepts: translation, rotation, reflection, and dilation.

The Cornrow Curves software lets you use the geometric knowledge from cornrow hairstyles to create your own simulated cornrow designs on the computer.

You can select from the menu at any time.

Continue ▶

Done

Internet | Protected Mode: Off

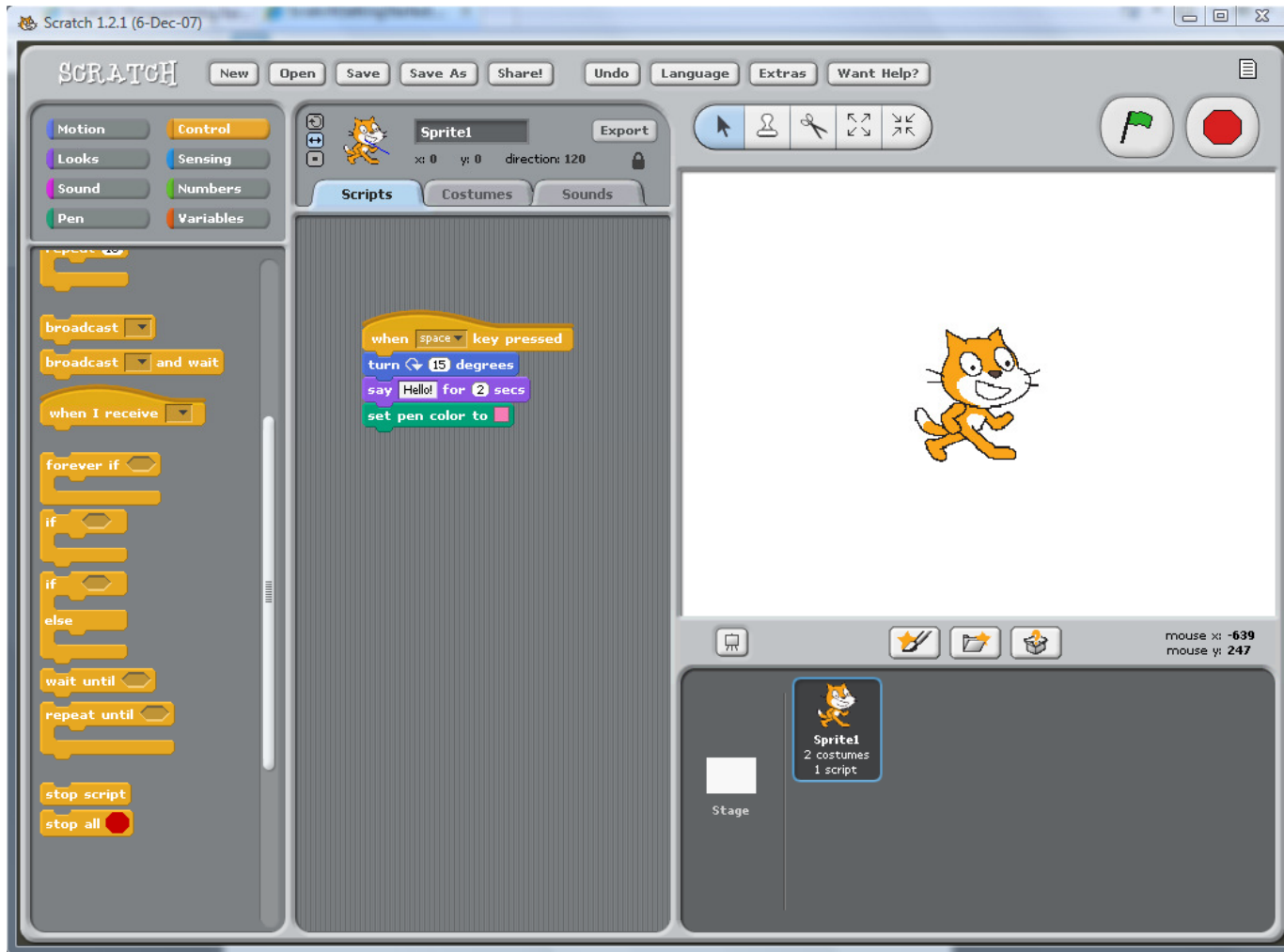
100%

Dance Tool

- Ages Targeted: middle-high schools
- Learning fundamental programming concepts
- 3-Dimensional graphics
- Manipulate behavior

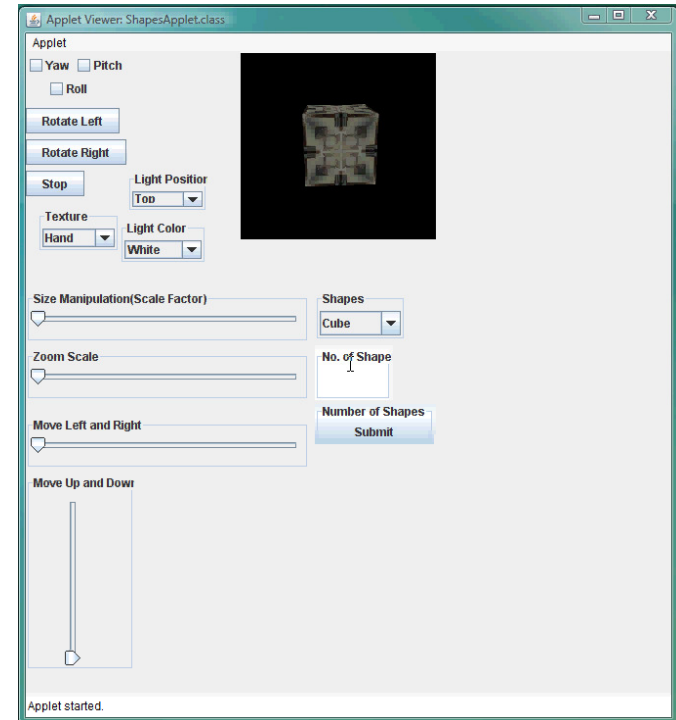
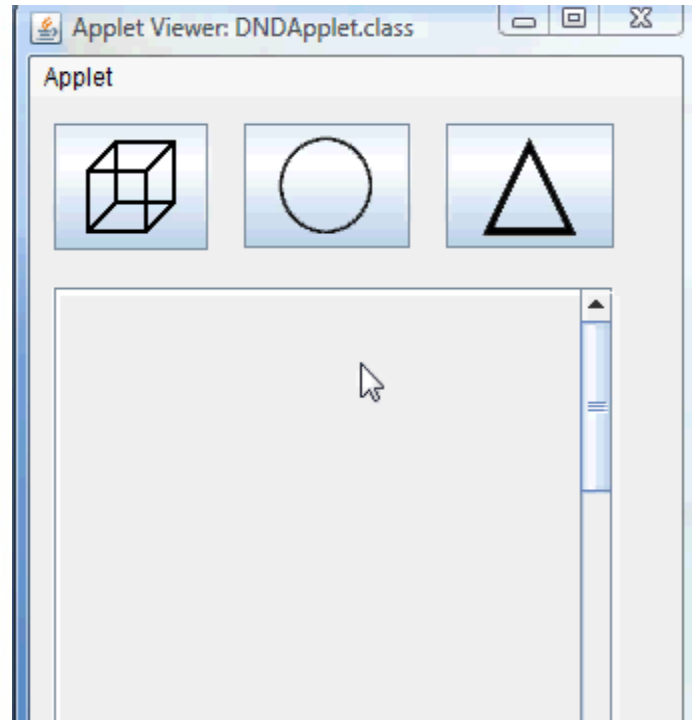


Inspired By:



<http://scratch.mit.edu/>

What was done



What was done



What's Next

- Creating the Dance tool interface
- Create the UML document
- Project documentation
- Beta testing

DANCE TOOL V 2.1

The interface features a top navigation bar with buttons for **NEW**, **OPEN**, **SAVE**, and **Publish**. On the left, there are three rows of controls for **Hand**, **Foot**, and **Face**, each with four buttons and a central **More** button. Below these are icons for various effects and a **CHARACTERS** section with **CHARACTERS**, **SCENES**, and **DANCES** tabs. The main area contains a 3D preview window showing a character with pink hair in a yellow outfit in a room with a large abstract painting. Below the preview are **CAMERA EDIT**, **CAMERA FIX**, and **CAMERA ADJUST TOGGLE** buttons, along with a directional pad. At the bottom, there is a timeline with three colored bars (blue, purple, green) and playback controls: **<<**, **>>**, **||**, and **>>>**.

References

- Eglash, R., Bennett, A., O'Donnell, C., Jennings, S. and Cintorino, M. Culturally Situated Design Tools: Ethnocomputing from Field Site to Classroom. *Am. Anthropol.*, 108 (2). 347--362.
- Java OpenGL Demos with LWJGL.
<http://potatoland.com/code/gl/>. June 14, 2008.
- OpenGL @ Lighthouse 3D.
<http://www.lighthouse3d.com/opengl/displaylists/index.php3?3>.
June 15, 2008



The End

Any questions or comments?

Hanan Alnizami

Jasamine Jackson

CRA-W DMP Summer 2008

Mentor: Dr. Tiffany Barnes

Graduate Supervisor: Evie Powell