eScience Project

Development of an interactive processing application which combines 3D graphics and sound

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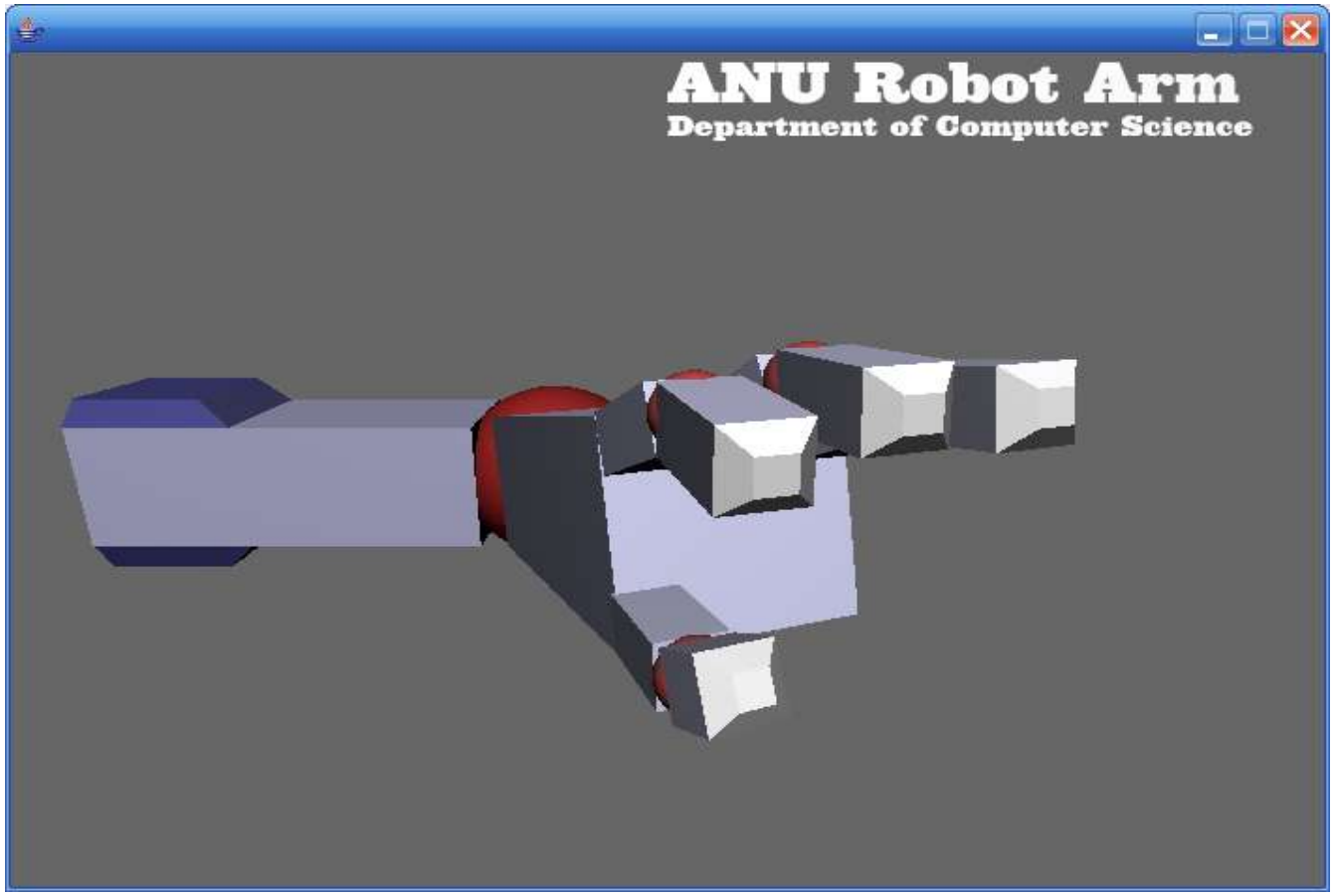
Background

Processing is an open source software and environment for people who want to program images, animation, and sound.

Objectives

1. Enable Processing application exhibiting the effects of 3D graphics and sound



Objectives

1. Make the keystrokes available to control the movement of 3D objects (robot arm)

- A peripheral device such as joystick or joypad would control the robot arm movement instead of keystrokes

Peripheral Device

Pictures

Preconditions of project

- Related knowledge about Processing software, see some examples
- OpenGL
- Explore how to use the APIs of sound and external device plug-in

Implementation

- Using the built-in package – OpenGL to construct the 3D object (Robot arm)
- Loading the sound file as long as the program starts
- Search the available peripheral device and load into Processing environment

Implementation

- Rotate the robot arm or its joints by using keyboard. Several keys work together.
- Use joystick to move the robot arm instead of keystrokes
- One button from joystick can finish two events

Timetables

Week No	Goal	Date
#3.	Initial Presentation & Completed	6th August
#4.	Modelling Completed	20th August
#7.	Beginning the implementation	10th September
#12.	Implementation Completed	20th October
#15.	Final presentation and report completed	12th Nov

Future Work

Using the joystick or joypad to control the 3D object of robot arm is not totally intuitionistic for the users. The better way is to use the data glove such as the popular one that is P5 model. When user wears the data glove, he/she will better understand how to control the robot arm naturally.

Sources

Address http://www.processing.org/

Processing (BETA)

Search processing.org:

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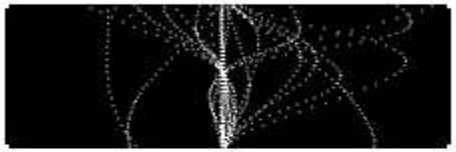
Exhibition



Mutualism
by David Pereira

Grass
by The Barbarian Group

Examples

» Download Processing (BETA)

» Contribute to Processing

Processing is an open source programming language and environment for people who want to program images, animation, and sound. It is used by students, artists, designers, architects, researchers, and hobbyists for learning, prototyping, and production. It is created to teach fundamentals of computer programming within a visual context and to serve as a software sketchbook and professional production tool. Processing is developed by artists and designers as an alternative to proprietary software tools in the same domain.

The beta software for Processing 1.0 was released 20 April 2005 and can be downloaded here. Bug fixes are being made as we head toward the 1.0 release. Processing is free to download and available for GNU/Linux, Mac OS X, and Windows. Please help in releasing version 1.0!

Processing is an open project initiated by Ben Fry (Broad Institute) and Casey Reas (UCLA Design | Media Arts). Processing evolved from ideas explored in the Aesthetics and Computation Group at the MIT Media Lab.

Sources

- Processing
  - http://www.processing.org
- ESS sound plug-in
  - http://www.tree-axis.com/Ess/
- proCONTROLL plug-in
  - http://texone.org/procontroll/

Questions ?