

EXAMPLE REFERENCE GUIDE

Preliminary Version, September 24, 1991

Overview

In order to better utilize the Examples and MiniExamples, we have started a preliminary categorization of their functionalities, which will help you quickly find a topics of interest. To search for all functionalities related to one single example, you can do a search on that particular example name. To search on a particular method name, we strongly recommend that you index the /NextDeveloper/Examples using Digital Librarian. The following categories have been defined:

Animation

Appkit

Common Classes

Device Drivers

Documents

DSP Programming

Events

Graphics

Interface Builder

Mach/OS

Makefiles

Miscellaneous

Music

NeXTStep Programming

Objective-C

Panels

Performance Issues

Postscript

Printing

Services

Sound

UI Objects

Unix

Workspace

Note: This guide only covers the /NextDeveloper/Examples and all the currently released MiniExamples (up to September 1991). Not all examples are fully described yet. Please send your comments and suggestions to example_feedback@next.com.

ANIMATION

Animating your application icon

Acceptor (Controller.m)

Creating smooth animation by adapting to environmental conditions

WhatADrag (Animator.m)

BreakApp (BreakView.m)

Using timed entries for animation

Acceptor (Controller.m)

Lines (LinesView.m)

BreakApp

Using multiple threads for animation

SortingInAction

APPKIT

Application

Delegate methods

Draw

Graph

ScrollDoodScroll (Controller.m)

Cell

How to draw your own stuff (text, images) inside a cell

ScrollDoodScroll (CustomCell.m)

ImageText (MiniExample)

ClipView

Scrolling two ClipViews contained in the same scrollview

ScrollDoodScroll (TileScrollView.m)

Listener

Creating a custom Listener via msgwrap

ScreenSender (BitMover.msg)

Receiving data from another application

ScreenSender

Matrix

Placing a matrix in a scrollview

CellScrollView (MiniExample)

ScrollDoodScroll (Controller.m)

Menu

How to autoupdate menu items

Draw (DrawApp.m)

How to enable/disable menu items

TIFFandEPS (MiniExample)

NXBrowser

BusyBox (lazy browser)

NormalBrowser (normal browser, MiniExample)

NXCursor

How to switch cursors

Draw

NXImage

How to convert to different graphics formats

Draw

TIFFtoEPS (MiniExample)

How to create a TIFF file using NXBitmapImageRep and streams

Grabber (MiniExample)

TIFFandEPS (MiniExample)

Using custom image representations (NXCustomImageRep)

BreakApp (BreakView.m)

Using NXImages to display TIFF images within a view

Acceptor (AppIconView.m)

ScrollTiff (MiniExample)

NXLiveVideoView (for ND users only)

How to use this class's features (video in a window, etc.)

VideoApp

NXSplitView

How to make a horizontal splitview

BananaSplit (MiniExample)

How to make a vertical splitview

ZooView (MiniExample)

OpenPanel

Accepting multiple files from the OpenPanel

Draw (DrawApp.m)

Graph (GraphApp.m)

Customize Open Panel

Draw

PageLayout Panel

Customize PageLayout Panel

Draw

PaginationLab (MiniExample)

Pasteboard

Manipulating Pasteboard data

Yap (PSText.m)

Graph (GraphDoc.m)

Draw (GraphicView.m)

**Matching an apps list of data types (in order of preference)
against the data on a Pasteboard**

Draw (GraphicView.m)

PrintInfo

Customize the PrintInfo object to format your document

PaginationLab (MiniExample)

Yap (YapDocument.m)

Draw (DrawDocument.m)

SavePanel

Create a Save Panel

Draw (DrawDocument.m)

Customize a Save Panel

Draw

Ensemble

TIFFandEPS (MiniExample; shows MAJOR modification of Save Panel)

ScrollView

How to implement autoscrolling

ScrollDoodScroll (NiftyMatrix.m)

Draw

Loading a TIFF file into a ScrollView

ScrollTiff (MiniExample)

Overriding the tile method

ScrollDoodScroll (TileScrollView.m)

ScrollingText(MiniExample; PageScrollView.m)

Placing controls in a ScrollView

ScrollDoodScroll (TileScrollView.m)

ScrollingText (PageScrollView.m)

Placing rulers within a ScrollView

ScrollDoodScroll (TileScrollView.m)

Draw

Scrolling two ClipViews contained in the same ScrollView

ScrollDoodScroll (TileScrollView.m)

ScrollView with customized cells

ScrollDoodScroll

CellScrollView (MiniExample)

Slider

How to customize slider and slider cells

Ensemble

Speaker

Creating a communication link with another application

Acceptor (Controller.m)

ScreenSender (TeachView.m)

Sending data to another application

ScreenSender

Creating a custom Speaker via msgwrap

ScreenSender (BitMover.msg)

Text

Editing Rich Text

Draw (TextGraphic.m)

How to convert (X,Y) coordinates in the text object to a character position

ConvertXYToChar (MiniExample)

How to swap an existing text object in a scrollview

ConvertXYToChar (MiniExample)

Placing customized cells in text object

ImageText (MiniExample)

Text entry validation

BusyBox (GaugeView.m)

Text filter functions

FilterFunctions (MiniExample)

View

Adding an accessory view

Draw (DrawApp.m)

ToolInspector

TIFFandEPS (MiniExample; ImageReader.m)

How frames, bounds and rotation affect each other

VisibleView

Window

Constraining window size through delegation

Lines (Lines.m)

PaintLab (ImageCompositor.m)

ScrollDoodScroll (Controller.m)

Creating ^anon-rectangular^o windows (ala Workspace)

WhatADrag

Delegate methods

TIFFandEPS (MiniExample; ImageReader.m)

Detecting when a user closes an unsaved window (through delegation)

Draw (DrawDocument)

WhatsUpDoc (MiniExample)

Dragging images between windows (e.g. Interface Builder palettes)

WhatADrag

COMMON CLASSES

Hashtable

How to use hashtables

Ensemble

List

Storing objects in a list

Acceptor (ApplIconView.m, CalendarView.m)

WhatADrag (Controller.m)

Storage

Storing data in and retrieving data from a Storage object

WhatADrag (AcceptWindow.m)

DEVICE DRIVERS

Floppy Disk

/NextDeveloper/Examples/Floppy

Midi Driver

/NextDeveloper/Examples/MidiDriver (play/record a midifile)

See also /NextDeveloper/Examples/MusicKit/Ensemble, MidiEcho, MidiPlay, MidiLoop, MidiRecord, playscorefilemidi

SCSI

Scsi

DOCUMENTS

Archiving/unarchiving custom documents

Draw

Ensemble

Graph (GraphDoc.m)

WhatsUpDoc (MiniExample)

How to handle document editing

Draw

SoundEditor

TextLab

WhatsUpDoc (MiniExample)

How to handle different document types (EPS, TIFF, custom)

Draw

How to manage multiple documents

Draw

Ensemble

WhatsUpDoc (MiniExample)

Yap

SoundEditor

How to implement Review Unsaved

WhatsUpDoc (MiniExample)

How to use pasteboards to export your data (TIFF or EPS) to other applications

Draw

Graph

DSP PROGRAMMING

See also /NextDeveloper/Examples/DSP

How to convert an array of raw data into graphical data

Mandelbrot

Using DSP as a stream oriented number cruncher

Mandelbrot (DSPRecorder)

Receiving asynchronous data from the DSP

Mandelbrot (DSPRecorder)

EVENTS

Handling mouse clicks and drags in a view (mouseDown:)

PaintLab (MouseTracker)

Draw (GridView.m)

Intercepting keyboard events

Draw

Peeking/Intercepting mouse events

BusyBox (BusyBoxApp.m)

Draw

Ensemble (EnsembleApp.m)

Tracking mouse cursors

Draw

GRAPHICS (see also POSTSCRIPT)

Compositing Techniques

Draw

CompositeLab

ScrollDoodScroll (NiftyMatrix.m)

Custom draw methods

BreakApp

Drawing a ^awell^o

Acceptor (TiffView.m)

How to group/select/resize different graphics objects

Draw

Imaging PostScript code in a separate WindowServer context

Yap (YapOutput.m)

Imaging raw data into a window

Mandelbrot (MandelView.m)

Loading a TIFF file into a scrollview

ScrollTiff (MiniExample)

Managing an offscreen image/undo buffer

Yap (YapOutput.m)

PaintLab (ImageCompositor.m)

Placing graphic objects in Text object

ImageText (Controller.m; MiniExample)

PostScript userpath ^aobject^o

Lines (UserPath.m)

Scaling/Rotating an Image

BusyBox

Rotato (MiniExample)

Writing raw window bits to a stream

Draw (GraphicView.m)

INTERFACE BUILDER

Create Custom Palettes

InterfaceBuilder/BlinkPalette

Interface Builder/SketchPalette

MACH/OS

Multiple threads programming

SortingInAction

Ensemble (Music Kit thread and Appkit thread)

Mach Messaging

SortingInAction

MAKEFILES

Makefile.postamble for compiling/creating additional files after the main compilation

Acceptor

Graph

Makefile.postamble for creating app wrapper

AskMe (MiniExample)

BusyBox

Makefile.preamble for dynamically loaded code

Acceptor

Makefile.preamble for placing files into a MachO segment

ScrollDoodScroll

Draw

Makefile.preamble for linking against the MallocDebug library

Graph

Makefile.postamble for automatically generating application version information

Graph

MISCELLANEOUS

Algorithmic generation of music notes using Note Filters

Ensemble

A parser using Unix yacc and lex

Graph

Different Sorting Algorithms

SortingInAction

Generating the Mandelbrot set

Mandelbrot

MUSIC

See also [/NextDeveloper/Examples/MusicKit](#)

Simple UI for changing Music Notes Parameters

BreakApp (SoundGenerator Class)

Simple UI for handling MIDI output and adjusting MIDI parameters

Ensemble

How to use MusicKit Note Filter Class

Ensemble

How to use Music Kit Instrument Class

Ensemble

NeXTStep PROGRAMMING

Additional outlet initialization with setMyOutlet methods

Grabber(MiniExample; Grabber.m)

Exception Handling

Graph (While archiving/unarchiving documents)

Getting data from a MachO segment

ScrollDoodScroll

How to mix C++ and Objective C

CalculatorLab++

How to implement inheritance

SortingInAction (GenericSort abstract class)

How to make your application a Workspace drag service requestor

Draw (DrawDocument.m)

Acceptor (Controller.m)

How to make your application a Workspace drag service provider

Acceptor (IconView.m)

Implementing application preferences

Yap (YapApp.m)

Initializing/reading defaults

Draw

Yap

Localization

AskMe (MiniExample)

MandelBrot

Loading Objective C classes dynamically

Acceptor

Multiple Nib Files

BusyBox (and almost all examples)

Reusing zones

Draw (DrawDocument.m)

Yap (YapDocument.m)

Use of temporary zones (NXCreateZone, NXDestroyZone)

Draw (GraphicView.m)

Use of Timed Entry Routines

Acceptor (Controller.m)

BreakApp

Use of NXStringTables

Most examples

Objective-C

Using the `@interface` construct to define private methods

Graph (GraphDoc.m)

Using categories

Mandelbrot (LanguageApp.m)

PERFORMANCE ISSUES (OPTIMIZATION)

How to optimize scrolling using `NXImage` instead of Postscript

ScrollDoodScroll (PostscriptView.m)

How to use offscreen cache for faster drawing

Draw

ScrollDoodScroll

TIFFandEPS (MiniExample)

Performance Tools Self-Teaching Guide

Performance Tuning (MiniExample)

Using userpaths for top performance drawing

Lines

Draw

Graph

Zone allocation

Draw

POSTSCRIPT

Copy bits from WS window to an NXImage

ImageText (MiniExample)

Drawing Balls

BreakApp

Drawing Polygons, Circles, Rectangles

Draw

Viewing Postscript output

Yap

SERVICES

How to export your "Services" to other applications

AtYourService (MiniExample)

How to export your TIFF/EPS Data to other applications

Draw (with Pasteboards)

Draw (with Services)

SOUND

See also /NextDeveloper/Examples/Sound

How to use Sound, SoundView, and SoundMeter

SoundEditor

UI OBJECTS

All standard UI objects and guidelines for their usage

BusyBox

Calendar View (similar to the calendar object in Mail and Preferences)

Acceptor (CalendarView.m)

Clock View (similar to the clock object in Mail and Preferences)

Acceptor (ClockView.m)

Busy Box (both analog and digital display)

Color Picker (Color Well)

CompositeLab

Creating Inspectors

ToolInspector (ToolChest.m)

Creating Workspace-style ^anon rectangular^o windows

WhatADrag

Creating Workspace-style highlighting

ToolInspector (ToolView.m)

Custom scrollview with text and graphics aligned in columns (like Mail)

ScrollDoodScroll

Dragging images between windows (e.g. Interface Builder palettes)

WhatADrag (Controller.m)

Find Panel Object

FindIt (MiniExample)

Generic Help Object

Busy Box

How to enable/disable Forms and Matrices

TIFFandEPS (MiniExample)

How to place rulers and other special controls in a ScrollView

ScrollDoodScroll (TileScrollView.m)

ScrollingText (MiniExample; PageUp/Down controls, Zoom pop-up list)

How to use PopUpLists

Draw

TIFFandEPS (MiniExample)

InfoPanel

Draw

LipService Icon

ImageText (MiniExample)

Reordering items in a list (dragging matrix items to different locations)

ScrollDoodScroll (NiftyMatrix.m)

Standard Play/Stop/Pause/Record Buttons

SoundEditor

Virtual music keyboard, for entering musical notes with the mouse

Ensemble (clavier.nib, Clavier.m)

UNIX

An expression parser using Unix yacc and lex

Graph

Communicating with UNIX processes from a NeXTstep application

Subprocess (Subprocess.m)

Making the InfoPanel automatically display the application's version number

Graph (Makefile.postamble, GraphApp.m)

Opening a pty

Subprocess (Subprocess.m)

UNIX time functions

Acceptor (Controller.m)

WORKSPACE

Creating a communication link with the Workspace

ScreenSender (TeachView.m)

Creating Workspace-style highlighting

ToolInspector (ToolView.m)

How to drag icons from the workspace into your app

Draw

ImageText (MiniExample)

Acceptor (Controller.m)

How to open your documents from the Workspace

Draw

Graph (GraphApp.m)

How to get file information (its type, etc)

Acceptor (Controller.m)

How to drag icons from your application into the Workspace

Acceptor (IconView.m)