Glossary

application context

A pointer to an opaque data structure containing all the information the toolkit maintains for one application.

attributes

See *resources*.

callback procedures, callbacks

Procedures executed when some user action occurs on a widget.The procedures are typically written as part of the applications, but invoked by the toolkit.

callback list, callback resource

List of callback procedures that are executed when some user action occurs on a widget. The callback list is referenced as an OLIT-defined callback resource.

child widget

1. In the OLIT class hierarchy (see Figure 1-3), a *subclass* of a widget is referred to as the child widget.
2. In an application, a child widget is a widget that is owned and managed by a parent widget. Parent widgets manage the size and location of their children, and control input to their children by controlling the input focus. An application organizes widgets into a hierarchy of children and parents, the root of which is the top level shell widget created by `XtVaAppInitialize()`.

class

See *widget class*.

client-server computing model

A computing model in which a client (application) receives user input and sends output to a display server (a program which controls a workstation's display) rather than directly to a workstation's hardware.

composite widget

Widgets composed of other *subwidgets*. For example, the MenuButton widget consists of a MenuButton plus MenuShell.

display

1. Hardware: a computer's monitor or CRT.
2. Software: a single display server process, which is capable of displaying to multiple CRTs.

Inheritance

When a widget subclasses another widget, the subclassed widget *inherits* operating characteristics and the resource set of its superclass.

instantiation

The process of creating a particular widget from a particular widget class. The term *widget instance* refers to a specific widget as opposed to a widget class.

manager widgets

A class of widgets that contain and manage other widgets. ControlArea, Exclusives, Form, and RubberTile are typical manager widgets. Some manager widgets, such as CheckBox, Caption, FileChooser, and ScrolledWindow, are both viewable and perform user input/output functions.

name

A string associated with a widget instance. Used to specify resource values in a resource file.

object

A programming unit consisting of unchangeable code and changeable data that create a programmatic entity with which to construct programs. Widgets are objects.

OLIT

An X Window System-based® widget set and library used to create applications using the *OPEN LOOK®* graphical user interface.

parent widget

1. In the OLIT class hierarchy (see Figure 1-3), a widget's *superclass* is referred to as the parent widget.
2. In an application, all widgets are *children* of some parent widget. Parent widgets manage the size and location of their children and control input to their children by controlling the input focus. An application organizes widgets into a hierarchy of children and parents, the root of which is the top level shell widget created by `XtVaAppInitialize()`.

primitive widgets

A class of displayable widgets that usually perform some type of information display or user interaction function. Buttons, Gauges, Scrollbars, Sliders, and DropTargets are all primitive widgets.

resources

Named, settable, attributes of a widget such as button label, background color, font type, or widget position.

server

1. Software: a program which controls a workstation's display.
2. A computer that servers other node computers by storing/retrieving files, sending/receiving e-mail, etc.

subclass

A widget class created from another widget class. A subclassed widget is created by modifying and specializing another widget class called the *superclass*. The subclass inherits some or all of the characteristics of it's superclass. Class architecture and inheritance make it easier to create new widgets because as subclasses use much of the same code and declarations as its superclass.

subwidget

A widget that is a component of another widget. The MenuButton widget contains one subwidget, a MenuShell, that is accessible through the `XtNmenupane` resource.

superclass

A widget class which is modified and specialized to create another widget class (a *subclass*). The subclass inherits some or all of the characteristics of the superclass. Class architecture and inheritance make it easier to create new widgets because subclasses use much of the same code and declarations as its superclass.

widget

User interface elements like buttons, scrollbars, control areas, text edit areas, etc. Programmatically, widgets are specialized X windows implemented as data structures. When widgets are created by some X Toolkit Intrinsics function, they are returned as an opaque data handle and assigned to a variable called a widget identifier.

widget class

Refers to the widget's type. Class defines the characteristics and set of operations that can be performed on a class of widgets. ControlArea, OblongButton, and Shell are widget classes. See Figure 1-3.

widget class hierarchy

The hierarchy of widget superclasses and subclasses. See Figure 1-3.

widget instance

Refers to a specific widget instance as opposed to a widget class. See instantiation.

Widget set

A family of widgets used together to produce a unified user interface. Athena is one such widget set. OLIT is another.

Xlib

The C language interface to the X protocol.

X Window System Protocol

The computer protocol by which clients communicate with the X server and vice versa. Also referred to as the X protocol.

X Server

A program which controls a workstation's display. The X Server handles output from an application (also called the *client*) to the screen(s), and sends input from the keyboard or mouse to the appropriate client for processing.

X Window System Toolkit

An X consortium standard that provides the structure and library functions for creating and assembling widgets into a user interface. Often referred to as the X Toolkit, Xt Intrinsics, Intrinsics, and Xt.