

**GTEvents.mod**

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|---------------|-------------------------|------------------|-----------|
| COLLABORATORS |                         |                  |           |
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# Chapter 1

## GTEvents.mod

### 1.1 GTEvents

```
< *   STANDARD-  *>

MODULE GTEvents;
(*
    $RCSfile: GTEvents.mod $
    Description: Implementation of GadToolsPort class

    Created by: fjc (Frank Copeland)
    $Revision: 1.11 $
    $Author: fjc $
    $Date: 1995/06/29 19:06:56 $

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    See Oberon-A.doc for conditions of use and distribution.
```

---

Module GTEvents extends the classes defined in Module Events to provide the event management required by the GadTools library introduced in Kickstart 2.0.

Overview    Overview of GadTools event handling

Class descriptions

GadToolsPort    Description of the GadToolsPort Class

Other

|                |                          |
|----------------|--------------------------|
| Switches       | Global compiler switches |
| Imports        | Imported modules         |
| Initialisation | Module initialisation    |
| Terminology    | Definition of terms      |
| History        | Revision history         |

## 1.2 Overview of GadTools event handling

The GadTools library was introduced in Kickstart 2.0 to provide high level user-interface objects that previously had to be built by hand using Intuition's lower level facilities. Notification of events involving these objects is via the existing IDCMP message ports. However, GadTools objects are often complex, composite collections of related Gadgets, requiring a lot of work to manage. To spare programmers this task, events related to these Gadgets are processed and filtered by the GadTools library, which ensures that programmers only receive notification of events that are of interest to them.

To perform this filtering, GadTools library requires that programmers replace calls to Exec library's GetMsg() and ReplyMsg() functions with calls to GadTools' own GetIMsg() and ReplyIMsg() functions. These do the actual task of filtering events for GadTools objects, but pass through other events unchanged.

The GadToolsPort class is simply an extension of the IdcmpPort class which overrides the methods that rely on the Exec functions and replaces them with methods that use the GadTools functions.

## 1.3 Revision History

```
$Revision: 1.11 $  
$Date: 1995/06/29 19:06:56 $
```

---

```
$Log: GTEvents.mod $  
Revision 1.11 1995/06/29 19:06:56 fjc  
- Release 1.6
```

```
Revision 1.10 1995/01/26 00:46:19 fjc  
- Release 1.5
```

```
Revision 1.9 1995/01/09 18:42:43 fjc  
*** empty log message ***
```

```
Revision 1.8 1994/11/11 16:36:03 fjc  
- Uses new external code interface.
```

```
Revision 1.7 1994/09/22 09:25:16 fjc  
- Converted to new-style libcalls
```

```
Revision 1.6 1994/09/18 20:44:34 fjc  
- Converted switches to pragmas/options
```

```
Revision 1.5 1994/09/03 16:25:29 fjc  
*** empty log message ***
```

```
Revision 1.4 1994/08/08 16:19:59 fjc  
Release 1.4
```

```
Revision 1.3 1994/06/14 02:06:07 fjc
```

---

- Updated for release

Revision 1.2 1994/06/04 15:50:17 fjc

- Changed to use new Amiga interface

Revision 1.1 1994/05/12 19:56:40 fjc

- Prepared for release

## 1.4 Global Switches

```
<*$ LongVars+ *> <*$ NilChk- *>
```

NIL checking is switched off and replaced with ASSERTs at the relevant points in the code.

## 1.5 Imported Modules

```
IMPORT
  SYS := SYSTEM, e := Exec, i := Intuition, gt := GadTools, ev := Events;
```

```
(*
  Exec          Exec library
  Intuition      Intuition library
  GadTools       GadTools library
  Events         Module Events
```

## 1.6 Description of GadToolsPort

A GadToolsPort is basically an IdcmpPort that has been modified to use the GadTools GetIMsg() and ReplyIMsg() functions.

---

|              |                                |
|--------------|--------------------------------|
| Declarations | Constant and type declarations |
| Methods      | GadToolsPort methods           |
| Usage        | Using GadToolsPort objects     |

## 1.7 Using GadToolsPort

A GadToolsPort is used in exactly the same way as an IdcmpPort. Simply replace any variables of type IdcmpPort with variables of type GadToolsPort. The only other requirement is to use ReplyIMsg() instead of ReplyMsg() in handler procedures that consume messages:

```
(*-----*)
PROCEDURE* HandleCloseWindow
```

---

```

    ( ip : IdcmpPort; msg : i.IntuiMessagePtr )
    : INTEGER;

BEGIN (* HandleCloseWindow *)
    gt.ReplyIMsg (msg);
    RETURN Stop
END HandleCloseWindow;

```

## 1.8 GadToolsPort Declarations

TYPE

```

GadToolsPort *= POINTER TO GadToolsPortRec;
GadToolsPortRec *= RECORD (ev.IdcmpPortRec) END;

```

(\*

## 1.9 GadToolsPort Methods

OVERRIDDEN METHODS

Event handling

```

PROCEDURE ( gtp : GadToolsPort) HandleSig * () : INTEGER;
- Removes and processes messages queued at the object's MessagePort.

```

Message Port maintenance

```

PROCEDURE ( gtp : GadToolsPort ) FlushPort* ();
- Flushes any pending messages from the object's MessagePort.

```

## 1.10 HandleSig()

```

PROCEDURE (gtp : GadToolsPort) HandleSig * () : INTEGER;
(*
    This procedure implements the behaviour required by receiving the signal
    associated with a MsgPort. The actual handling of the messages is
    delegated to gtp.HandleMsg().
*)

    VAR result : INTEGER; msg : i.IntuiMessagePtr;

BEGIN (* HandleSig *)
    result := ev.Pass; (* Default *)

    (* Loop until all messages queued at the port are dealt with *)
    ASSERT (gtp.port # NIL, 132);
    LOOP
        (* Dequeue the next message, quit if there is none *)
        msg := gt.GetIMsg (gtp.port);

```

---

```
IF msg = NIL THEN EXIT END;

(* Despatch to the message handler *)
result := gtp.HandleMsg (SYS.VAL (e.MessagePtr, msg));

(* Process the return code *)
IF result = ev.Pass THEN gt.ReplyIMsg (msg) END;
IF result > ev.Continue THEN EXIT END
END;
RETURN result
END HandleSig;
(*
```

## 1.11 FlushPort()

```
PROCEDURE (gtp : GadToolsPort) FlushPort * ();
(*
  Gets and replies to all messages queued for the handler's message
  port. It is called inside an Exec.Forbid()/Exec.Permit() pair to
  prevent more messages from arriving at the port while it is being
  flushed.
*)

VAR msg : i.IntuiMessagePtr;

BEGIN (* FlushPort *)
  ASSERT (gtp.port # NIL, 132);
  e.Forbid ();
  LOOP
    msg := gt.GetIMsg (gtp.port);
    IF msg = NIL THEN EXIT END;
    gt.ReplyIMsg (msg)
  END;
  e.Permit ()
END FlushPort;
(*
```

## 1.12 Module Initialisation

```
(* No initialisation required *)

END GTEvents.
(*
```

---