

## CRC Tool Version 1.0 Beta Release Notes

This is the beta release for a Class-Responsibility-Collaboration (CRC) Object-Oriented Design Tool, CRC Tool. This release has the basic functionality to do responsibility driven design as described in *Designing Object-Oriented Software* by Wirfs-Brock, Wilkerson and Wiener. However, it lacks refinement and a few features which would be nice to have in such a tool. For example, collaboration diagrams drawn from the specification are not supported in this release. Hierarchy diagrams are supported; but there is no way to print or output them to the design document in this release. In addition, multiple inheritance in hierarchy diagrams is not handled very well.

This release is intended to solicit input on the usefulness and usability of the tool as it now exists. No features have been crippled. Output file upwards compatibility, for files created with this release, with the production release output files is guaranteed. Assertions are enabled in this release; any assertions encountered should be written down and reported. It is recommended that a save of the data file to a new file be attempted after an assertion, since a program crash may be imminent.

The Win32 version of this program requires the `ctl3d32.dll` to be installed in the system directory. The `winnt` directory contains the file for Windows NT 3.5. The `win31` directory contains the file for Windows 3.1. To run the Win32 version of CRC Tool under Windows 3.1 requires Win32s 1.2. This can be obtained from CompuServe or from `ftp.microsoft.com` on the Internet. The Windows 3.1 version of this program does not use the `ctl3d.dll` to create a 3-D look, since it was found to be incompatible.

This beta release will expire on May 1, 1995. This program will be offered as shareware in the production version. This program is not freeware. Tentative pricing for the shareware production version is \$40. A corporate license is \$200.

Contact Stan Mitchell with input regarding problems or requests for this program at:

phone: (206)-277-6007  
e-mail: stanm@users.compumedia.com.  
US mail: Stan Mitchell  
3107 Smithers Ave S  
Renton, WA 98055

Known problems:

- an anemic help file
- inconsistent keyboard accelerators in dialogs
- not all controls in dialogs have accelerators
- the behavior of nested subsystems is untested
- the only way to select which subsystems or classes to print is by page number

- redraw of views is not optimized
- there is no way to get from Responsibility View to System View and vice versa via the keyboard

Features to be added as time permits:

- page numbers on print out
  - commands to expand and contract the hierarchical tree in the System View list
  - collaboration graphs
  - allow selection of classes in hierarchy diagram views
  - undo delete
  - exception handling
  - save views and window status for a design on close
  - merge input design files
  - option to display WYSIWYG size cards with scrollbars in card views
  - consistency check; e.g. contracts have responsibilities, contracts have clients, abstract classes don't inherit from concrete classes, etc.
  - selection of classes and subsystems for printing of cards
  - statistics/cross-reference: e.g. what classes use a given contract, etc.
  - hypertext design document in html output format
  - hypertext design document in winhelp rtf format
  - drag 'n drop between all views
  - add font selection, card size, line height, and print backs option to print preview toolbar
  - write design to a database
  - provide scripting language to extract information from design
- (Comments on the prioritization of features are welcome)

## Differences between 16 and 32 bit versions of CRC Tool:

1. 32-bit version supports long filenames.
2. 32-bit version under Win32s does not work with all printer drivers, e.g. HP 520.
3. 16-bit version does not have 3-D look on controls in dialogs.

## Installation:

### For Windows NT

1. Create a directory for CRC Tool.

e.g.

```
md c:\crctool
```

2. Use pkunzip to unzip the crctol32.zip file into the directory created.

e.g.

```
cd c:\crctool
pkunzip -d a:crctol32.zip
```

3. Use program manager to create a new group and an icon for CRC Tool.

4. If necessary, copy the winnt\ctl3d32.dll to the winnt\system32 directory.  
e.g.

```
copy c:\crctool\winnt\ctl3d32.dll c:\winnt\system32
```

### For Window 3.1 (16-bit version)

1. Create a directory for CRC Tool.

e.g.

```
md c:\crctool
```

2. Use pkunzip to unzip the crctol16.zip file into the directory created.

e.g.

```
cd c:\crctool
```

```
pkunzip a:crctol16.zip
```

3. Use program manager to create a new group and an icon for CRC Tool.

### For Window 3.1 (32-bit version)

1. Obtain and install Win32s 1.2.

2. Follow steps 1-3 of Windows NT installation

3. If necessary, copy the win31\ctl3d32.dll to the windows\system directory.

e.g.

```
copy c:\crctool\win31\ctl3d32.dll c:\windows\system
```

### For Windows 95 Beta (untested)

Follow instructions for Windows NT.

If Windows 95 version is 4 or greater the ctl3d32.dll should not be necessary.