Getting Started using the Emacs - Design/CPN Hypermedia integration.

This document describes how to get started using the Emacs - Design/CPN Hypermedia integration. In the following it is assumed, that all necessary applications has been installed. The Emacs - Design/CPN Hypermedia integration consists of three applications.

- The DEVISE Hypermedia (DHM).

- Emacs.

- Design/CPN (CPN).

Before you start you should do the following:

1. Make sure BETALIB is set to /usr/local/lib/beta. Alternatively you can set HYPERHOME to /usr/local/lib/beta/dhm.

2. Copy the file "˜beta/dhm/.extra.sh" to your home directory. Please also read item 7 in the list of limitations below.

3. Make sure "˜beta/bin" is in your "path".

4. To use Design/CPN you should set the following environment variables:

```
setenv DesignResourceDir /users/petrinet/resources
setenv DesignPrintDirectory /tmp
You can either print to a file:
    setenv DesignPrintCommand "cat > ~/dcpn_print_output.ps"
or to a printer:
    setenv DesignPrintCommand "lpr -P<name of your printer>"
```

Starting The DEVISE Hypermedia

The DEVISE Hypermedia is started by issuing the following command in the working directory:

```
%>dhm &
```

After a while a browser comes up and you are ready to create new hypertexts or load existing ones. Emacs as well as CPN can now be started in two ways. Either from the hypermedia as explained in the manual or from the shell as explained below.

Starting Emacs

Emacs is started by issuing the following command in the working directory:

```
%>hemacs &
```

All hypermedia functionality is accessed through the leftmost menu named *Hypermedia*. For a description on the individual entries in this menu refer to the manual.

Starting Design/CPN

Design/CPN is started by issuing the following command in the working directory:

```
%>hcpn &
```

As in the case of Emacs all hypermedia specific functionality is accessed through the outermost menu named *Hypermedia*. For a description of the individual entries in this menu please refer to the manual. If you do not want Design/CPN to be 'hypermedia aware' you can remove the `CPN_PORT` entry in the file `extra.sh` located in your home directory (see item 7 in the list of limitations below). The ML image to use is `~beta/dhm/bincpn/cpn.ML` which should be set in the *ML Configuration Options* entry in the *Set* menu.

Limitations in the current version

When using the Emacs - Design/CPN Hypermedia integration the user should be aware of the limitations listed below.

1. Browser Update. The browsers in the hypermedia are not automatically updated when new links or anchors are created or deleted. The user must do an explicit *recompute* to update the browsers.

2. Components in multiple hypertexts. In general it is not recommended that components are part of multiple hypertexts since information about for instance deletion of anchors in one hypertext is not updated in other hypertexts containing the component.

3. CPN in Simulator mode. Following links into CPN diagrams will have no effect if CPN is in simulator mode.

4. Interchange files. In the current version *Save Interchange* should be used at regular intervals to create a backup of your hypertext. In this way it is also ensured, that the hypertext can be loaded using future versions of the hypermedia. A hypertext saved using *Save Interchange* can be loaded using *Load Interchange*.

5. Multi-line markers in Emacs. The cursor in multi-line markers is often not visible.

6. Moving Files. Do not move CPN diagrams or Emacs documents which are part of a hypertext. The Hypermedia will not be able to locate documents which have been moved. In order to move files open the hypertext containing the document to be moved and use 'Save As' in Emacs or CPN to move the file. In this way the hypermedia will notice that the files have been moved.

7. Ports. In order for the communication between the Hypermedia and the external applications to work ports which are not engaged by other application must be used. If problems with the communication is encountered the problem might be that some of the ports are engaged by other applications. The ports to be used can be set in the file `.extra.sh` located in your home directory. Per default the file contains the following settings.

   ```
   CPN_PORT=7000
   DHM_PORT=7001
   EMACS_TO_DAEMON_PORT=7002
   EMACS_PORT=7003
   ```

   When changing the ports make sure that the values assigned are mutually distinct.

8. Symbolic Links. Symbolic links cannot be used to locate CPN diagrams as well as Emacs documents on the file system.

9. Simulator Mode. It will have no effect to follow links into CPN-diagrams when Design/CPN is in simulator mode.

How to get Support

In case problems are encountered using the applications the following persons can be contacted.

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