PTXdist-2 Application Note

Extending the Menu

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Background

Whenever we call the `ptxdist menuconfig` command it searches in the active project for the file `Kconfig`. If it's not present, it uses the global one from the PTXdist installation directory. If one is present it will be used **instead** of the global one. With this feature we could replace the whole menu by our own one. But most of the time we only need some extensions and no replacement.

To extend the menu on a per project base we should add additional menu files into our local `rules/` directory.

Creating a new menu entry

First we need a *menu file* to describe the new menu entry. We start our favoured editor and create the file `rules/my_extension.in` in our active project. This should be its content:

```
## SECTION=project_specific
config MY_EXTENSION
bool
prompt "My Extension"
help
  Here I can select my own extension. Hello world!
```

This will be a very simple menu entry. It's of type `bool` which means we will see a check box: A user can select if he wants to use this extension (whatever it does!) or not.

The prompt of this entry we will see later will be *My Extension*. If someone requests help for this entry, one will see *Here I can select my own extension. Hello world!*.

Note: The config variable (here *MY_EXTENSION*) must be unique. It will be used by the build mechanism!

For further details about keywords and syntax of the kconfig-language please refer **Documentation/kbuild/kconfig-language.txt** in the Linux kernel sources.

How to Extend

To simplify this menu extension PTXdist comes with a template to be used as a starting point. We are copying this file into our active project:

`$ cp <ptxdist-installdir>/rules/templates/kconfig/Kconfig .`

Note: Replace `<ptxdist-installdir>` with the path to your PTXdist installation.

As a first step this template does not change anything unless we modify it.
So if we start PTXdist's configuration at this point of time, we will see the same menu entries as before due to the expression `source "config/Kconfig"`. This will continue to use the standard menu definition from PTXdist's installation.

To get PTXdist to extend its menu with this new menu file, we simply add this line at the end of the local `Kconfig` file:

`source "generated/project_specific.in"`

This will generate new menu entries from all `rules/*.in` files, marked with `## SECTION=project_specific` in their header. This means the menu will be autogenerated. There is no limit. With this mechanism we could add one or more menu entries in this submenu, when we add one or more `*.in` files with the same `SECTION` name entry in their header.

If we want more than one additional submenu, we just use a second `SECTION` name in additional `rules/*.in` files and add a second line like the one shown above to our `Kconfig` file. In this case we use the second `SECTION` name here, like in this example, when the `SECTION` name is *second_menu*:

```
source "generated/second_menu.in"
```

That's all. Whenever we run the `ptxdist menuconfig` we now see on top PTXdist's regular menu and at bottom our extension. It depends on the content in `my_extension.in` what menu entries we will see (or **not** see, if there is no *prompt* keyword in it).

A last note: Whenever we change the menu content we must run `ptxdist menuconfig` and save the new configuration at least one time. Alternatively we can run `ptxdist oldconfig` instead to make the new symbols valid.

Additional questions?

Below is a list of locations where you can get help in case of trouble. For questions how to do something special with PTXdist or general questions about Linux in the embedded world, try these.

Mailing Lists

About PTXdist in particular

This is an English language public mailing list for questions about PTXdist. See

http://www.pengutronix.de/mailinglists/index_en.html

how to subscribe to this list. If you want to search through the mailing list archive, visit

http://www.mail-archive.com/

and search for the list *ptxdist*.

About embedded Linux in general

This is a German language public mailing list for general questions about Linux in embedded environments. See

http://www.pengutronix.de/mailinglists/index_de.html

how to subscribe to this list. Note: You also can send mails in English.

News Groups

About Linux in embedded environments

This is an English newsgroup for general questions about Linux in embedded environments.

comp.os.linux.embedded

About general Unix/Linux questions

This is a German newsgroup for general questions about Unix/Linux programming.

de.comp.os.unix.programming

Chat/IRC

About PTXdist in particular

irc.freenode.net:6667

Create a connection to the **irc.freenode.net:6667** server and enter the chatroom **#ptxdist**. This is an English room to answer questions about PTXdist. Best time to meet somebody there is at European daytime.

Miscellaneous

Online Linux Kernel Cross Reference

A powerful online cross reference.

http://lxr.linux.no/

U-Boot manual (partially)

Manual how to survive in an embedded environment and how to use the U-Boot on target's side

http://www.denx.de/wiki/DULG

Commercial Support

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