How to Develop multiple Applications In LinuxDA

In the development environment of Linux DA, users are allowed to develop two or more applications at the same time. 'Makfile' is the essential control program in linux for the process of compilation. We assume the development environment for LinuxDA (SDK) have been installed in directory "/opt/src/" and can be run properly in your system before the following the procedure below. Pay attention to those 'makefile' files you need in order to create or update your own applications.

1) The location of your applications

All manipulations of your applications are under the directory of "opt/src/LinuxDA/pilot".

1. Create a directory

You shall add a new directory named 'prog*' under the directory "/opt/src/LinuxDA/pilot", and the name of the application which you want to create will have the same name as the directory.

-i.e. You want to create a new application named "prog1", then you shall create a directory of "prog1" first.

You can add 9 applications at most, which are "prog1", "prog2" , … ,"prog9".

2. Add your source code into "prog*"

Add source codes of your application into the directory you just created.

-i.e. the directory "prog1".

3. Add a Makefile

Add a makefile in the directory "prog*" for compiling your application's source code. If you do not know how to create such a Makefile, you can refer to the existing example Makefile. Name your application's binary file to be "prog*" by setting the variable, SELF_EXE , to be "prog*".

2) How to build applications (programs)

You need to update other two Makefiles, which are "bins.mk" under directory /opt/src/LinuxDA/pilot and "Makefile" under /opt/src/LinuxDA/pilot/romdisk to make system build your applications.

For updating the **bins.mk** in /opt/src/LinuxDA/pilot, there are two places need to be changed:

1. Add your application name following other ones in the line "bins=…". If the line is too long and swap to the other line, you MUST add the sign "\" in the end of the line.
2. Tell system where to find your applications by adding such lines in format

"pathprog* = prog*". This means that the binary file is under the directory "prog*.

For updating the **Makefile in /opt/src/LinuxDA/pilot/romdisk:**
1. Add "$(BUILD)/prog*" under the sentence "COMMANDS=….".Remember to add a sign "\" if you change into another line.
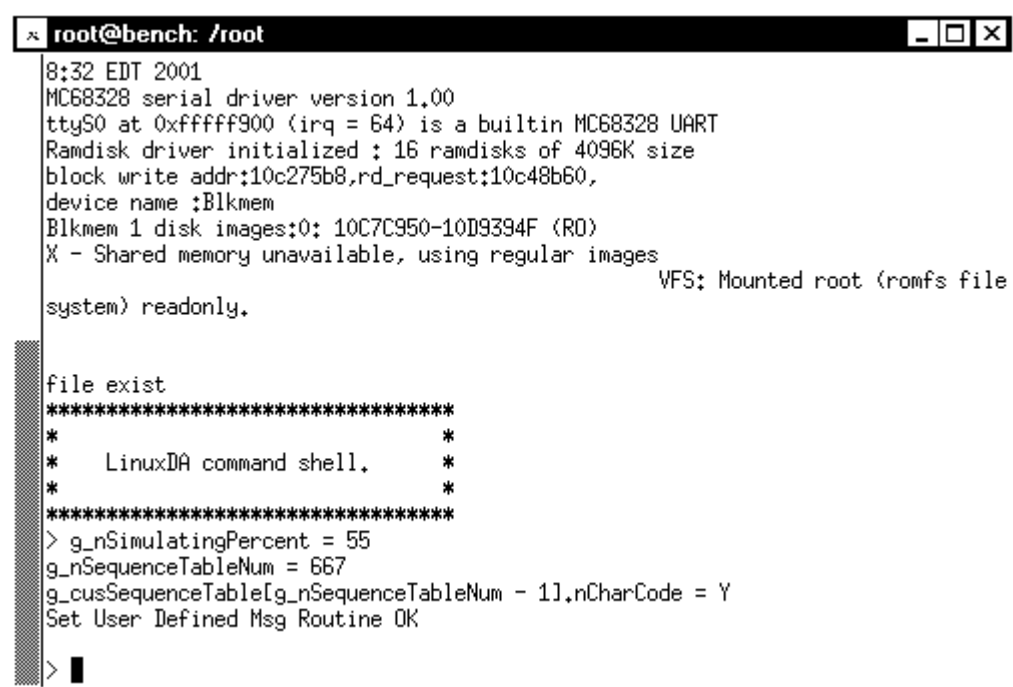
3) Generate the program file.
1. cd \opt\src\LinuxDA\pilot
2. make

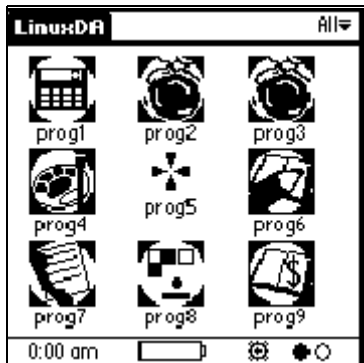**4) Run the program in Emulator**
1. start Emulator
   '*xcopilot –romfile /opt/src/LinuxDA/pilot/linux.rom* ' in X windows

2. run the program in debug window.

   'cd /xbin'
   './prog*'

```
root@bench: /root                                              _ □ ×
8:32 EDT 2001
MC68328 serial driver version 1.00
ttyS0 at 0xffffff900 (irq = 64) is a builtin MC68328 UART
Ramdisk driver initialized : 16 ramdisks of 4096K size
block write addr:10c275b8,rd_request:10c48b60,
device name :Blkmem
Blkmem 1 disk images:0: 10C7C950-10D9394F (RO)
X - Shared memory unavailable, using regular images
                                        VFS: Mounted root (romfs file
system) readonly.


file exist
*******************************
*                             *
*    LinuxDA command shell.    *
*                             *
*******************************
> g_nSimulatingPercent = 55
g_nSequenceTableNum = 667
g_cusSequenceTable[g_nSequenceTableNum - 1].nCharCode = Y
Set User Defined Msg Routine OK

> █
```

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5) Install new program into PDA

If you want to install the new program into PDA, please run DataSync to install it.