Simple User Guide for Smart Boot Manager 3.x

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This simple documentation briefly introduces the usage of Smart Boot Manager 3.x.

Contents

1 Introduction

This section is the brief introduction of Smart Boot Manager 3.x.

1.1 Copyright

1.2 What is Smart Boot Manager 3.x and what it's not?

Smart Boot Manager or briefly SmartBtmgr (SBM), is an OS independent Boot Manager - a program that is loaded by the bios before any operating system and allows you to choose which operating system to boot.

It's like OS/2 Boot Manager and many other similar programs, e.g. System Commander, Bootit, Bootstar, PQBoot etc.

But it's *NOT* an OS Loader; it's not a replacement for LILO or other OS Loaders. In other words, you must use LILO (or other similar programs) to boot Linux while using SmartBtmgr to give you an easy to use interface to Boot Multiple OSes.

1.3 The features of Smart Boot Manager 3.x

SmartBtmgr is intended to be easy to use, flexible and small. It has a nice windows-like user interface, online help and an easy-to-use command menu. It needs no configuration file or program. All actions can be done from within the program; for example, it can automatically search all drives and partitions when it first runs, or you can let it research them later. The name of each boot record can be modified in its interface. The installation program is only used after once, unless the program is damaged. It can be installed not only onto a hard disk but also to a floppy.

SmartBtmgr is small enough that it can be installed into the first track of a hard disk (the hidden sectors), no special partition is needed. It is absolutely OS independent, unlike System Commander, OS/2 BootManager and PQBoot. Linux is of course not required.

Although it is very small, it is very powerful. It has many other useful features, such as password protection, auto delay boot, direct boot (same as the "single-shot autoboot" of Choose-OS), multi-language user interface, boot schedule, preload keystrokes, swap drive id, etc.

The style and language of its interface is easily customized. The interface datafile is independent from the program, so it can be changed, and the program does not need to be recompiled. There are two interface datafiles supplied with this version, one is Chinese and another is English.

Summarize:

The Main Features of Smart Boot Manager are:

- Very Small Size The size of Smart Boot Manager is small enough that it can be installed into the first track of a hard disk(the hidden track).
- Absolutely OS Independent Smart Boot Manager does *NOT* need any partitions, and it has online installation and uninstallation functions, so it's absolutely OS independent.
- Easy to Use Smart Boot Manager has a window like interface, online help and easy-to-use command menu, it does *NOT* need any configuration file.
- Smart Search Drives and Partitions Smart Boot Manager can automatically search out all of the floppy/hard drives and partitions that could be booted.
- Powerful Password Protection Two types of password and three security modes can give you very flexible security configuration.
- Auto Delay Boot Boot particular drive or partition automatically if none of keys are pressed within a certain number of seconds.

- Boot Schedule Boot different drive or partition automatically at different times of a day and/or different days.
- Booting from CD-ROM Smart BootManager supports booting from all kinds of IDE ATAPI CD-ROM, including PCMCIA CD-ROM.
- Preload Keystrokes Send some keystrokes to the Operating System being booted.
- Swap drive id Can boot DOS/Windows, 9x/Windows, NT and some other OSes from the primary partition on *ANY* hard disk, not only the first HD.
- Easily Customized Theme file Anyone can customize the theme file easily, almost all of the screen elements can be changed, including the colors, strings etc.

There are many other features not listed out, see following documentation for details.

2 How to compile and customize Smart Boot Manager 3.x?

This section introduces the method of compiling and customizing Smart Boot Manager 3.x.

2.1 How to compile Smart Boot Manager 3.x?

2.1.1 What software is needed to compile SmartBtmgr?

For Linux users, you need *gcc*, *make* and *nasm* (Netwide Assembler, URL: *http://www.web-sites.co.uk/nasm/* `<http://www.web-sites.co.uk/nasm/>`). For DOS users, you must have *DJGPP* (a DOS porting of GCC, URL: *http://www.delorie.com/djgpp/* `<http://www.delorie.com/djgpp/>`), and *nasm*.

You also must have UCL compression library (URL: *http://wildsau.idv.uni-linz.ac.at/mfx/ucl.html* `<http://wildsau.idv.uni-linz.ac.at/mfx/ucl.html>`) to compile Smart BootManager.

2.1.2 How to compile it?

Edit the Makefile, change the line that including `'TARGET_OS=xxx'`. If you are using Linux, change the line to `TARGET_OS=linux`, if you are using DOS, change it to `TARGET_OS=dos`.

Then just type *make* to compile it.

the executable file is placed in release/ directory.

type *make install* to install it. For linux, the default binary installation dir is /usr/sbin/, themes will be stored into /usr/share/btmgr/ and documentation is placed in /usr/share/doc/btmgr/ if you want to change them, edit the Makefile.

2.2 How to customize and install the theme file?

You can start your own theme file from one of the two standard theme files provided with the program. These are placed in manager/themes/ dir.

In order to change it, please refer to the comments in the theme file.

You must have *nasm* to compile the theme file. The compile method is very simple, for example, assume that the new theme file is mytheme.asm, the following command will generate a binary version of mytheme.asm:

```
% nasm -fbin -o mytheme.bin mytheme.asm
```

If you want to compile the theme file with a non-standard keyboard map, use the command:

```
% nasm -DKEYMAP_XXX -fbin -o mytheme.bin mytheme.asm
```

Where KEYMAP_XXX can be one of the following four symbols:

```
KEYMAP_AZERTY          (AZERTY Keyboard)
KEYMAP_QWERTZ          (QWERTZ Keyboard)
KEYMAP_DVORAK          (Dvorak Keyboard)
KEYMAP_DVORAK_ANSI     (ANSI Dvorak Keyboard)
```

Be sure that the keymap files (azerty.kbd ...) are in the current directory.

Now you can use installation program to install Smart Boot Manager with the new theme(see section 3 ()):

for linux:

```
% sbminst -t mytheme.bin -d /dev/hda
```

or for dos:

```
> sbminst -t mytheme.bin -d 128
```

3 How to install Smart Boot Manager 3.x?

3.1 The usage of installation program.

Now there is an installation program for Linux and DOS. The installation programs are placed in the installer/ dir. There is only one source file for DOS and Linux, and the usage is very similar:

The usage of installation program is:

```
sbminst [-t theme] [-d drv] [-b backup_file] [-u backup_file]

-t theme     select the theme to be used, in which the theme could be:
                us = English theme       de = German theme
                hu = Hungarian theme     zh = Chinese theme
                ru = Russian theme       cz = Czech theme
                es = Spanish theme       fr = French theme
                pt = Portuguese theme

                or a filename of user customized theme.

-d drv       set the drive that you want to install Smart BootManager on;
```

```
                 for Linux:
                    /dev/fd0 is the first floppy driver,
                    /dev/hda is the first IDE harddisk driver.
                    /dev/sda is the first SCSI harddisk driver.
                 for DOS:
                    0   is the first floppy drive
                    128 is the first hard drive;

-c               disable CD-ROM booting feature;

-b backup_file backup the data that will be overwrited for
                 future uninstallation;

-u backup_file uninstall Smart BootManager, should be used alone;

-y               do not ask any question or warning.
```

for example, use command *'sbminst -t zh -d /dev/hda -b sbm-bak.dat'* under linux to install a Chinese version to the first hard disk and backup the original data to file sbm-bak.dat.

Use command *'sbminst -u sbm-bak.dat'* to uninstall it.

3.2 Installation notes for specific OSes.

3.2.1 Notes for Linux

If you want to boot linux with Smart BootManager, you must install LILO into the Superblock of your linux partition, instead of into MBR!

Edit /etc/lilo.conf file, change the line that include "boot=/dev/hda" to "boot=/dev/hda?", /dev/hda? is the partition where your linux kernel placed. Then run /sbin/lilo.

3.2.2 Notes for Windows NT, Windows 2000, FreeBSD, OS/2 and Solaris

You should install these OSes into a primary partition of the first hard disk. Although the second (and later) hard disk and logical partitions may also be supported by SmartBtmgr (by using 'Swap drive ID' feature) I don't suggest doing so.

You should turn on the Auto Active flag of these partitions. If not, errors might occur while booting the OS.

If you installed these OSes into the second or later hard disk, you also should turn on the Swap drive ID flag (CTRL+X).

3.2.3 Notes for DOS, Windows 9X

You should install these OSes into a primary partition of the first hard disk. Although it is possible to install DOS and Windows 9X into a logical partition or the second (or later) hard disk, it is not recommended. See section 4.5 () for more information.

4 How to use Smart Boot Manager 3.x?

This section briefly introduces the usage of Smart Boot Manager 3.x.

4.1 How to run it?

After installation, please reboot the computer. If it was installed onto a floppy disk, please insert the disk into the floppy drive and boot from this disk. The main interface of this program will appeared if everything is correct. Press F1 for online help.

4.2 The Smart Boot Manager 3.x interface

There is a Boot Menu at the center of the screen containing a list of all partitions and floppy drives found by SmartBtmgr. I call each partition (or floppy drive) a "Boot Record", for example:

```
     Flags    Number  Type     Name
---------------------------------------------
  ---------D  FD0  0  NONE     Floppy
  ---------D  HD0  0  NONE     Harddisk
  ---------D  HD1  0  NONE     Harddisk
  ---------D  CD0  0  NONE     CD-ROM
* ----aAh---  HD1  1  FAT32    Primary 1
  p-k----Hl-  HD1  5  FAT32    Logical 5
  -S---A----  HD1  1  Linux    Primary 1
  ---X-A----  HD1  2  FAT32    Primary 2
```

The first record in above sample is a floppy drive (A:). The second and third records are the two hard disks (the MBRs). The next is a IDE CD-ROM. The next record is the first primary partition in the first hard disk, and so on.

The meaning of each column in Boot Menu is:

```
Flags   : Attribute flags of each boot record,
          the meaning of each flag is:

          * : indicates that it's the default boot record.
              When the auto boot delay time is up, or the
              ESC key is pressed, this boot record will be
              automatically booted.

          p : indicates that it has password protection.
              Press F9 to change the password of the boot
              record. This password is noneffective unless
              the root password is set. Press F10 to set the
              root password. (The root password here has
              nothing to do with the root password in Linux!)

          S : indicates that this boot record was added to
              the schedule table, if the current time falls
```

```
                   into this record's schedule, SmartBtmgr will
                   set it as default boot record. Press Ctrl-S to
                   set/unset the schedule of current record.

               k : indicates that this boot record has some
                   keystrokes to be preloaded into the keyboard
                   buffer before booting it. Press Ctrl-K to
                   set/unset it.

               X : indicates that the swap drive id flag is set.
                   While booting this record, its drive will
                   be swapped with the bootable drive of the same
                   type. For example, if this flag is set for a
                   partition in the second hard disk (drv id=129),
                   the drive with id 128 (0x80) and 129 (0x81) will
                   be swapped while booting this partition.
                   This feature is very useful if you want to boot
                   DOS/Windows 9X/NT from the second or later hard disk.
                   Press Ctrl+X to toggle this flag.

               a : indicates that this boot record will be
                   automatically marked as active when booting it.
                   Usually, the primary partition that installed
                   DOS/Windows 9x/Windows NT should set this flag.
                   Press F6 to toggle this flag.

               A : indicates that this primary partition  was
                   marked as active. Press F4 to mark it.

               h : indicates that this boot record will be
                   automatically hidden when booting other records.
                   This flag only affects the FAT and NTFS partitions.
                   Press F7 to toggle this flag.

               H : indicates that this partition was already hidden.
                   Press F5 to hide/unhide a partition.

               l : indicates that this boot record is a logical
                   partition.

               D : indicates that this boot record is a disk drive,
                   it can be a floppy drive or hard disk (MBR) in the
                   current version.

    Number   : The Drive No. and Partition No. of this boot record.
               The left column is Drive No., the right one is
               Partition No. For a floppy drive, the Drive No.
               is FD0 or FD1 (A: or B:), the Partition No. is always 0.
               For partitions, the Drive No. of the first hard disk
               is HD0, the Partition No. is same as the Linux convention.
               The CD-ROM Drive Number starts from CD0.
```

```
Type    : The partition type. For a disk drive, it's always NONE.

Name    : The name of the boot record. Press F3 to change it.
```

The global flags and information of Smart Boot Manager are displayed at the right bottom corner of the screen, it looks like:

```
|HD0|PSALE| 28: 30
```

The first area (HD0) is the BIOS ID of the current boot drive, the second area (PSALE) are the global flags, which mean:

```
P  :  Administrator password is available.
S  :  Smart Boot Manager is in Security Lock Mode.
A  :  Smart Boot Manager is in Administration mode.
L  :  "Remember the last boot record" feature is turned on.
E  :  Extended Int 13H is turned on.
```

The third area (28: 30) is the delay time counter.

4.3 The hot keys

SmartBtmgr has following hot keys:

```
      F1    Show Help window
 Ctrl+F1    Show About window
      F2    Save changes
      F3    Rename the boot record
      F4    Mark the primary partition active
      F5    Hide/unhide the partition
      F6    Toggle auto active (only for primary partitions)
      F7    Toggle auto hide (only for partitions)
      F8    Set default boot record
Shift+F8    Unset default boot record
      F9    Change boot record password
     F10    Change root password
Ctrl+F10    Enter/leave the administrator mode
 Alt+F10    Enter/leave the Security Lock mode

  Ctrl+D    Delete the boot record
  Ctrl+T    Set delay time (seconds)
  Ctrl+I    Rescan all boot records
  Ctrl+H    Rescan all partitions

  Ctrl+P    Duplicate the boot record
  Ctrl+U    Move the boot record up
  Ctrl+N    Move the boot record down
```

```
     Ctrl+S    Set / unset the record's boot schedule
     Ctrl+K    Set / unset the preload keystrokes

     Ctrl+X    Toggle swap drive id flag

     Ctrl+F    Change the style of Boot Menu

     Ctrl+L    Toggle "Remember the last booted record"
               (If this feature is turned on, there will
                be a Red 'L' at right bottom of the screen.)

     Ctrl+Q    Exit to BIOS

    Up,Down    Move the focus bar
     / or ?    Show information box
      Enter    Boot it

   Keypad +    Change Video mode, available video modes are
               80x25 and 90x25.

       Home
     Delete    Move the Boot Menu Window.
        End
   PageDown

   Ctrl+F12    Power Off.

   Tab(Alt)    Open / Close the command menu.
      Alt-S    Open / Close the System Settings Menu.
      Alt-R    Open / Close the Record Settings Menu.
```

When the command menu is opened, following hot keys can be used:

```
    Up,Down    Move the command menu's focus bar.
      Enter    Execute the focused command.

    Ctrl+Up    Move the boot menu's focus bar.
  Ctrl+Down

       Home
     Delete    Move the command menu.
        End
   PageDown

  Ctrl+Home
   Ctrl+Del    Move the Boot Menu Window.
   Ctrl+End
  Ctrl+PgDn
```

4.4 Command menus

Use Tab key to open or close the command menu, there are three command menus available: Main Menu, Record Settings Menu and System Settings Menu.

4.4.1 Main Menu

```
Help               Open the Help window
About              Open the About window
Save Changes       Save the changes
Boot it            Boot the focused boot record
Boot Previous MBR  Boot the original MBR (before Smart Btmgr was installed)

Record Settings    Open the Record Settings Menu
System Settings    Open the System Settings Menu

Quit               Quit to BIOS (Try to boot the next bootable device)
Power Off          Turn the computer off (Needs Mother Board with APM)
```

4.4.2 Record Settings Menu

```
Information         Show the boot record's information
Name                Change the boot record's name
Password            Change the boot record's password
Schedule            Set/unset the Schedule time
Keystrokes          Set/unset the Keystrokes

Mark Active         Mark the boot record as active
Hide/unhide         Hide/unhide the boot record
Auto Active         Set/unset the Auto Active flag
Auto Hide           Set/unset the Auto Hide flag
Swap Drive ID       Set/unset the Swap Drive ID flag

Delete              Delete the boot record
Duplicate           Duplicate the boot record
Move Up             move the boot record up
Move Down           move the boot record down
```

4.4.3 System Settings Menu

```
Root Password              Set the Root(Administrator) Password
Toggle Admin Mode          Enter/Leave the administration mode
Toggle Security Mode       Enter/Leave the security mode

Set Default Record         Set focused boot record as the default record
Unset Default Record       Unset default boot record
Set Delay Time             Set the delay time
Change Boot Menu Style     Change the style of Boot Menu
                           (Hide Flags, Number, Type from Boot Menu).
```

```
Toggle Remember Last         Toggle "Remember the last boot record". There is a
                             Red 'L' at the bottom of the screen to indicate
                             this switch.

Toggle Extended Int13H       Turn on/off BIOS Extended Int13H.

Rescan All Boot Records      Rescan all boot records and rebuild the boot menu
Rescan All Partitions        Rescan all partitions and rebuild the boot menu
Set CD-ROM I/O Ports         Set the I/O ports of IDE CD-ROM by hand.
Set year (fix Y2K BIOS bug)  Set the correct year for old buggy BIOS.

Install Smart BootManager    Install Smart BootManager onto a selected drive
Uninstall Smart BootManager  Uninstall current Smart BootManager
```

4.5 Advanced usage

4.5.1 Password protection

The password scheme of SmartBtmgr is very flexible. One root password can be set for administrator. Different access passwords can be assigned to each boot record to restrict access to this record.

If the root password was set, there will be a 'P' character displayed at the right bottom of the screen.

There are three security modes available:

- Normal mode

  In this mode, following operations need the Boot Record Password:

  - Change Name
  - Change the Boot Record Password
  - Toggle the Auto Active flag
  - Toggle the Auto Hide flag
  - Toggle the Swap drive ID flag
  - Active the Boot Record
  - Hide / unhide the Boot Record
  - Boot the Record

  All other operations except "Save Changes" need the Root Password.

- Security Lock mode

  In this mode, all operations except "Boot the Record" need the Root Password. The Boot Record Password is needed to boot the record. This mode is the most secure mode, you should switch SmartBtmgr into this mode after you finish configuring it. When SmartBtmgr is in this mode, there will be a 'S' char displayed at the right bottom of the screen.

  Use Alt-F10 key to Enter or Leave this mode.

- Administrator mode

  In this mode, all operations do not need any password! This mode is only used to configure SmartBtmgr! When SmartBtmgr is in this mode, there will be a 'A' char displayed at the right bottom of the screen.

  Use Ctrl-F10 key to Enter or Leave this mode.

4.5.2 Delay time

If no key is pressed within the delay time, the default boot record will be booted automatically.

If the delay time is set to zero, the user interface will not be displayed and the default boot record will be booted automatically. Hold the Ctrl key while rebooting the computer to enter the user interface of SmartBtmgr again.

If the delay time is set to 255, there is no time limit to boot the default boot record.

4.5.3 Boot Schedule

A boot record can be assigned a scheduled time/days range. When booting the computer each time, if the current time falls within the scheduled time range of a boot record, Smart Btmgr will set this boot record as the default record.

If the delay time was set to zero, this boot record will be booted automatically.

Use Ctrl-S key to set or unset a boot record's scheduled time range.

The minimal unit of a scheduled time range is a minute, and the format must be:

```
hh:mm-hh:mm;days
```

The first hh:mm is the beginning time, the second hh:mm is the ending time. It uses 24 hour format. The days field is a set of number rangeing from 0 to 6, each number indicates a day (0-6, indicate Sunday-Saturday). If the days field is missing, all of the days will be selected. For example, if a boot record will be used between 8:00 am to 2:30 pm every Monday to Friday, the time range must be entered as:

```
08:00-14:30;12345
```

4.5.4 Preload Keystrokes

Smart Btmgr can store some keystrokes into keyboard buffer before booting an OS. This feature may be used to control the boot configuration of the OS. For example, storing the Alt-F5 key combination into the keyboard buffer before booting Windows 9x, will have it go into command prompt mode directly.

Using this feature together with the Ctrl-P (Duplicate Boot Record) hot key , you can create multiple boot records for an OS, each boot record boots the OS into a special environment.

For example, you can create three boot records for your Windows 9x System, one is the normal boot record, another one is a safe mode boot record and the last one is the command prompt mode.

Use Ctrl-K key to set or disable this feature of a boot record.

While setting the keystrokes of a boot record, there will be an information box at the center of the screen, which indicates the key code of the last pressed key and how many keys been pressed. Smart Btmgr can only store a maximum of 13 keys for each boot record. Press <Scroll Lock> keys to finish the input.

Note: By default LILO will discard all keys in keyboard buffer when it starts. So this feature might not work on your LILO. You should recompile LILO to enable this feature:

* First edit the Makefile, add "-DNODRAIN" at the end of the line "CONFIG = ...":

```
CONFIG = .... -DNODRAIN
```

* Second recompile and install LILO:

```
$ make; make install
$ lilo
```

You must be root to do this!

4.5.5 Swap drive ID

If you want to boot DOS, Windows 9x/NT/2000 or some other OS from the second or later hard disk, you will find that this feature is very useful.

If you turn on this flag for a partition on the second or later hard disk, this drive will be swapped with the bootable drive (ID = 0x80) while booting this partition. Then the OS will run as if it is on the first hard disk.

4.5.6 Online installation and uninstallation

If you want to install Smart Boot Manager from the user interface, first select a disk drive's boot record, then use the command "Install Smart BootManager" (in System Settings Menu). A dialog will appear to let you confirm, press Y to continue the installation.

You can only install Smart BootManager onto a disk drive, installation into a partition is not allowed.

If you want to uninstall current Smart Boot Manager, just use command "Uninstall Smart BootManager" (in System Settings Menu). But, be careful, this uninstallation command can only restore the MBR area, any other hidden sectors occupied by Smart BootManager will not be restored.

4.5.7 Boot from CD-ROM

Smart BootManager supports booting from almost all kinds of IDE ATAPI CD-ROM, including PCMCIA CD-ROM. But some special IDE controllers may have different I/O ports, which prevent Smart BootManager from finding the CD-ROM. In this case, you can set the I/O ports by hand. Run the command "Set CD-ROM I/O Ports" (in System Settings Menu). An input box will appear to let you input the I/O ports. Each IDE controller has two I/O ports, e.g. 0x1F0,0x3F6 (the master IDE controller). Input those I/O ports exactly in the following format:

```
1F0,3F6                  (Uppercase hex numbers with a comma in the middle)
```

After entering the I/O ports, you must use the command "Rescan All Drives" (Ctrl-I) to find the CD-ROM.

When you boot a CD disc with multiple boot images, there will be a menu to let you choose an image to boot.

4.5.8 How to install DOS, Windows 9x into a logical FAT partition?

SmartBtmgr allows you to boot DOS/Windows 9X from a logical FAT partition. But the setup program of DOS/Windows 9X is too poor to install it into a logical FAT partition.

I have no any idea of how you install DOS/Windows 9X into a logical FAT partition directly, but you can transfer a working copy of DOS/Windows 9X from a primary FAT partition to a logical one, by using some other utility such as Norton Ghost.

In order to boot a DOS/Windows 9X that is installed in a logical FAT partition, you must hide all FAT partitions before it.

You can toggle on the Auto Hide switch of each FAT partition, if you tired of hiding partitions every time.

If this partition is on the second or later hard disk, the Swap drive ID flag might be turned on as well.

4.5.9 How to install DOS, Windows 9x/NT/2000 into the second (or later) HD?

One of common methods of installing DOS/Windows 9x into the second (or later) HD is to unplug all other HDs that are before this hard disk OSes, plug all the HDs back in, then you can use Smart BootManager to boot the OSes on the second or later HD by turning on the Swap drive ID flag of the partition.

5 Compatibility

5.1 Hardware compatibility

Smart BootManager supports the Intel i386 platform only. Extended Int 13h (LBA standard) for Large disk (over 8G) is supported. Old CHS standard is supported as well.

5.2 Known bugs of Smart Boot Manager 3.0

There are following known bugs available in current version:

- I found that there are some kind of mother boards that have buggy BIOS's, which can cause Smart Boot Manager to fail to find all of the drives and partitions.

5.3 Compatible OSes

The following OSes are tested to be able to boot via Smart BootManager:

- GNU/Linux x86
- FreeBSD

- BeOS
- OS/2
- QNX
- Solaris x86 (only Solaris 8 was tested)
- Novell Netware
- Microsoft DOS, Windows 9x, Windows NT and Windows 2000

Other Operating Systems should be supported as well, but I have not had a chance to test them. If you can test them, please let me know the results.

6 TODO list

The following features are sorted by priority:

I. Features should be added to this major version:

- More Documentation. Because of my poor English, the documents are far from complete. I wish someone could help me write some documentation.
- Flexible and smart installation programs for multiple OSes, such as Windows 9X, Linux, FreeBSD and DOS.
- Makefiles and/or automake/autoconf scripts for multiple OSes. I have not learned to write a Makefile. I hope someone could help me.
- Utilities for multiple OSes that realize the "Direct Boot" feature in SmartBtmgr.
- Bug fixes and optimization.
- More themes for different languages and looks.

II. Features for later versions:

- Online installation and uninstallation. (DONE)
- More powerful weekly boot schedule. (DONE)
- Support for non-standard keyboards (azerty, dvorak etc.). (DONE)
- Easy-to-use Command Menu. (DONE)
- Swap drive ID. (DONE)
- Preload keystrokes (Send keystrokes to OS). (DONE)
- Boot Schedule (Auto boot different OS at different time). (DONE)
- Support Booting from CD-ROM. (DONE)

- Use compression technology to reduce program size. (DONE)
- Filesystem driver (ext2, FAT, etc.).
- Linux kernel loader.
- Build-in fdisk utility.

If you have any new ideas and suggestions please let me know, or help me implementing them.

7 Contacting the author

If you have any great ideas or suggestions, don't hesitate to tell me! If you made some improvement for this program or some wonderful themes, send them along, and I will add them to the next release version.

My address is: *su_zhe@sina.com* `<mailto:su_zhe@sina.com>` Alternative : *suzhe@gnuchina.org* `<mailto:suzhe@gnuchina.org>`

See section 9 () for other authors' address.

8 Thanks

I would like to thank everyone that helped and supported me to develop this program. Special thanks to:

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