

CS296 Project – Third Stage Report

Group Members:

Sanchit Kr. Garg - 03D05005

Prekshu Ajmera - 03D05006

Vipul Shingde - 03D05013

[Stage1 Report](#)

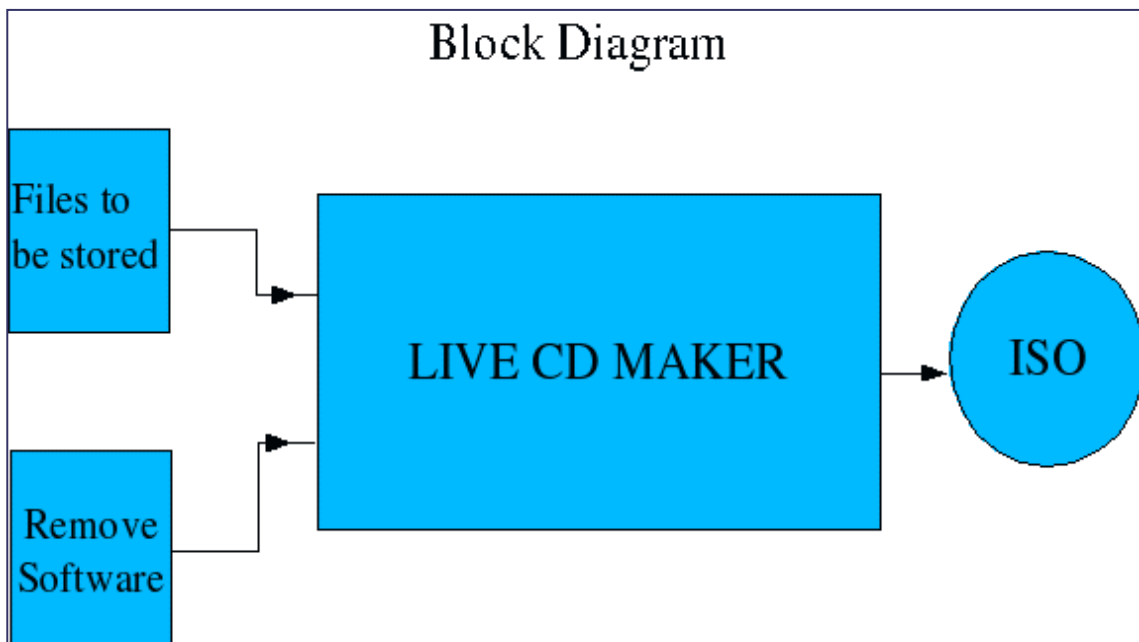
[Stage2 Report](#)

The Iso Maker

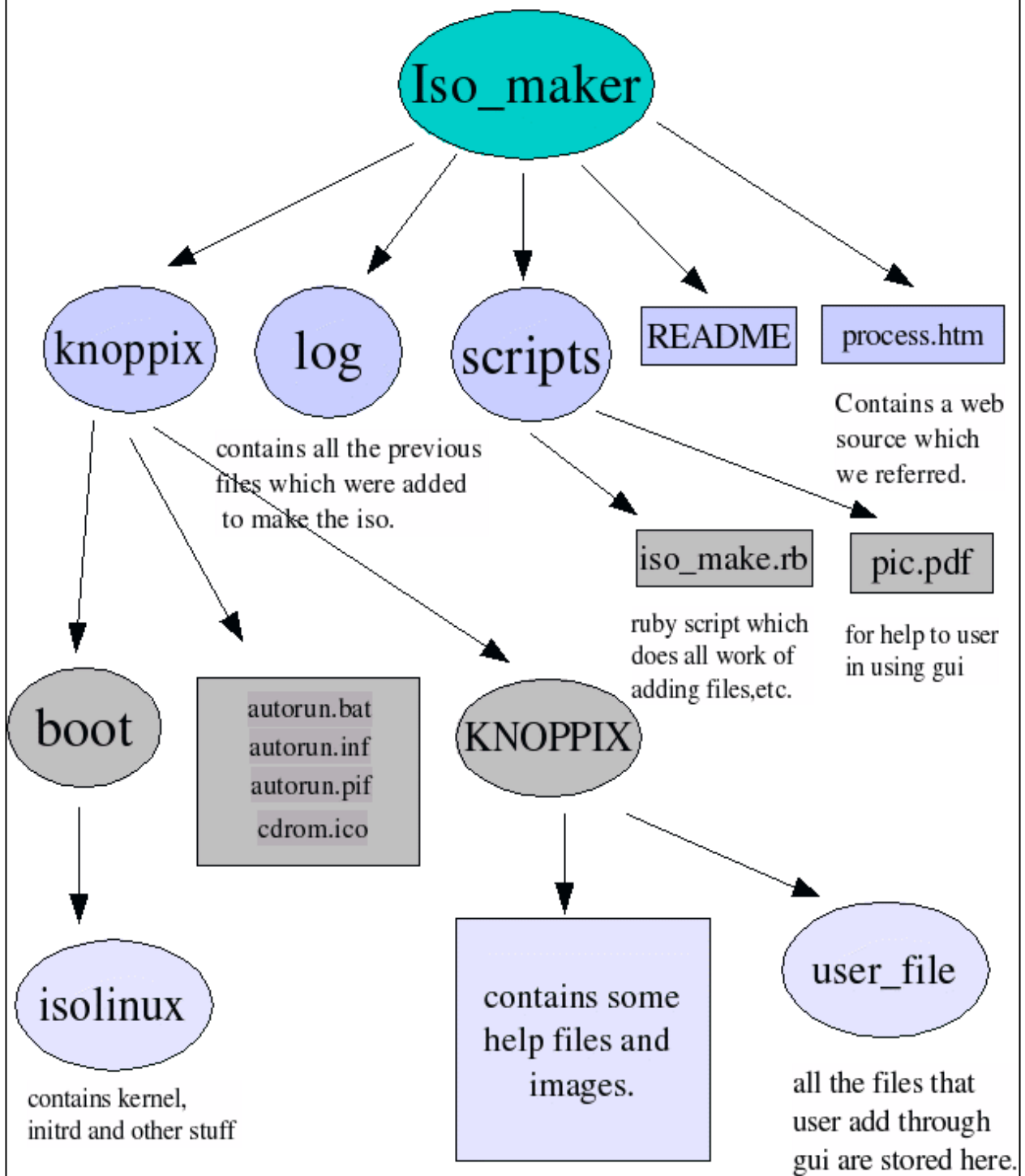
OBJECTIVE

The software produces an iso file with the name knoppix.iso which after burning on a CD produces a live CD which can play videos and songs and can open xpdf and some other files on a RAM as low as 45MB.

Block Diagram



Structure of software “The Iso Maker”

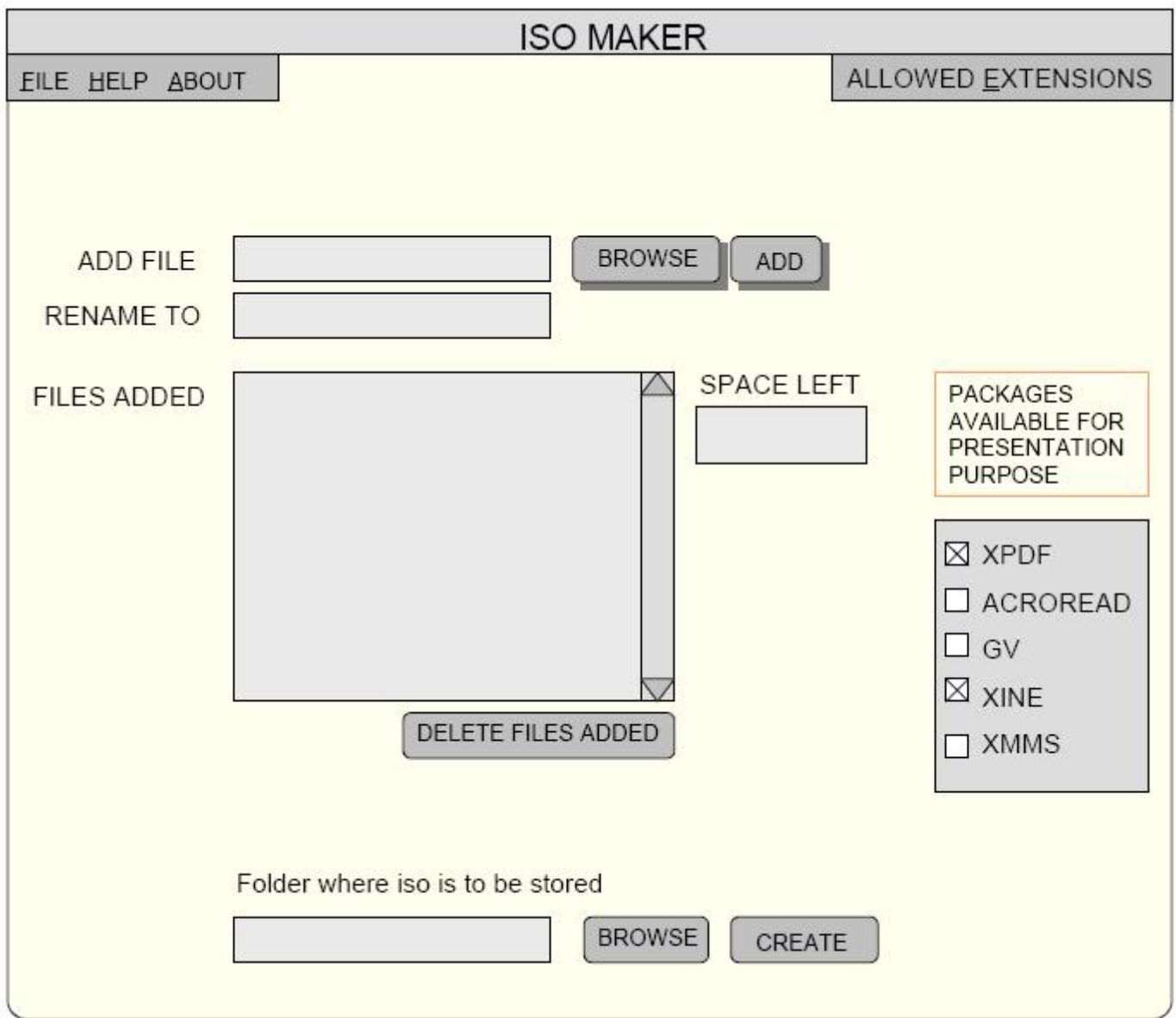


How it works:

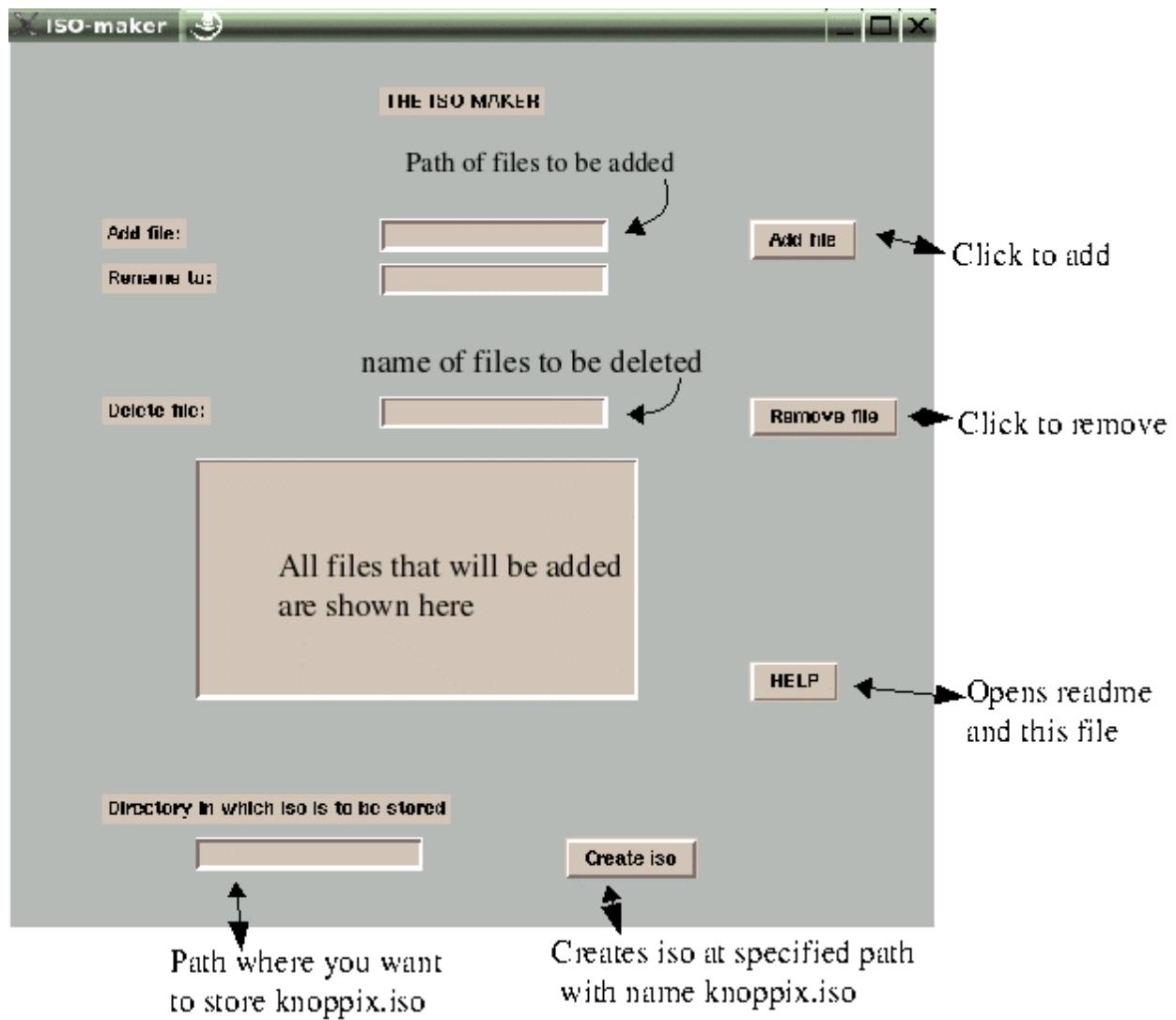
As can be seen on previous page the software has two major subdirs. One is knoppix which contains the boot dir, which has kernel (linux26), initrd (minirt26.gz) and other boot helping files. It also contains KNOPPIX (dir.) which has KNOOPIX which after boot uncompresses to filesystem. It also contains user_file which is initially empty but later all the files that user add are copied here.

The other major subdir is scripts. It has a ruby file iso_make.rb which has to be run by user as specified in README. When this file is run it produces a GUI which asks user to do some tasks, like adding files and then giving path where he/she wants to store the final iso file with the name knoppix.iso. This GUI is given on next page.

Aimed to Implement:



Actual Implementation:



Procedure for remastering of knoppix:

Remastering Knoppix

Prerequisites:

- 1GB ext2 partition
- 5GB partition
- PC with linux distribution
- Knoppix CD(>3.4)

Boot from CD

- Mount 5GB partition in say /dir1
- `cp -pR /KNOPPIX/* /dir1/KNOPPIX_original/`
- `cp -pR /KNOPPIX/* /dir1/KNOPPIX_remastered/`

Boot in linux(root login)

- Mount 5GB partition in /cd_knoppix
- Mount 1GB partition in /knoppix
- Mount CD and copy all its contents to /knoppix/
- `chroot /cd_knoppix/KNOPPIX_remastered`

Installing & Removing Softwares:

- To use internet: `mount -t proc /proc proc`
 - To list installed packages by size:
`dpkg-query -W --showformat='${Installed-Size} ${Package}\n' | sort -n`
 - Remove Software: `apt-get remove`
 - Install Software: `apt-get install`
- Ref:2

Logout

Make compressed image of your modified knoppix:

- In case your ram is < 1GB create a swap space

< 1GB

Make swap

- pwd:Directory in which you want to make 1GB swap
- `dd if=/dev/zero of=swapfile bs=1024 count=1000000`
 - `/sbin/mkswap ./swapfile`
 - `/sbin/swapon ./swapfile`

>=1GB

- Your pwd: `/cd_knoppix/KNOPPIX_remastered`
- `mkisofs -R -U -V "KNOPPIX" -publisher "username"-hide-rr-moved -cache-inodes -no-bak -pad ./ | nice -n 5 ./usr/bin/create_compressed_fs - 65536 > /knoppix/KNOPPIX/KNOPPIX`

Ref:1

Testing your distribution from hard disk:

- Make your 1GB(say hda7) partition bootable by making its entry in your bootloader.

- eg:

Ref:2

In case of Grub,add the following to your /boot/grub/menu.lst

```
title PMKnoppix_26
```

```
kernel (hda,6)/boot/isolinux/linux26 ramdisk_size=100000
```

```
init=/etc/init root=/dev/hda7
```

```
initrd (hda,6)/boot/isolinux/minirt26.gz
```

- Now reboot your PC and boot in PMKnoppix_26.



Create ISO

- When you are done with modifying knoppix,create an iso file to burn on the CD.

- Boot into linux distribution and give following command:

```
mkisofs -pad -l -r -J -v -V "KNOPPIX" -no-emul-boot -boot-load-size 4
```

```
-boot-info-table -b boot/isolinux/isolinux.bin -c boot/isolinux/boot.cat
```

```
-hide-rr-moved -o /dir2/knoppix.iso /knoppix/
```

NOTE : dir2 is the Folder in which ISO file is to be stored.

- Burn this ISO file on your CD.

References

1. <http://www.linuxdevcenter.com/pub/a/linux/2003/11/20/knoppix.html>
2. <http://www.tina-vision.net/tina-knoppix/remastering.html>
3. <http://www.knoppix.net/forum>
4. http://www.ekr-home.de/howto/knoppix_script.shtml
5. <http://www.babytux.org>

Further Possible Implementations

- 1) Unwanted packages to be removed.
- 2) The GUI should show available space to upload the files.