

Research Report on NepaLinux 1.1

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Abstract

This paper documents the updates on the various research and development activities carried out for the NepaLinux 1.1 version. This involves the GNOME Desktop Environment, OpenOffice.Org Suite, Gnu Cash Accounting Software, Mozilla and Mozilla Fire Fox, Translation and Verification, major and minor bug fixes etc.

1. Introduction

NepaLinux 1.1 is a relatively bug free and almost completely localized upgraded version of the old release NepaLinux 1.0. The bugs refer to incorrect and uncontextual translation as well as spelling errors, hardware level incompatibility and the software level problems being faced in NepaLinux 1.0. In this sense, NepaLinux 1.1 does not differ much with the previous version 1.0. However, the new version has an upgraded kernel 2.6.17 and thus has better hardware support. In addition to this, the software packages included in the distribution are also upgraded versions.

2. Upgrades and new features in NepaLinux 1.1

The development of NepaLinux 1.1 involved a number of upgrades. Below, we present a brief overview of the upgrades made.

2.1. GNOME upgrade

The GNOME Desktop environment in NepaLinux 1.1 has been upgraded to 2.14 as opposed to 2.10 used in the previous version of the distribution. In this regard, the GNOME 2.14 core files were taken from the etch repository. Upgrading the GNOME Desktop environment entailed several unanticipated challenges as the software packages being included in the distribution had to be built up considering the library compatibility with GNOME 2.14. This resulted into forced upgrade for almost all of the components of NepaLinux 1.1, for instance, SCIM, Openoffice,

Seamonkey etc. The background images, splash screens and icons also have undergone changes in the new version. The icons, however, still have reddish touch thus keeping the NepaLinux theme intact. The Xfree86 server has been replaced by the Xorg server in the new distribution. Few customizations have been done in the main module to suite the main module to the Xorg server. This server supports most modern graphics hardware from most vendors and supersedes all Xfree86 X servers. The main x-server configuration file also shifts from `/etc/X11/XF86Config-4` to `/etc/X11/xorg.conf`. Similarly, Gconf also had to be tweaked to bring a better look of the Nepali GNOME desktop.

2.2. Sea Monkey and Indic rendering

Attempts are being made to bundle NepaLinux with the latest possible version of software. However, this had not been possible for quite a while as far as Mozilla suite was concerned owing to the reason that Indic rendering is not enabled by default in Mozilla Suite, SeaMonkey, FireFox and Thunderbird. Indic rendering enablement would require manually building these applications with the required patch. Unfortunately, such a patch was only available for the Mozilla Suite 1.7 version. Under the follow-up and initiative of the Mozilla Development Team of NepaLinux in co-operation with OpenSource International Community Developers, a patch was created. Since the Mozilla Community has officially handed over its development to the SeaMonkey Community starting from Mozilla Suite 1.7 major versions, SeaMonkey 1.0.2 with Indic rendering support has been bundled in NepaLinux 1.1 in lieu of the Mozilla Suite in NepaLinux 1.0. The Indic rendering capability is enabled in SeaMonkey 1.0.2 by `-enable-pango` option. Most of the translation work for SeaMonkey was however, reused from the translations of the old Mozilla Suite 1.7.

2.3.FireFox

FireFox 1.0.7 from NepaLinux 1.0 has been replaced by pango enabled FireFox 1.5 in NepaLinux 1.1. This has solved the rendering problem existing for complex text script and Devanagari in particular.

2.4.Thunderbird

Thunderbird 1.0.7 from NepaLinux 1.0 has been replaced by pango enabled Thunderbird 1.5.0.4 in NepaLinux 1.1. Patching has been done in the latter to make it compatible with GNOME 2.14.This has solved the rendering problem existing for complex text script and Devanagari in particular.

2.5.Input System

2.5.1. XKB

With the upgrade of GNOME from 2.10 to 2.14, xkb configuration file got changed from `/usr/X11R6/lib/X11/xkb/rules/xfree86.xml` to `/usr/share/X11/xkb/rules/base.xml` and the location of the character mapping file has been changed to `/usr/share/X11/xkb/symbols/`. Besides, some corrections are made in character mapping file which were previously mismatched in NepaLinux 1.0.

2.5.2. SCIM

New version of scim used is 1.4.4-2 and the updated scim table is `scim-tables-ne 0.5.6-1`. This updated scim table includes the corresponding amendments as in the new xkb mapping file. A patch is made and submitted to reflect the changes made in the scim-table to the cvs main-stream.

2.6. Openoffice.Org

OpenOffice.org 2.0.2 is the bugfix version of OpenOffice.org 2.0.0 and 2.0.1. So in the NepaLinux 1.1 version, the latest version of OpenOffice.org at the time has been built with all the bugfixes from the previous releases. Also worth mentioning here is the fact that all the patches submitted to OpenOffice.org upstream from the development team of NepaLinux have been included in its source code.

With the GNOME version also going up from 2.10 to 2.14 in NepaLinux 1.1, the build environment had to be adjusted accordingly with some new packages required for the localized build.

2.6.1. Translation updates

With the increment of the version, the translation work load also increased for the translation team by about 15,000 strings. Not only the extra translation work, but the team also had the job of verification of the previous translation plus the added ones of both the user interface and the help files.

2.6.2. Spellchecker and Thesaurus Upgrade

The upgraded Spellchecker and Thesaurus included in NepaLinux 1.1 has respectively the word coverage of 9, 22,000 and 5,500 words. The previous version of the Spellchecker and the Thesaurus had respectively the word coverage of 300,000 and 600 words.

3. Gnu Cash Accounting Software

NepaLinux 1.1 has the fully localized GnuCash Accounting Software. The version of the given software is 2.0.1. In the earlier versions of this software, there was not support for complex text script. However, the current version has full support and hence the possibility for localizing it.

4. Translation of previously un-translated applications

NepaLinux 1.1 includes additional localized applications like AbiWord Processor, BlueFish, Gvim, Gnome Baker, Grip, GnuCash, Gnumeric etc. These applications had not been translated in the earlier version of the NepaLinux distribution.

5. Bug fixes in NepaLinux 1.1

Since NepaLinux 1.0 was a beta version, it had many bugs (both known and potential). So as to make NepaLinux 1.1 as much bugfree as possible, we divided the bug category into two types – namely the technical bugs and the translation (linguistic) bugs. Basically, the technical bugs dealt with the following:

1. Inability to install NepaLinux on Sata Drives;
2. Support lacking for Intel HT processors;
3. Hardware detection, basically removable USB drives;
4. Update required with the input (scim and xkb).

These bugs have been solved in NepaLinux 1.1. The solution was achieved by including a upgraded kernel version of the Linux kernel, 2.6.17 in our case. This included modifying the new base module for NepaLinux 1.1.

The bugs have been identified on the basis of the numerous feedbacks received from the end-users and at the same time through testings that were conducted during the development period. Solutions derived to some of the problems noted in due course of development were posted in the local wiki in the NepaLinux website.

The next category of bugs is the translation (linguistic). This type of bug is mainly related to spelling errors and incorrect contextual translations. NepaLinux 1.1 has been attempted to make the maximum bug free from the translation point of view. Such an attempt has been supported by the linguist team and other team members of MPP by providing the necessary help and advice to the translation team. A two day workshop was conducted for feeding spelling rules and translation standards to the translation team.

6. Conclusion

Coming up to NepaLinux 1.1 from 1.0, some substantial maturity has been attained both in terms of the software developed and the expertise gained by the localization team. However, the enhanced stability and industrial strength of the applications developed is yet to be achieved. We hope to accomplish this in due course of the development of our future releases. If to have the software relatively bug-free had been our primary goals for the current release, our future releases would be focused on increasing user-friendliness avoiding technicalities as far as possible and providing rich sets of choices for desktop applications.