**PRACTICAL – 10**

**AIM**: Prepare the detailed case study as Software Development Document on MX Linux Operating System.

**THEORY**

* MX Linux is a mid-weight Linux operating system based on Debian stable and incorporating core antiX components, as well as additional applications developed or bundled by the MX group.
* It was created as a joint effort by the antiX and former MEPIS communities to combine the best resources and skills from both distributions.
* The group's stated aim is to create "a family of operating systems that combine elegant and powerful desktops with high stability and solid performance."
* MX Linux is based on the Xfce desktop environment, with a freestanding KDE Plasma version and a special Fluxbox implementation thrown in for good measure. Other environments may be added, or "spin-off" ISO images are available.
* MX Linux has basic tools like a graphic installer that handles UEFI computers, a GUI-based method to change a Linux kernel and other core programs.
* It relies on the excellent upstream work by Linux, Debian, and Xfce. It also incorporates the independent and innovative development products smxi and inxi.
* It copies a virtual file system into RAM that acts as the centre of a temporary operating system for the computer.
* MX Linux is available for two architectures: 32bit (PAE and non-PAE) and 64bit (PAE only) PAE stands for Physical Address Extension, a way of allowing 32 bit operating systems to access ram beyond around 4GB.

**CASE STUDY ON SOFTWARE DEVELOPMENT DOCUMENT ON MX LINUX OPERATING SYSTEM**

**Introduction:**

MX Linux is a cooperative venture between the antiX and former MEPIS communities, using the best tools and talents from each distro and including work and ideas originally created by Warren Woodford. It is a midweight OS designed to combine an elegant and efficient desktop with simple configuration, high stability, solid performance and medium-sized footprint.

**System requirements:**

* A CD/DVD drive (and BIOS capable of booting from that drive), or a live USB (and BIOS capable of booting from USB)
* A modern i686 Intel or AMD processor
* 1GB of RAM memory
* 6 GB free hard drive space
* For use as a LiveUSB, 4 GB free

**Bugs, issues and requests:**

Bugs are errors in a computer program or system that produce incorrect results or abnormal behaviour. "Requests" or "enhancements" are additions requested by users, either as new applications or new features for existing applications. MX Linux deals with these in the following manner:

* Bugs are managed by means of the MX and antiX Linux Bug Tracker.
* Requests can be made with a post in the Bugs and Request Forum, being careful to provide information about hardware, system, and error details.
* Devs as well as Community members will respond to those posts with questions, suggestions, etc.

Graphical user interface, text, application, email

Description automatically generated

**Architecture:**

MX Linux is available for two architectures: 32bit and 64bit, both of which have PAE enabled. PAE stands for Physical Address Extension, a way of allowing 32 bit operating systems to access ram beyond around 4GB. It is possible to use a non-PAE version on a PAE system, but not vice versa. If your machine is unable to handle PAE (i.e., is very old), then we recommend that you install our sister distro antiX Linux instead.

**Software management:**

MX Linux offers two complementary methods of software management:

1. MX Package Installer (MXPI) for one-click installation/removal of popular apps, as well as apps in the Debian Stable, MX Test Repo, Debian Backports and the Flatpaks repo.
2. Synaptic Package Manager, a full-featured graphical tool for a whole range of actions with Debian packages.

MXPI has a number of advantages over Synaptic:

* It's a lot faster!
* The Popular Applications tab is restricted to the packages most often used, so everything is easy to find.
* It correctly installs some packages that are otherwise complicated to do correctly (e.g., Wine).
* It includes other sources besides Debian Stable in a single app:
  1. Our own MX Test Repo with newer packages than what Synaptic has by default.
  2. Debian Backports.
  3. Flatpaks, not available at all in Synaptic.

Synaptic has its own advantages:

* It has a large number of advanced filters set up such as Sections (categories), Status, etc.
* It offers detailed information about particular packages.
* It makes it very easy to add new repos.

**CONCLUSION:**

In this practical, we learned about Software Development Document on MX Linux Operating System. We studied about MX Linux OS, about its architecture and types of software management.