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FACULTY OF COMPUTING  
DEPARTMENT OF INFORMATION TECHNOLOGY BED**

**PROJECT**

**STUDENT ID: 1602035  
DEPARTMENT: ITBED  
ALLOCATED OS: WINDOWS XP  
YEAR: 3RD YEAR (2018 E.C)**

**SUMMITED DATE:27/04/2018  
SUBMITTED TO:LEC WENDMU**

## Operating System Project (Windows XP)

### **1. Introduction**

Windows XP is a desktop operating system developed by Microsoft and released in 2001. It was widely used due to its stability, user-friendly interface, and strong hardware support. This project demonstrates installing Windows XP in a virtual environment to understand OS concepts safely without affecting real hardware.

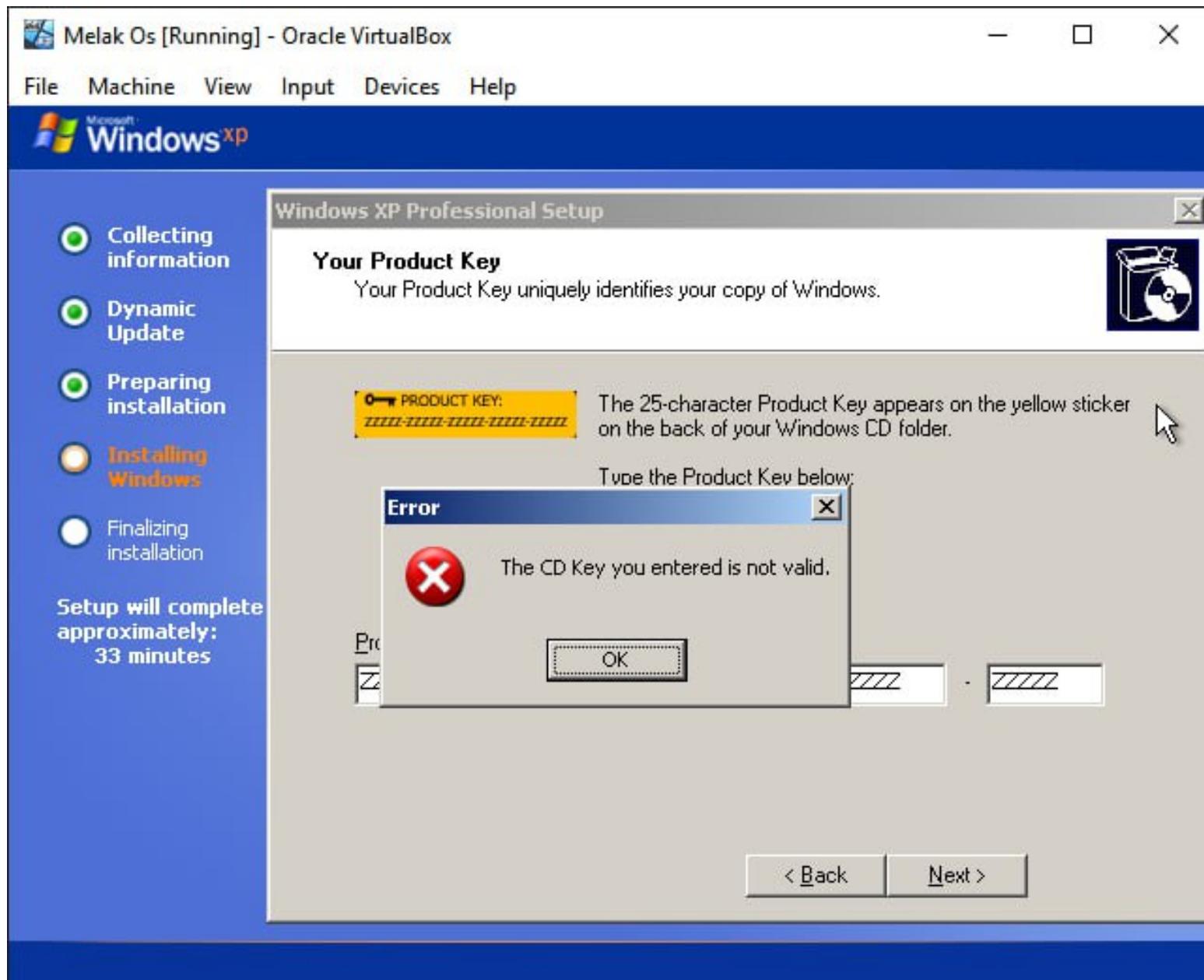
### **2. Objectives**

- Understand OS installation in a virtual environment
- Learn boot process, partitioning, and filesystem usage
- Gain practical skills using virtualization tools
- Improve troubleshooting skills

### **3. Requirements**

- ❖ Hardware
  - CPU: Intel/AMD (x86)
  - RAM: Minimum 512 MB (1 GB recommended)
  - Storage: 10 GB free disk space
- ❖ Software
  - Windows XP ISO
  - Oracle VM VirtualBox / VMware Workstation
  - Host OS: Windows 7/10

#### 4. Installation Steps (VirtualBox)



Installation is invalid by the cause of Windows XP required a product key from the very beginning.

## **When Windows XP was released**

Released to public: 25 October 2001

From this date, every Windows XP installation required a valid product key during setup.

So there was never a time when Windows XP could be installed legally without a product key.

## **End of Support by Microsoft**

- Microsoft stopped supporting Windows XP in April 2014.
- No security updates, bug fixes, or technical support are provided anymore.
- This means XP is vulnerable to viruses and hackers.

## **Security Risks**

- Modern cyber-attacks cannot be prevented by XP.
- Antivirus software and firewalls no longer support XP.
- Using XP on the internet is very dangerous.

## **Incompatible with Modern Hardware**

- New computers use UEFI, GPT, SSDs, USB 3.0, etc.
- Windows XP was designed for old BIOS systems.
- XP cannot detect or work properly with new processors, RAM, and drivers.

## **Product Key Issues**

- XP activation servers are no longer reliable.
- Many users face "invalid product key" errors.
- Legal XP licenses are no longer sold so

## **VirtualBox Does Not Remove Activation**

- VirtualBox only creates virtual hardware.
- It cannot bypass Windows activation.

Windows XP is not available today because Microsoft ended its support, it is insecure, incompatible with modern hardware and software, and no longer safe for use.

Windows XP was designed with license enforcement built into the installer. During setup, it must receive a valid product key before installation can continue. Even though Windows XP is out of the market and unsupported, it is still copyrighted software, not free. A virtual machine (like VirtualBox) only emulates hardware; it does not remove or bypass Windows licensing rules. Therefore, XP will always ask for a product key during installation.

XP thinks it is installed on a new computer, so it asks for a key.

Windows XP has required a product key since 25 October 2001, and this requirement still exists today—even in virtual machines.

Windows XP installation or subsequent use is fundamentally a function of digital rights management (DRM), a system designed to ensure that each copy of the software is legitimate, legally licensed, and used only on the number of computers specified by the license agreement. It is a mechanism to prevent

software piracy.

## **The Core Reasons Why Windows XP Requires a Product Key**

The necessity for a product key is an essential component of Microsoft's licensing framework, serving several important purposes related to software ownership and activation.

**Proof of Purchase and Licensing:** The 25-character alphanumeric product key acts as a unique license identifier. It is your proof that you have legally obtained the right to use the Windows XP software. Without it, Microsoft has no way of verifying your ownership, essentially treating the installation as potentially unauthorized.

**Software Activation Requirement:** The key is required during the initial installation process. Following installation, Windows XP generally needs to be "activated" with Microsoft within a certain time frame (typically 30 days) to unlock its full functionality permanently. This activation links the specific product key to your computer's unique hardware configuration (like the motherboard serial number). If major hardware components are changed, or the same key is attempted on a different computer, the system will prompt for reactivation to verify the license's continued validity on that specific machine.

**Distinguishing Between Software Channels:** Different versions of Windows XP (Retail, OEM, Volume License) use different types of product keys, and the installation media is designed to accept only the corresponding key type.

Retail copies purchased in a store box always require both a key during installation and online/phone activation afterward.

Volume Licensing (VLK) versions were for large organizations and generally did not require online activation because the agreement covered multiple installations, but they still used specific keys to validate the installation was part of that corporate license.

**Combating Piracy:** The primary commercial driver behind this system was to reduce the rampant unauthorized copying and distribution of software. The activation system, while a slight inconvenience for legitimate users, was a significant barrier to casual and widespread piracy.

### **Summary of the Product Key's Role**

In essence, the product key is not just a random sequence of characters, but a critical piece of the software's identity and its legal right to exist on your computer. It is Microsoft's way of managing the use of their intellectual property in a pre-cloud era where digital licenses were physically represented by these keys.

Even though Microsoft ended support for Windows XP many years ago, and modern versions of Windows handle licensing differently, the fundamental purpose remains the same: ensuring that the software you are running is used according to its license terms. If you are working with an old Windows XP system and encounter key issues, it is almost certainly a matter of having the wrong type of key for the installation media you are using, or the activation check failing due to the old activation servers being offline.

**Reference**  
❖ Google