



INFORMATION TECHNOLOGY SUPPORT SERVICE

Level - I

LEARNING GUIDE – 30

Unit of Competence:	Install Software Application
Module Title:	Installing Software Application
LG Code:	ICT ITS1 L30 08
TTLM Code:	ICT ITS1 TTLM 0919

LO1: Determine Software and Upgrade Requirements



Instruction Sheet	Learning Guide – 30
--------------------------	----------------------------

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Documenting and reporting Client Requirements for Installation of the Software
- Acting on instruction to meet clients requirement

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Document and report client requirements to appropriate person in accordance with the workplace standard.
- Act on instructions to meet client requirements in line with organizational requirements.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below in page _2_.
3. Read the information written in the information “Sheet 1 and Sheet 2,” in page -3-, and -13- respectively.
4. Accomplish the “Self-check 1 and Self-check 2,” in page -4- and -18- respectively
5. If you earned a satisfactory evaluation from the “Self-check 1” proceed to “Operation Sheet 2,” in page -13-.



1.1. Introduction to Computer Software

Computer software is a collection of computer programs and related data that provide the instructions for telling a computer what to do and how to do it.

In other words, software is a conceptual entity which is a set of computer programs, procedures, and associated documentation concerned with the operation of a data processing system.

We can also say software refers to one or more computer programs and data held in the storage of the computer for some purposes. In other words software is a set of programs, procedures, algorithms and its documentation.

Computer software has facilitated the interaction between human beings and computers. What are the different kinds of software?

Software refers to the computer programs, procedures and documentation that perform certain tasks on a computer system. Following is an extensive list of examples of the different kinds of software.

- **Application Software:** Application software is that, which is designed for the end-users and hence known as end-user programs. It employs the capabilities of a computer to execute the tasks that the user wishes to perform on a computer system. Look at the various examples of application software.
- **Educational Software:** They are used to deliver tests and track progress. They are used for educational purposes. Training management and classroom management software are some examples of educational software. The software used for purposes of edutainment, a form of entertainment that aims at educating the masses, is also a form of educational software.
- **Enterprise Software:** It caters to the needs of organization processes and data flow. Customer relationship management and supply chain management software are the well-known examples of enterprise software. Enterprise infrastructure software supports the enterprise software systems.
- **Information Worker Software:** It caters to the needs of an individual to manage information pertaining to a project or a single department. Resource management software and documentation tools are some of the popularly used information worker software.
- **Media Development Software:** They are used for the generation of print and electronic media in the educational and commercial sector. Image organizers and image editing software, animation software like Flash, audio and video editors as well as the web development software are some well-known examples of media development software.
- **Product Engineering Software:** This software is used in the development of hardware and software products. Application programming interfaces and integrated development environments are the well-known examples of product engineering software. Program testing tools, debuggers, compilers and CAD are some of the other instances of product engineering software.
- **Simulation Software:** They are used for the simulation of physical and abstract systems. Computer simulators that are used for simulating scientific concepts and social ideas,



battlefield, vehicle and flight simulators are some of the popular examples of simulation software.

- **Programming Software:** Programming Languages are used to write programs that control the functioning of a computer system. They are the building blocks of computer applications. Go through the complete list of the different programming languages.
- **System Software:** It is computer software that manages and controls hardware in order to enable application software to perform its tasks. System software performs the functions like transferring data from memory to the disk or delivering text onto a display device.
- **Device Drivers:** They are computer programs, which facilitate the interaction of high-level computer programs with the hardware devices. Drivers also provide interrupt-handling mechanisms.
- **Network Managers:** They check computer networks, data transfers and log events.
- **Virus Scanners:** They scan for viruses on a computer system. They are widely known as antivirus software.
- **Content-Control Software:** It refers to the software designed for controlling the content that is permitted for the user to access. It can determine what content will be available on a particular machine or network. Content-control software is commonly used at homes and in schools to restrict the content that can be accessed over the net by the students.
- **Data Recovery Software:** Apart from the facilities of copying of data files, data recovery software supports the user needs of backing up important computer data. It allows the user to specify what is to be backed up and when.

1.1.1. Types of Computer Software

The two major types the computer software

- **System Software:** It helps in running the computer hardware and the computer system. System software is a collection of operating systems; device drivers, servers, windowing systems and utilities. System software helps an application programmer in abstracting away from hardware, memory and other internal complexities of a computer.
- **Application Software:** It enables the end users to accomplish certain specific tasks. Business software, databases and educational software are some forms of application software. Different word processors, which are dedicated for specialized tasks to be performed by the user, are other examples of application software.

1.1.2. Types of Application Software

What is application software? What are the different types of application software? Know it all along with some interesting examples of application software.

Application software utilizes the capacities of a computer directly to a dedicated task. Application software is able to manipulate text, numbers and graphics. It can be in the form of software focused on a certain single task like word processing, spreadsheet or playing of audio and video files.



Different Types of Application Software are:

- **Word Processing Software:**

This software enables the users to create and edit documents. The most popular examples of this type of software are MS-Word, WordPad, Notepad and some other text editors.

- **Database Software:**

Database is a structured collection of data. A computer database relies on database software to organize the data and enable the database users to achieve database operations. Database software allows the users to store and retrieve data from databases. Examples are Oracle, MS Access, etc.

- **Spreadsheet Software:**

Spreadsheet software allows users to perform calculations. They simulate paper worksheets by displaying multiple cells that make up a grid. Excel, Lotus 1-2-3 and Apple Numbers are some examples of spreadsheet software.

- **Multimedia Software:**

They allow the users to create and play audio and video media. They are capable of playing media files. Audio converters, players, burners, video encoders and decoders are some forms of multimedia software. Examples of this type of software include Real Player and Media Player.

- **Presentation Software:**

The software that is used to display information in the form of a slide show is known as presentation software. This type of software includes three functions, namely, editing that allows insertion and formatting of text, methods to include graphics in the text and a functionality of executing the slide shows. Microsoft PowerPoint is the best example of presentation software.

1.2. System Requirements for Software Installation

To be used efficiently, all computer software needs certain hardware components or other software resources to be present on a computer. These pre-requisites are known as system requirements and are often used as a guideline as opposed to an absolute rule. Most software defines two sets of system requirements: minimum and recommended.

- **Minimum specifications** are the absolute minimum requirements for hardware you should have in your system in order to install and run the OS you have chosen.
- **Recommended hardware specifications** are what you should have in your system to realize usable performance.
- Always try to have the recommended hardware (or better) in your system. If you don't, you may have to upgrade your hardware before you upgrade your OS.
- Make sure you have a good margin between your system's performance and the minimum requirements.
- Always run Windows on *more* hardware, rather than less!
- **Recommended requirements** are almost always of a significantly higher level than the minimum requirements, and represent the ideal situation in which to run the software. Generally speaking this is a better guideline than minimum system requirements in order to have a fully usable and enjoyable experience with software.



1.2.1. Hardware Requirements

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a Hardware Compatibility List (HCL), especially in case of operating systems. A hardware compatibility list is a database of hardware models and their compatibility with a certain operating system. An HCL lists tested, compatible, and sometimes incompatible hardware devices for a particular operating system or application.

The following sub-sections discuss the various aspects of hardware requirements.

- **Architecture**

All computer operating systems are designed for particular computer architecture. Most software applications are limited to particular operating systems running on particular architectures. Although architecture-independent operating systems and applications exist, most need to be recompiled to run on a new architecture.

- **Processing Power**

The power of the Central Processing Unit (CPU) is a fundamental system requirement for any software. Most software running on x86 architecture define processing power as the model and the clock speed of the CPU. Many other features of a CPU that influence its speed and power, like bus speed, cache, and MIPS are often ignored. This definition of power is often erroneous, as AMD Athlon and Intel Pentium CPUs at similar clock speed often have different throughput speeds.

- **Memory**

All software, when run, resides in the Random Access Memory (RAM) of a computer. Memory requirements are defined after considering demands of the application, operating system, supporting software and files, and other running processes. Optimal performance of other unrelated software running on a multi-tasking computer system is also considered when defining this requirement.

- **Secondary Storage**

Hard-disk requirements vary, depending on the size of software installation, temporary files created and maintained while installing or running the software, and possible use of swap space (if RAM is insufficient).

- **Display Adapter**

Software requiring a better than average computer graphics display, like graphics editors and high-end games, often define high-end display adapters in the system requirements.

- **Peripherals**

Some software applications need to make extensive and/or special use of some peripherals, demanding the higher performance or functionality of such peripherals. Such peripherals include CD-ROM drives, keyboards, pointing devices, network devices, etc.



1.2.2. Software Requirements

Software requirements deal with defining software resource requirements and pre-requisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or pre-requisites are generally not included in the software installation package and need to be installed separately before the software is installed.

- **Platform**

In computing, a platform describes some sort of framework, either in hardware or software, which allows software to run. Typical platforms include a computer's architecture, operating system, or programming languages and their runtime libraries.

Operating system is one of the first requirements mentioned when defining system requirements (software). Software may not be compatible with different versions of same line of operating systems, although some measure of backward compatibility is often maintained. For example, most software designed for Microsoft Windows XP does not run on Microsoft Windows 98, although the converse is not always true.

- **APIs and Drivers**

Software making extensive use of special hardware devices, like high-end display adapters, needs special API or newer device drivers. A good example is DirectX, which is a collection of APIs for handling tasks related to multimedia, especially game programming, on Microsoft platforms.

- **Web Browser**

Most web applications and software depending heavily on Internet technologies make use of the default browser installed on system. Microsoft Internet Explorer is a frequent choice of software running on Microsoft Windows, which makes use of ActiveX controls, despite their vulnerabilities.

1.2.3. Other Requirements

Some software also has other requirements for proper performance. Internet connection (type and speed) and resolution of the display screen are notable examples.

1.3. System Requirement to Install Operating System

These are the minimum requirements for basic functionality. Actual requirements vary, depending on the system configuration and the programs and features that you choose to install. In installing new software, it is necessary to know its hardware requirements before installing. You can check from the manufacturer, the accompanied read me file or on the web. Here are some hardware requirements for some common operating system software:

The System Requirements for Windows XP

- Pentium 233-megahertz (MHz) processor or faster (300 MHz is recommended)
- At least 64 Megabytes (MB) of RAM (128 MB is recommended)
- At least 1.5 Gigabytes (GB) of available space on the hard disk
- CD-ROM or DVD-ROM drive
- Keyboard and a Microsoft Mouse or some other compatible pointing device
- Video adapter and monitor with Super VGA (800 x 600) or higher resolution
- Sound card
- Speakers or headphones



The System Requirements for Windows 7

- 1 Gigahertz (GHz) or faster 32-bit or 64-bit processor.
- 1 Gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit).
- 16 GB available hard disk space (32-bit) or 20 GB (64-bit).
- DirectX 9 graphics device with WDDM (Windows Display Driver Model) 1.0 or higher driver.
- CD-ROM or DVD-ROM drive
- Keyboard and a Microsoft Mouse or some other compatible pointing device
- Video adapter and monitor with Super VGA (800 x 600) or higher resolution
- Sound card
- Speakers or headphones



1.4 Determining Client Requirements

The installation of new software or a software upgrade involves a number of carefully planned activities and people who specialize in the installation of computer applications. These activities begin with the initial request from the client for new software or a software upgrade. Once the client's request has been evaluated, the computer supports person first analyses:

- The system components including the capabilities of the client's computer
- The processes that manipulate the data
- The current system deficiencies
- The system constraints
- The specific objectives and the performance requirements of the new system
- The corporate desktop software used by the organization.

The next step is to determine and recommend hardware and software components that will satisfy the client's information needs and comply with the stated constraints. There are two questions that you must answer before any recommendations can be made.

- Is it possible to solve the problem?
- Can the organization afford to solve the problem?

Other things that need to be considered include timeframe, cost, technical, legal, environmental, hardware, software, human, organizational and operational implications.

Every client has different needs and therefore there will be considerable variation in the factors which go towards installing new software or software upgrade. Among these variations are software, licensing and organizational considerations.

- **Software**

Variables for new software and upgrade requirements includes software versions, commercial software applications, organization-specific software, operating systems, network operating systems, stand-alone PC systems, word processing, spreadsheets, database, graphics, communication packages, software installation instructions and manuals and the range of suppliers. The relationship between you and the client, and ease of access to them, will vary; often it will be easier to work with another department within an organization than with a client.

- **Licensing**

A supplier of software does not sell you the software; you receive a license to use the software only. Therefore you must determine if the client has a current valid license to use the software. In some cases the organization may have a site license, where any computer belonging to the organization may use the software. In other cases there may be a limited number of licenses for specific computers.

- **Organizational Requirements**

Variables include contracting arrangements relating to information technology, purchasing procedures, licensing requirements and supplier options, storage and retrieval of product licenses, storage of information technology equipment and documentation and retrieval of product licenses. In addition:

- Development methods and tools will vary from very simple procedures to very advanced computer-assisted software engineering (CASE) tools



Self-Check – 1	Test
-----------------------	-------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

- _____ 1. What is the recommended requirement of Processor (CPU) for installing Windows 7?
A. 233 GHz B. 1 GHz C. 233 MHz D. 1 MHz
- _____ 2. What is the minimum requirement of Memory (RAM) for installing Windows 7 (32-bit)?
A. 64 MB B. 128 MB C. 1 GB D. 2 GB
- _____ 3. Which one of the following is an example of computer software?
A. Educational Software B. Enterprise Software C. Simulation Software D. All
- _____ 4. Which one of the following is NOT an example of application software?
A. Word Processor B. Spreadsheet C. Database D. Operating System
- _____ 5. Which one of the following is an example of system software?
A. MS Excel B. MS Word C. Operating System D. Media Player
- _____ 6. Windows 7 is an example of _____ software?
A. Device Driver B. Operating System C. Application Software D. Server

Note: Satisfactory rating - ___points

Unsatisfactory – below ___ points

You can ask your teacher for the copy of the correct answers.



Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____



2.1 The Main Participants in the Installation of Software

There are a number of different people involved in the installation of software, whether it is a new license or upgrades to existing licenses. The degree of their involvement will depend on the complexity and extent of software applications being installed.

The main participants in the installation of new software include:

- **Clients or End-Users** - the people or group of people for whom the software is being installed. You interview them in order to find out what software they currently have, and their information needs.
- **Supervisor**- the person concerned with the overall management and allocation of support resources, and of all the technical staff working on the project. They communicate with the clients and make sure that they are happy with the service being provided. They are kept informed of the client's requirements.
- **Computer Support Officer** - the person who receives a technology-free statement of user requirements from the client and transforms it into a working computer system that will fulfill the client's computer and business needs. Their role is to install and thoroughly test the software and hardware before handing it over to the client.
- **Staff Trainer** - responsible for training all the staff in the use of the new software and for providing documentation for users to support them with the ongoing use of the software
- **Help Desk Staff** - their main task is to provide timely advice (usually over the telephone) to users in the operation of the hardware and software in use
- **Network Specialist** - the person involved with implementing and maintaining the network.

Client Involvement

It is a common belief amongst experienced systems analysts that the biggest single factor which determines the success or failure of a system is the amount of client involvement that occurred when determining the users' requirements. Input by the users does not stop at the initial investigative phase. Users need to be involved in all stages of installation and they serve as a reliable information source. Successful projects have strong and well communicated commitment on the part of the users. User involvement should ensure that:

- All the user's requirements are met in the initial investigative phases. These requirements include the information to be produced by an information system for their everyday work. For example, the system must be easy to use and produce the required information within acceptable timeframes.
- Users, including the organization's management, review the software documents and other relevant reports during installation. Management



- Reviewing various user interface designs such as screen forms and reports
- Assisting system testing and conducting acceptance testing when requested to do so
- Receiving training when required and reading all appropriate user manuals
- Ensuring that the supplied documentation is available and kept up-to-date
- Reporting all problems once the system is operational
- Making valid suggestions for enhancements and modifications to the new system.

2.2 Documenting and Reporting

There are many documents that need to be produced and exchanged between clients and suppliers of software applications. Two important documents that are exchanged at the initial stages are the Project Request form and the Feasibility Report. The Project Request form outlines the general requirements of the client. The Feasibility Report determines if the client's needs can be met. Included in the Feasibility Report are possible software applications, their costs, benefits and impact on the organization.

Although the initial request for change may be verbal, it is formalized using a Project Request form. This is the first official item of documentation that the user must submit to the organization installing the software. Below is a description and an example of the Project Request Form.

2.2.1 Project Request Form

- **Problem Definition**

The user defines the nature of the problems and briefly describes aspects of the current system, for example, that the existing system is not coping with the daily volume of work. The user may outline the requirements (or a wish list) for the new system.

The analyst gathers information on the nature of the problems using various data-gathering techniques, eg interviews, surveys, reports, procedure manuals and observations.

- **Business Objectives**

This is where the user indicates what the business objectives are. The system built will have to meet these objectives.

- **Anticipated Benefits**

The user defines what they think the benefits would be if a change in the terms of software-for example savings in cost/labor/time, improved customer satisfaction, improved reports to management-were undertaken.

- **Scope of the System**

This section outlines what areas of the business (ie subsystems) will be affected. Constraints and limitations are also defined here, for example, budget limits, time frames, legal constraints, environmental constraints, interfaces to other systems and so on.



Table: 1 Project Request Form

Project Request Form					
Project Title	Accounts				
Date Received	1/1/98	Completion Date	1/1/99	Project No.	18/97
Description of Problems					
Our current system is manual. It is slow and labor intensive. Records are occasionally lost due to files being misplaced, and totals are often incorrect due to human error. The system does not allow us to track important accounts payable and receivable information. For example it is not easy to track outstanding amounts owed to us, and therefore we are losing money.					
Solution Adequacy					
90 % of immediate retrieval of accounts information 100 % accuracy in totals and reports Ability to track outstanding debtors and creditors information					
Anticipated Benefits					
Records are consistent, accurate and easily retrieved Timely and informative reports to assist with decision making Less paperwork and manual calculations Easier to pinpoint trouble spots, eg overdue accounts Back-up procedures in place Improved image with customers and suppliers Improved staff morale					
Scope and Constraints					
Accounts payable and receivable systems Needs to interface to on-line inventory and purchasing subsystems New system needs to be in place before the year 2001					
Person Requesting:					

Feasibility Report

The first purpose of this report is to describe in detail the business and computer requirements of the client. Secondly, the person or team installing the software will recommend software and hardware necessary to successfully fulfill the needs of the client.

This report includes:

- System summary-a small paragraph describing what the current system does
- Project summary-chief user name, support officer's name, scope, start date, end date, budget
- Current system summary-system description and deficiencies
- New software constraints and assumptions-performance requirements, hardware constraints, software constraints and any interfaces to other



automated systems, backup and recovery requirements, security and privacy issues

- Performance requirements and acceptance constraints-workload and volume, system growth, response times, data access and data validation new software alternatives-description of each alternative
- Improvements to the business-improvements in service, increases in income, reductions in cost
- New software impacts-hardware, software, organizational and operational
- Installation constraints-in terms of time, budget and resources, and staff conversion requirements from current to new software o cost/benefit comparisons of proposed alternative software applications
- Detailed activities schedule and budget for installation of software, testing, conversion and training.

Once the report is completed, the client reviews the findings and alternatives. The question addressed here is whether one of the proposed software applications should be installed, or another option investigated. A copy of the report should also be forwarded to the supervisor. It will be up to the client and the relevant supervisor as to whether or not you will proceed with the installation of the software.



Self-Check – 2	Test
-----------------------	-------------

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

- _____ 1. The main participants in the installation of new software include:
- A. Clients or End-Users
 - B. Computer Support Officer
 - C. Supervisor
 - D. All
- _____ 2. Their main task is to provide timely advice (usually over the telephone) to users in the operation of the hardware and software in use.
- A. Supervisor
 - B. Clients or End-Users
 - C. Network Specialist
 - D. Help Desk Staff
- _____ 3. _____ are the people or group of people for whom the software is being installed. You interview them in order to find out what software they currently have, and their information needs.
- A. Clients or End-Users
 - B. Computer Support Officer
 - C. Supervisor
 - D. All

Note: Satisfactory rating - ___ points Unsatisfactory - below ___ points

You can ask your teacher for the copy of the correct answers.



Answer Sheet

Score = _____

Rating: _____

Name: _____

Date: _____



List of Reference Materials

Reference

<https://www.quora.com/What-is-the-difference-between-upgrade-and-update>

<https://www.intowindows.com/how-to-upgrade-office-2007-to-office-2010/>

Posted by [Synopsys Editorial Team](#) on Friday, October 7th, 2016

<https://www.synopsys.com/blogs/software-security/5-types-of-software-licenses-you-need-to-understand/>

Experts

The development of this Learning Guide for the TVET Program Information technology support service Level I.

No	Name of Trainers	Phone Number	E-mail Address	Region
1	Abdulakim Ahmed	0921900418	Hikmaharar@gmail.com	Harari
2	Assefa Million	0911034866	amen192005@gmail.com	Harari
3	Derese Teshome	0913938439	dereseteshome@gmail.com	AA
4	Getenesh Osamo	0923816933	gete.osamo@gmail.com	SNNPR
5	Remedan Mohammed	0913478937	remedanm77@gmail.com	Harari
6	Sewayehu W/Yohanes	0911716733	Baroke0816@gmail.com	SNNPR
7	Damelash Yihalem	0911912015	demenati@gmail.com	Harari