Computer Aided Software Engineering (CASE) Tools

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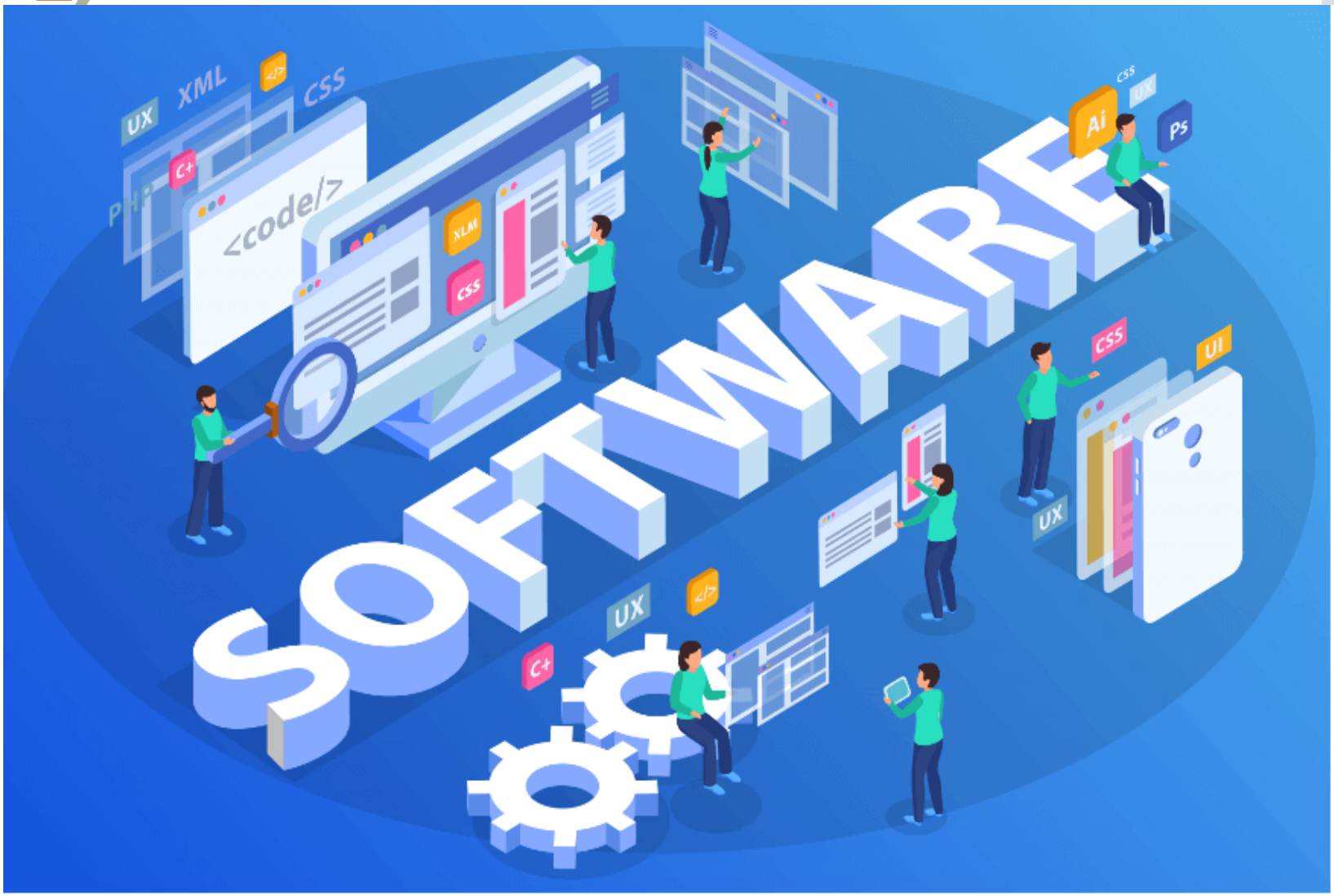
What is software



What is software

- Sometimes abbreviated as **SW** and **S/W**, **software** is a collection of instructions that enable the user to interact with a computer, its hardware, or perform tasks.

- Software is a generic term used to refer to applications and programs.

What are the types of software

Among the various categories of software, the most common types include the following:

1- **System software**: is a computer program that helps the user to run computer hardware or software and manages the interaction between them. it provides an environment or platform for all the other types of software to work in. The OS and Device Drivers is the best examples of system software.

What are the types of software

2- Application software:

are end-user computer programs developed primarily to provide specific functionality to the user. The applications programs assist the user in accomplishing numerous tasks such as doing online research, completing notes, designing graphics, managing the finances, watching a movie, writing documents, playing games.

Example: Word Processors, Corel Draw,Web Chrome.

What are the types of software

3- Programming Software

Computer programmers use programming software to write code. Programming software enable developers to develop, write, test and debug other software programs. Examples of programming software include assemblers, compilers, debuggers and interpreters.

Introduction

❖Software is the single most expensive item in a computer system as the cost of software during the life time of a machine is equivalent to more than 95% of the total cost (including hardware).

❖Software Engineering is broadly associated with the development of quality software with increasing use of software preparation standards and guidelines.

Introduction

- Software Engineering requires a lot of data collection and information generation. Since the computer itself is a very useful device as the information processor, it may be a good idea to automate software engineering tasks.

- Computer Aided Software Engineering (CASE) tools instill many software engineering tasks with the help of information created using computer.

Introduction

- CASE tools support software engineering tasks and are available for different tasks of the Software Development Life Cycle (**SDLC**).

- SDLC, which stands for Software Development Life Cycle, is a methodology, a process that produces software ensuring high quality and low cost in a short amount of time. It provides a well-structured flow of phases that help to quickly produce high-quality, well-tested, and production-ready software.

Introduction

- CASE tools are a class of software that automate many of the activities involved in various life cycle phases.

- Computer Aided Software Engineering (CASE) tools are gradually becoming popular for the development of software as they are improving in the functionalities and are proving to be beneficial for the development of quality software. But, what are the CASE tools? And how do they support the process of development of software?

Introduction

- CASE tools are the software engineering tools that permit collaborative software development and maintenance. CASE tools support almost all the phases of the software development life cycle such as analysis, design, etc., including umbrella activities such as project management, configuration management etc.

Introduction

The primary objectives in using any CASE tool are:

- To increase productivity.
- To help produce better quality software at lower cost.

For example, when establishing the functional requirement of a proposed application, prototyping tools can be used to develop graphic models of application screens to assist end users to visualize how an application will look after development.

Introduction

- Subsequently, system designers can use automated design tools to transform the prototyped functional requirements into detailed design documents. Programmers can then use automated code generators to convert the design documents into code.
- Automated tools can be used collectively, as mentioned, or individually.
- For example, prototyping tools could be used to define application requirements that get passed to design technicians who convert the requirements into detailed designs in a traditional manner using flowcharts and narrative documents, without the assistance of automated design software.

Quick look

What is it?

Computer-aided software engineering (CASE) tools assist software engineering managers and practitioners in every activity related with the software process. They automate project management activities, manage all work products produced throughout the process, and assist engineers in their analysis, design, coding and test work. CASE tools can be integrated within a sophisticated environment.

Quick look

Who does it?

Project managers and software engineers use CASE.

Quick look

Why is it important?

Software engineering is difficult. Tools that reduce the amount of effort required to produce a work product or accomplish some project milestone (stage in development) have substantial benefit. But there's something that's even more important. Tools can provide new ways of looking at software engineering information—ways that improve the insight of the engineer doing the work. This leads to better decisions and higher software quality.

Quick look

What are the steps?

CASE is used in conjunction with the process model(Waterfall Model, Incremental Development, Iterative Development ,…et) that is chosen. If a full tool set is available, CASE will be used during virtually every step of the software process(it is a set of related activities that leads to the production of the software.).

Quick look

What is the work product?

CASE tools assist a software engineer in producing high-quality work products. In addition, the availability of automation allows the CASE user to produce additional customized work products that could not be easily or practically produced without tool support.

What is case?

A good workshop for any craftsperson—a mechanic, a carpenter, or a software engineer—has three primary characteristics:
(1) a collection of useful tools that will help in every step of building a product,
(2) an organized layout that enables tools to be found quickly and used efficiently, and
(3) a skilled artisan who understands how to use the tools in an effective manner.

Photography Workshops

Photography Workshops

Required equipment for all Workshops:

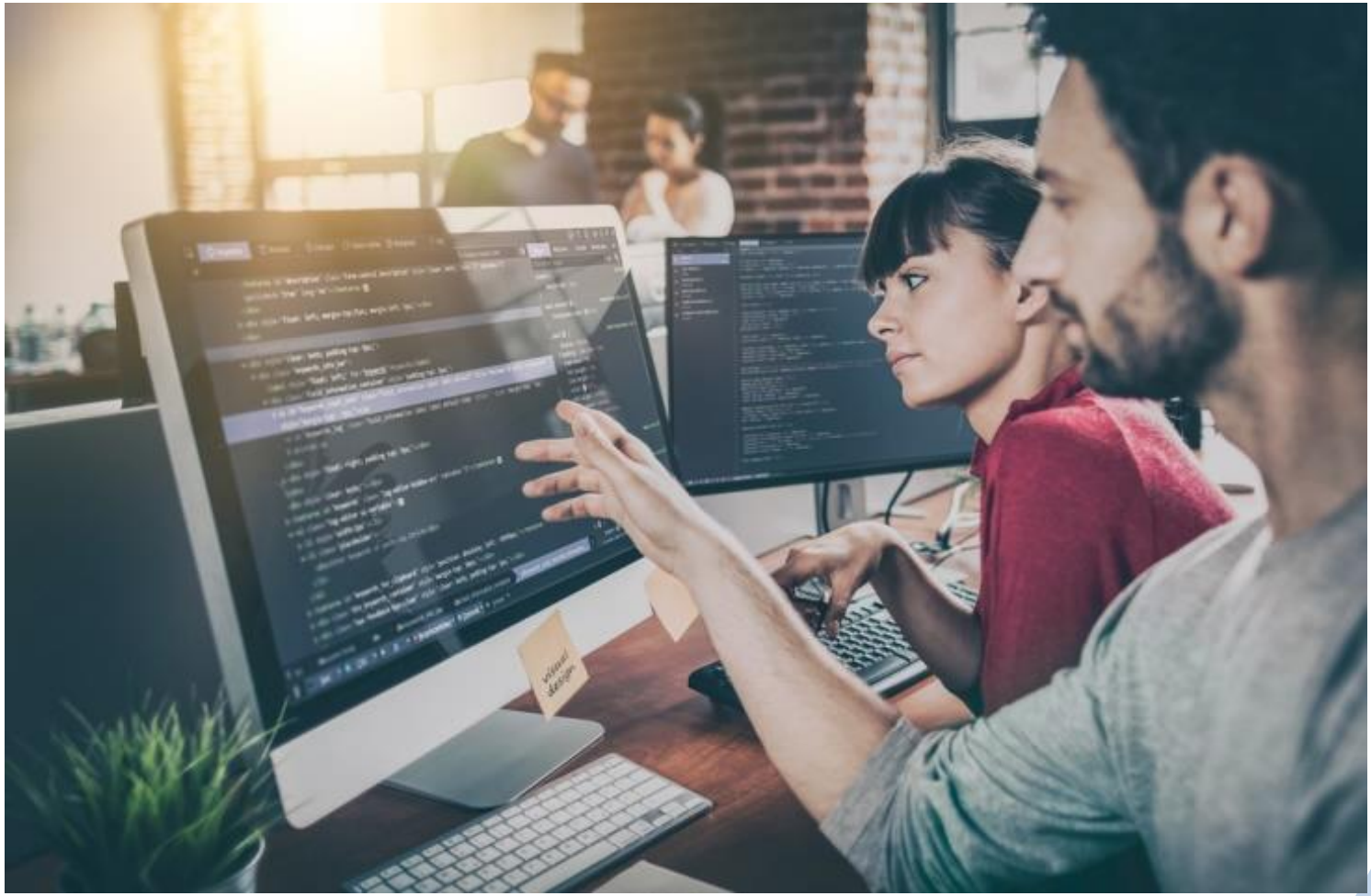
- DSLR Camera with lens
- Spare Battery
- Memory Card
- Camera Manual
- Lens cleaning cloth

Photography Workshops

Recommended equipments:

- Tripod
- Lens or lenses covering the focal lengths from 18 mm to 200 mm
- Extra memory
- Camera backpack

Software engineering Workshops



Software engineering Workshops

- Software engineers now recognize that they need more and varied tools along with an organized and efficient workshop in which to place the tools.

- The workshop for software engineering has been called an integrated project support environment and the tools that fill the workshop are collectively called computer-aided software engineering.

What is case?

CASE provides the software engineer with the ability to automate manual activities and to improve engineering insight. Like computer-aided engineering and design tools that are used by engineers in other disciplines, CASE tools help to ensure that quality is designed in before the product is built.

THANKS