

# Computer Aided Software Engineering

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# CASE Tools

- A CASE tool means any tool used to automate some activity associated with software development.
- Some of these CASE tools assist in phase related tasks such as specification, structured analysis, design, coding, testing, etc.;
- others to non-phase activities such as project management and configuration management.

# Reasons for using CASE tools

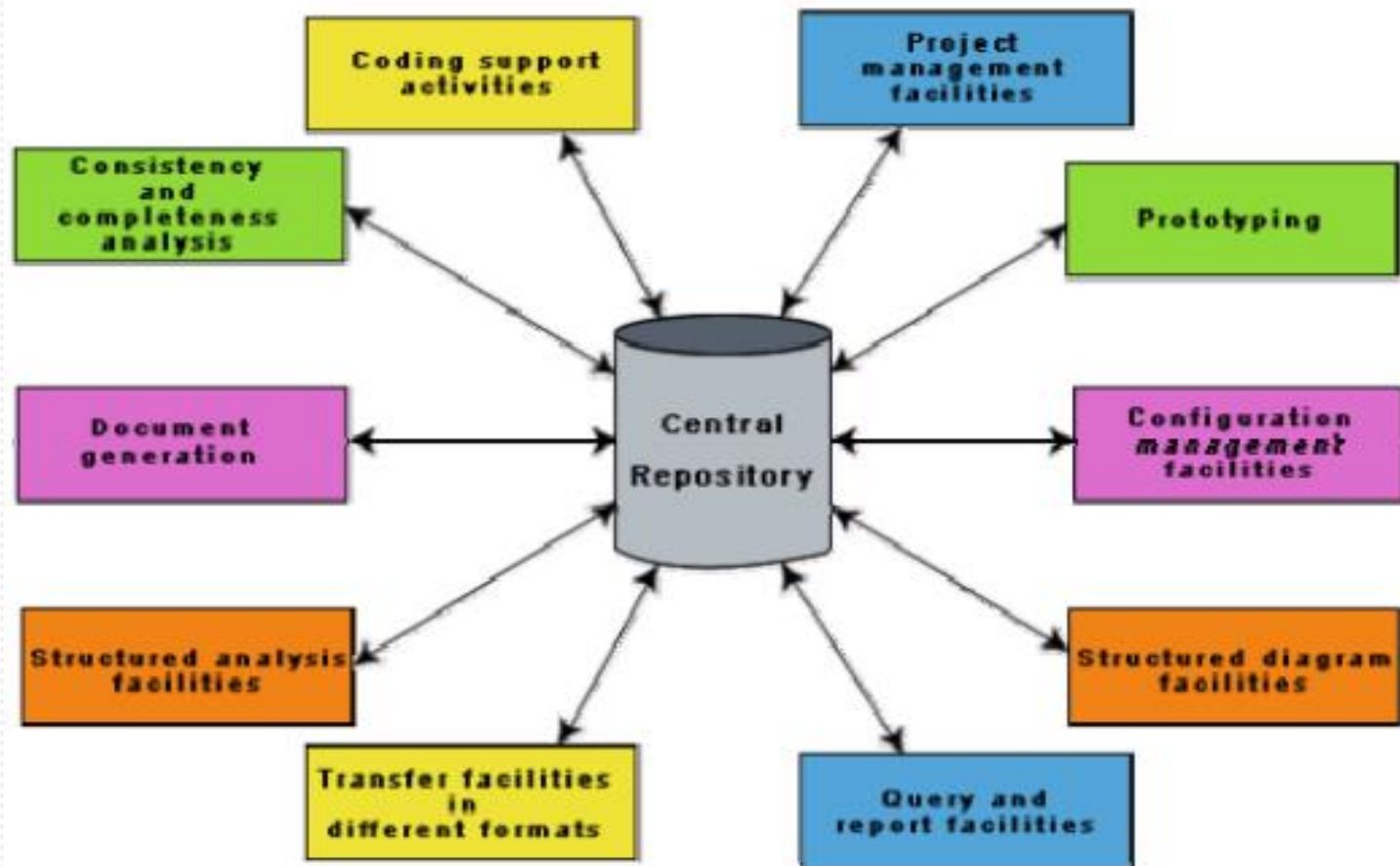
- The primary reasons for using a CASE tool are:
  - To increase productivity
  - To help produce better quality software at lower cost



# CASE environment

- Although individual CASE tools are useful, the true power of a tool set can be realized only when these set of tools are integrated into a common framework or environment.
- CASE tools are characterized by the stage or stages of software development life cycle on which they focus.
- Since different tools covering different stages share common information, it is required that they integrate through some central repository to have a consistent view of information associated with the software development artifacts.

- This central repository is usually a data dictionary containing the definition of all composite and elementary data items.
- Thus a CASE environment facilitates the automation of the step-by-step methodologies for software development.



A CASE Environment



# CASE environment vs programming environment

- A CASE environment facilitates the automation of the step-by-step methodologies for software development.
- In contrast to a CASE environment, a programming environment is an integrated collection of tools to support only the coding phase of software development.

# Benefits of CASE

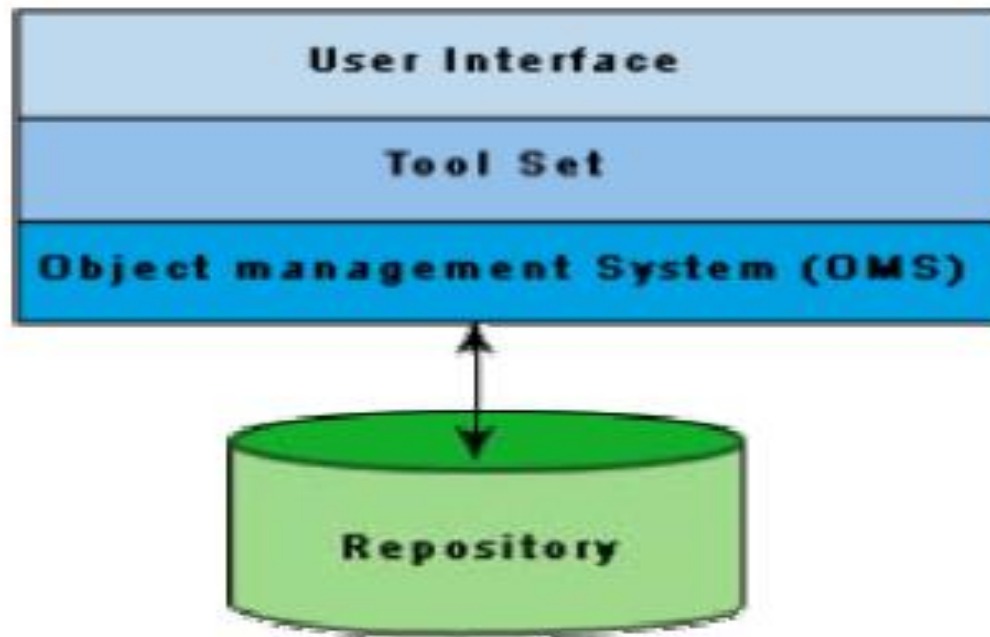
- Some of those benefits are:
  - A key benefit arising out of the use of a CASE environment is **cost and effort saving** through all development phases. (upto 30% to 40%).
  - Use of CASE tools leads to considerable **improvements to quality**.
  - CASE tools help produce high quality and **consistent documents**.
  - CASE tools take out most of the drudgery in a software engineer's work.



# Benefits of CASE

- CASE tools have led to revolutionary cost saving in software maintenance efforts.
- Introduction of a CASE environment has an impact on the style of working of a company, and makes it oriented towards the structured and orderly approach.

# Architecture of a CASE environment



Architecture of a Modern CASE Environment

- **User Interface**

- The user interface provides a consistent framework for accessing the different tools.

- **Object Management System (OMS) and Repository**

- The OMS maps different case tools as logical entities such into the underlying storage management system (repository).





Thank You