CASE Tools

Computer-Aided Software Engineering (CASE)

A collection of tools used to support the software development process.

CASE Tools

The application of a set of **tools** and methods to a software system with the desired end result of high-quality, defect-free, and maintainable software products.

Purpose of CASE Tools

- To make it simpler to enact a single design philosophy with the goal to speed up the development process.
- To automate mundane tasks.
- To promote a central location for referencing system development activities and documents.
- To get accuracy and increase the speed of the tasks.

Components of CASE Tools

A CASE environment contains a collection of tools. Not all environments provide all tools.

Upper CASE	Lower CASE	Cross Life Cycle CASE

Upper CASE

Upper CASE is focused in supporting project identification and selection, project initiation, project planning, analysis and design.

Lower CASE

Lower CASE provides support for the implementation and maintenance phases.

Cross Life Cycle CASE

Cross Life Cycle CASE supports activities that occur across multiple phases of the SDLC.

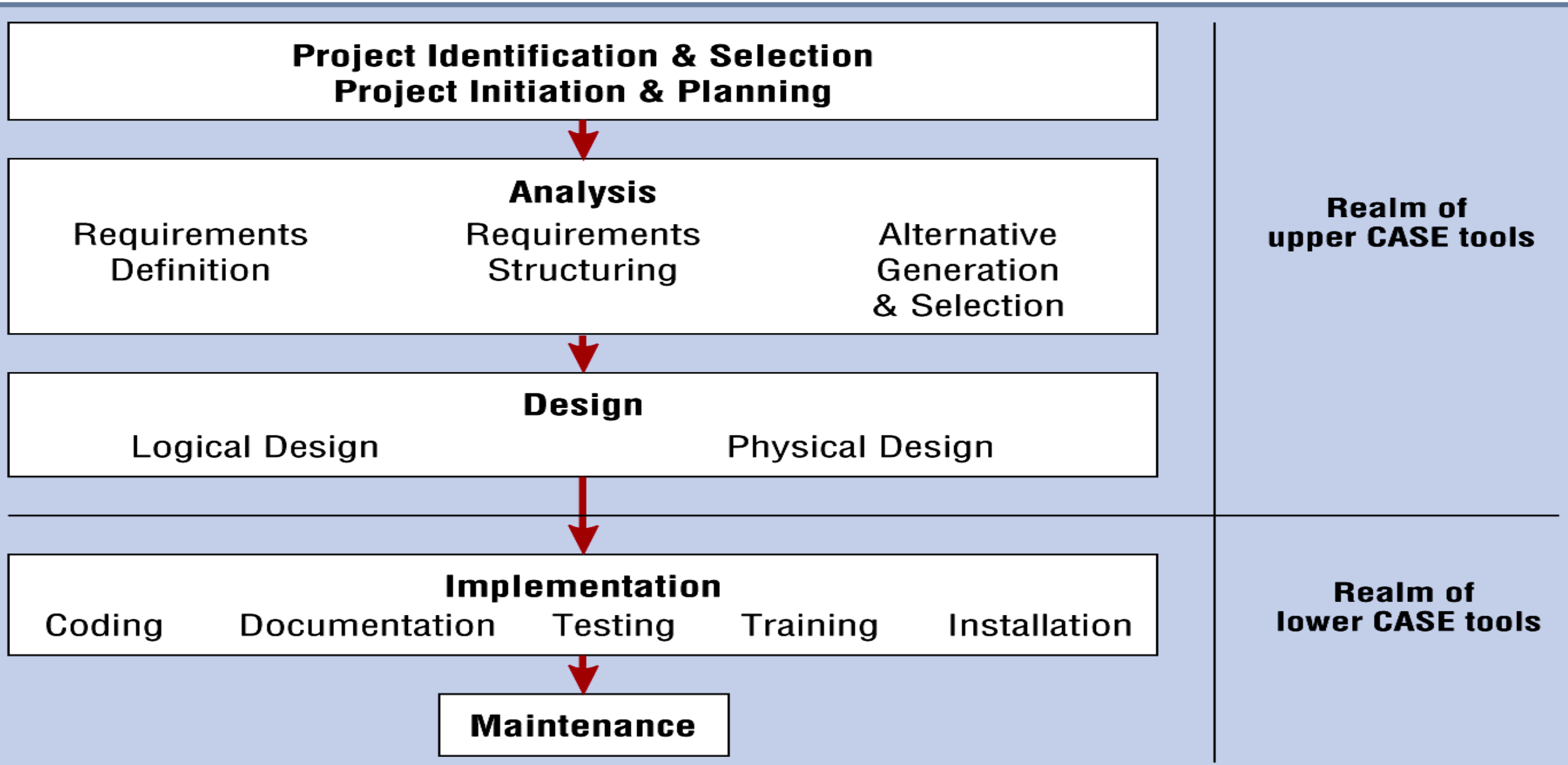
CASE Usage Within the SDLC

SDLC Phase	Key Activities	CASE Tool Usage
Project identification and selection	Display and structure high-level organizational information	Diagramming and matrix tools to create and structure information
Project initiation and planning	Develop project scope and feasibility	Repository and documentation generators to develop project plans
Analysis	Determine and structure system requirements	Diagramming to create process, logic and data models

CASE Usage Within the SDLC

SDLC Phase	Key Activities	CASE Tool Usage
Design	Create new system designs	Form and report generators to prototype designs; analysis and documentation generators to define specifications
Implementation	Translate designs into an information system	Code generators and analyzers, form and report generators; documentation generators to develop system and user documentation
Maintenance	Evolve information systems	All tools are used .

CASE and the SDLC



Types of CASE Tools

Documentation tools

Programming tools

Static analysis tools

Metrics management tools

Quality assurance tools

Diagramming tools

Requirement tracing tools

Programming tools

Process modeling and management tool

Prototyping tools

Software configuration management tools

Advantages of CASE Tools

- Increased speed
- Increased accuracy
- Reduced lifetime maintenance
- Better documentation
- Programming in the hand of programmers
- Intangible benefits

Disadvantages of CASE Tools

- May be difficult to customize
- Requires training of maintenance staff
- May be difficult to use with existing systems
- Requires more extensive and accurate definition of users needs and requirement.
- It is costly if it is proprietary tool.