To Understand Component Diagram

Blood Bank Management System

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Aim: To understand Component diagram

Theory:

- Component diagram shows components, provided and required interfaces, ports, and relationships between them. This type of diagrams is used in Component-Based Development (CBD) to describe systems with Service-Oriented Architecture (SOA).
- Component diagrams are different in terms of nature and behaviour. Component diagrams are used to model the physical aspects of a system. Now the question is, what are these physical aspects? Physical aspects are the elements such as executable, libraries, files, documents, etc. which reside in a node.
- Component diagrams are used to visualize the organization and relationships among components in a system. These diagrams are also used to make executable systems.

Component diagrams are very important from implementation perspective. Thus, the implementation team of an application should have a proper knowledge of the component details Component diagrams can be used to −

- Model the components of system.
- Model the database schema.
- Model the executable of an application.
- Model the system's source code.

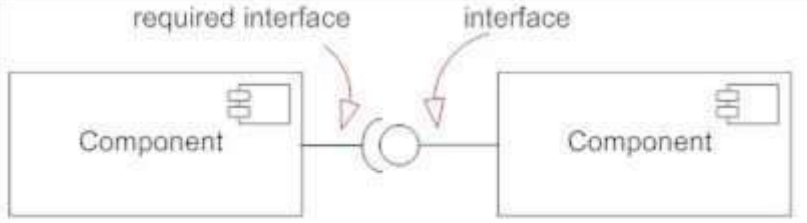
Basic Component Diagram Symbols and Notations

Component

A component is a logical unit block of the system, a slightly higher abstraction than classes. It is represented as a rectangle with a smaller rectangle in the upper right corner with tabs or the word written above the name of the component to help distinguish it from a class.

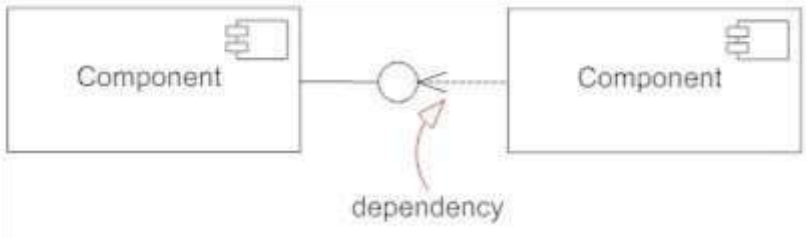
Interface

An interface (small circle or semi-circle on a stick) describes a group of operations used (required) or created (provided) by components. A full circle represents an interface created or provided by the component. A semi-circle represents a required interface, like a person's input.



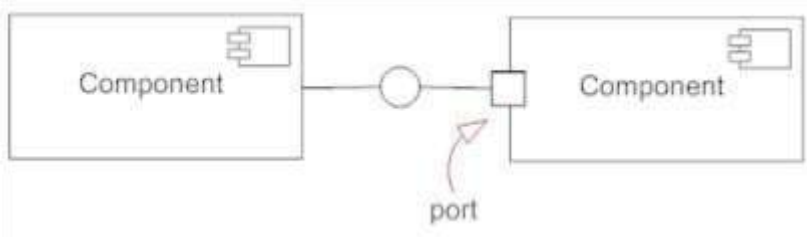
Dependencies

Draw dependencies among components using dashed arrows.



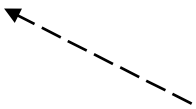
Port

Ports are represented using a square along the edge of the system or a component. A port is often used to help expose required and provided interfaces of a component.



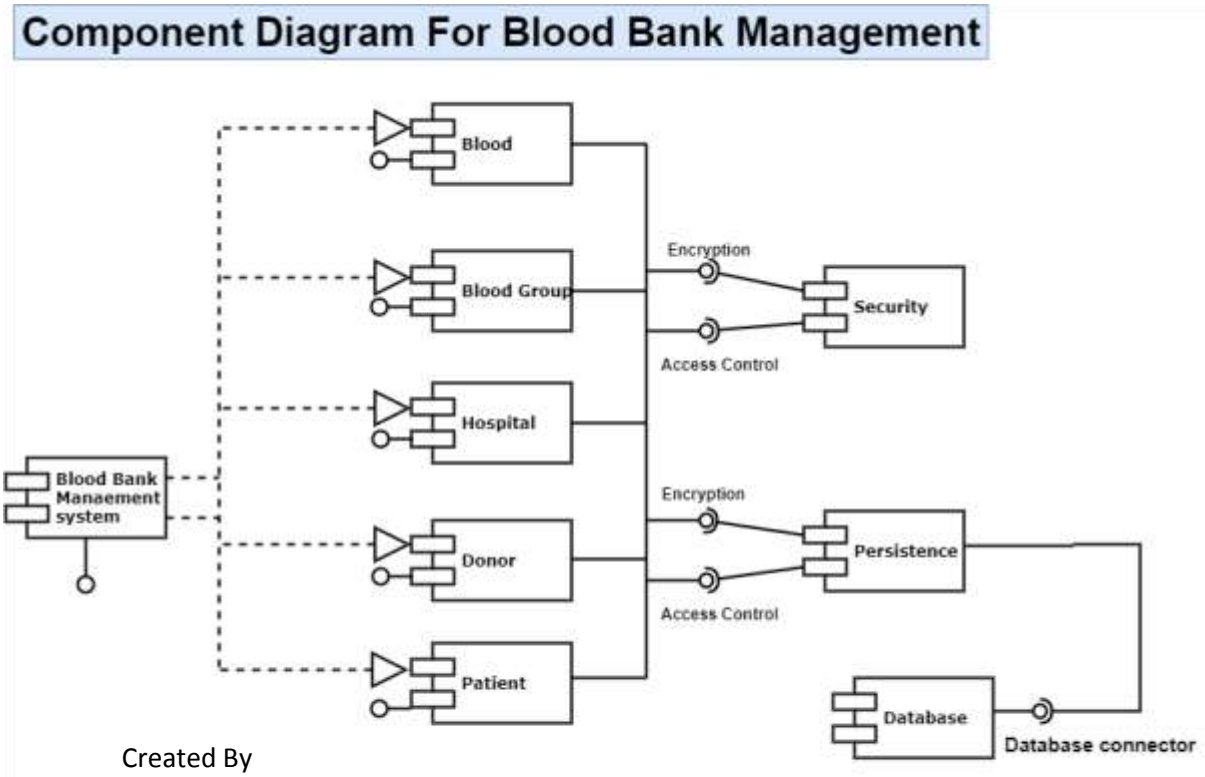
Package

Package container is used to define UML elements such as classes, use cases, and components.



Dependency

Dependency relationship is a relationship in which one element, the client, uses or depends on another element, the supplier.



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Conclusion: Hence, we studied and understood Component diagram