****

**TUNKU ABDUL RAHMAN UNIVERSITY COLLEGE**

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

BAIT2133 WEB ENGINEERING

TUTORIAL 10

**Answer all the questions:**

1. Discuss the content of a design template.

**Pattern Name and Classification:** A descriptive and unique name that helps in identifying and referring to the pattern.

* **Intent:** A description of the goal behind the pattern and the reason for using it.
* **Also Known As:** Other names for the pattern.
* **Motivation (Forces):** A scenario consisting of a problem and a context in which this pattern can be used.
* **Applicability:** Situations in which this pattern is usable; the context for the pattern.
* **Structure:** A graphical representation of the pattern. [Class diagrams](https://en.wikipedia.org/wiki/Unified_Modeling_Language" \l "UML_Class_Diagram" \o "Unified Modeling Language) and [Interaction diagrams](https://en.wikipedia.org/wiki/Interaction_diagram" \o "Interaction diagram) may be used for this purpose.
* **Participants:** A listing of the classes and objects used in the pattern and their roles in the design.
* **Collaboration:** A description of how classes and objects used in the pattern interact with each other.
* **Consequences:** A description of the results, side effects, and trade offs caused by using the pattern.
* **Related Patterns:** Other patterns that have some relationship with the pattern; discussion of the differences between the pattern and similar patterns.

1. Compare different types of design patterns.

1. Information architecture patterns - This design pattern shows overall structure of the information space and the ways in which users will interact with the information.

2. Navigation patterns - This design pattern defines navigation link structures, such as hierarchies, rings, and tours.

3. Interaction patterns - - This design pattern contribute to the design of the user interface. Patterns in this category address how the interface informs the user of the consequences of a specific action, how a user expands content based on usage context and user desires, how to best describe the destination that is implied by a link, and how to inform the user about the status of an ongoing interaction, and interface-related issues.

4. Presentation patterns - This design pattern assist in the presentation of content to the user via the interface. 5. Functional patterns - This design pattern define the workflows, behaviors, processing, communications, and other algorithmic elements within a WebApp.

1. Discuss the granularity levels of design pattern.

WebApp. Relates to architectural patterns that define the overall structure of the application, indicates the relationships among different components or increments, and defines the rules for specifying relationships among the elements (pages, packages, components, subsystems) of the architecture.

Page/screen/subsystem. Addresses a specific element of the design such as an aggregation of components, relationships among elements on a page, or the mechanisms for effecting component-to-component communication . Component patterns relate to individual small-scale elements of a WebApp. Examples include individual interaction elements (e.g. radio buttons, textbooks), navigation items (e.g., how you might format links), or functional elements (e.g., specific algorithms).

1. Discuss the consideration of deciding a design pattern.

whether the pattern is applicable to the current work whether the pattern can be reused (hence, saving design time), and whether the pattern can serve as a guide for developing a similar, but functionally or structurally different pattern.

1. Explain the benefits of using pattern.

* *Patterns don't provide solutions, they****inspire****solutions.*
* Patterns **explicitly** capture expert knowledge and design tradeoffs and make this expertise widely available.
* Ease the transition to object-oriented technology.