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**TUNKU ABDUL RAHMAN UNIVERSITY COLLEGE**

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

BAIT2133 WEB ENGINEERING

TUTORIAL 4

**Answer all the Questions:**

1. Compare Content Model, Hypertext Model and Presentation Model in terms of its purposes.

Content Model – captures underlying information and application logic. Need to consider also hyperlink and hypertext.

Hypertext model – represents all sorts of possible navigations through web applications or website. Presentation Model – maps hypertext structure to pages. Include information such as user, time, location, device used and Web’s adaptation.

1. Explain the Three Dimension of Software Application Modeling.

Traditional software engineers use model based approach to develop software. The model based approach involves three dimensions: Levels, Aspects and Phases.

1. What are the factors to be considered when selecting a modeling language? Explain 5 of them.

Popularity. This is a very important one. A good place to start is the Tiobe index. You are more likely to find people to collaborate with if you use a popular language. You are also more likely to find reference material and other help. Unfortunately, the most popular language globally may not be a good match for your problem domain.

Language-domain match. Choose one that matches your problem domain. You can do this by looking at what other people in your field are using (after adjusting for popularity, so don't think the match with Java is good simply because a lot of people are using Java) or by looking at some code that solves problems you are likely to have and seeing how natural the mapping is.

Availability of libraries. Some would argue that this is the same as the point above, but I don't think so. If there's a library that solves your problem well, you'll put up with some ugly calling conventions or hassle in the language.

Efficiency. Languages aren't fast - compilers are efficient. Look at the efficiency of compilers or interpreters for your language. Be aware that interpreted code will run an order of magnitude slower than compiled code as a rule of thumb.

Expressiveness. The number of lines of code you create per hour is not a strong function of language, so favour languages that are expressive or powerfulDiscuss the purpose of software modeling.

Education purposes Modeling something with flow charts or UML diagrams can be a great learning experience. It helps those new tp the field to understand finctional decomposition and teaches them how things we might take for granted is actually co.posed of multiple steps we might not be conscious of. Visualise the complexity If you're more experienced in the field you've probably designed fairly complex systems. Depending on the complexity involved it might be better to layout the system on a piece of paper and free up your brain to figure out what you want to figure out. Having it in front of you on a piece of paper and / or a whiteboard can help everyone understand what it is they are trying to solve or build and it can greatly help in brainstorming.

1. Discuss the purpose of Analysis Modeling and Design Modeling.

Purpose of Analysis Modeling is It must establish a way of creation of software design. It must describe requirements of customer. Purpose of Design Modeling is an abstraction of the implementation of the system. It is used to conceive as well as document the design of the software system. It is a comprehensive, composite artifact encompassing all design classes, subsystems, packages, collaborations, and the relationships between them.

1. Describe the Level dimension of software modeling.

Modern 3D CAD applications allow for the insertion of engineering information such as dimensions, GD&T, notes and other product details within the 3D digital data set for components and assemblies. MBD uses such capabilities to establish the 3D digital data set as the source of these specifications and design authority for the product. The 3D digital data set may contain enough information to manufacture and inspect product without the need for engineering drawings. Engineering drawings have traditionally contained such information.[