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**TUNKU ABDUL RAHMAN UNIVERSITY COLLEGE**

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

BAIT2133 WEB ENGINEERING

TUTORIAL 2

**Answer all the Questions: Wong Kai Yin**

1. Explain what Requirement Engineering is.

-Covers activities that are critical for the success of web engineering.

-Deals with principles, methods, and tools for eliciting, describing, validating, and managing requirements.

1. Identify and describe the challenges for requirement engineering.

-Unknown stakeholders

-Frequently change of requirements

-inexperienced in web technologies.

1. Explain the source of requirements.

Stakeholder, Documentation, Experience

1. Explain the Four main activities in Requirement Engineering.

**Requirements Elicitation and Negotiation** Scenario-based methods, multi-criteria decision processes, facilitation techniques, interviews, or document analysis

**Requirements Documentation.** Informal descriptions such as user stories, and semi-formal descriptions such as use cases are particularly relevant.

**Requirements Management.** Continuous changes of requirements and constraints are a major

Characteristic

**Requirements Verification and Validation.** The software requirements specification meet the need of stakeholders. The requirements is complete and same as documentation

1. What are the concerns when performing Requirement Engineering in the Web Engineering? Describe each of them.

Multi-disciplinarity - Multimedia experts, content authors, software architects, usability

experts, database specialists, or domain experts.

Unavailability of Stakeholders - Stakeholders (potential web users) still unknown during RE activities

Volatility of Requirements and Constraints- Properties of deployment platforms or communication more difficult in RE for web application.

Unpredictable Operational Environment- Changing bandwidths affect the response time of

mobile applications.

Impact of Legacy Systems- Integration of existing software components.

Significance of Quality Aspects- Performance, Security, Availability, or usability

1. Discuss the principle of Requirement Engineering.

Understanding the System Context. Analyzing and describing existing business processes

Involving the Stakeholders- Their active and direct cooperation in identifying and negotiating requirements is important in each project phase.

Iterative Definition of Requirements- Necessary in environment with volatile requirements and constraints.

Focusing on the System Architecture- Twin-peaks model suggests to concurrently refine both requirements and the system architecture.

1. Differentiate Requirement Elicitation, Requirement Validation and Requirement Management.

Requirements elicitation. Easywinwin - groupware-supported approach that guides a team of stakeholders

Requirements validation - Internet users can be invited to participate in web surveys to . Communicate their satisfaction with a web application.

Requirements management - Requirement management systems are important for change management and traceability of requirements.

1. Compare any *TWO (2)* system requirement gathering techniques.

**Survey/Questionnaire**. When collecting information from many people – too many to interview with budget and time constraints – a survey or questionnaire can be used. The survey can force users to select from choices, rate something (“Agree Strongly, agree…”), or have open ended questions allowing free-form responses. Survey design is hard – questions can bias the respondents.Interview spend a lot time and budget but can gather more specific information

**Document Analysis.** Reviewing the documentation of an existing system can help when creating AS–IS process document, as well as driving gap analysis for scoping of migration projects. In an ideal world, we would even be reviewing the requirements that drove creation of the existing system – a starting point for documenting current requirements. Nuggets of information are often buried in existing documents that help us ask questions as part of validating requirement completeness.

9.Identify *THREE (3)* characteristics of good requirement statements.

### Clear, COMPLETE, CONSISTENT