SIRI SYARAHAN PERDANA

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اونيۏرسيتي تيکنيکل مليسيا ملاک
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

IMPROVING TECHNICAL PRODUCT QUALITY THROUGH REQUIREMENTS ENGINEERING

1 OGOS 2022 ▪ ISNIN ▪ 8.30 PAGI-12.00 TENGAHARI
AUDITORIUM CANSELORI

PROFESOR TS. DR. MASSILA KAMALRUDIN

ANJURAN:
FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI, UTeM

Aturcara Majlis

8.00 Pagi	: Ketibaan Tetamu Jemputan dan Staf
8.20 Pagi	: Ketibaan YBrs. Prof. Ts. Dr. Massila binti Kamalrudin Naib Canselor UTeM
8.25 Pagi	: YBhg. Datuk Seri Dr. Hasim Bin Hasan Pengerusi Lembaga Pengarah Universiti, UTeM
8.30 Pagi	: Ketibaan YB Datuk Rais Bin Datuk Wira Yasin Exco Pendidikan Dan Teknologi Melaka
	: Sesi Bergambar
	: Nyanyian lagu Negaraku dan UTeM Terbilang
	: Bacaan Doa
	: Pengenalan YBrs. Prof. Ts. Dr. Massila bt Kamalrudin oleh Dekan FTMK
	: Persembahan Multimedia
9.15 Pagi	: Syarahan Perdana YBrs. Prof. Ts. Dr. Massila bt Kamalrudin
	: Penyampaian Cenderahati
12.00 tengahari	: Jamuan Makan dan Bersurai

Abstract

Technical products are based on a certain technology or require a technical expertise to create. An example of a technical product is a mobile application for a smart phone. A product has several attributes or characteristics that define its identity and influence customers buying decisions. Quality is an attribute that describes a product's capability. Product quality has become an important competitive advantage and differentiator for companies to market their products better, earn customer loyalty, establish brand recognition and gain more profits.

In order to design and develop quality products, developers conduct analysis to understand customer's demands, needs, requirements, expectations and standards through Requirements Engineering in order to produce product specifications. The most important part in Requirements Engineering is to ensure the highest quality of requirements is achieved, confirmed, and agreed by every stakeholder because the requirements will be used across the entire product development life cycle. Poor quality requirements will have critical impact on the quality of the resulting product that contribute to product failure in the market place.

Hence, Requirements Engineering or RE has become an important field with an established body of knowledge and processes.
In RE, requirements specifications need to be checked against the 3C's - Consistency, Completeness and Correctness - in order to achieve high quality. This is especially difficult when working with both natural language requirements and associated semi-formal modelling representations.

To solve this issue, a technique and support tool that allows semi-automated checking of natural language and semi-formal requirements models, supporting both consistency management between representations but also correctness and completeness analysis were used. A concept of essential use case interaction patterns to perform the correctness and completeness analysis on the semi-formal representation was also utilised. With an automated support tool, the potential inconsistencies, incompleteness and incorrectness using visual differencing was able to be highlighted. This in turn provided a quality specification that became the basis for the development of a quality technical; product.

This inaugural lecture is to highlight the field of Requirements Engineering. This lecture first introduces the need to develop quality technical products and then provided an overview of Requirements Engineering and its processes. A difficult issue to handle in Requirements Engineering is not just natural language requirements but also its multilingual nature. Hence, an automated tool that has been developed to successfully retrieve specifications from multilingual requirements is used. Lastly, the quality improvements and the trends in this field were discussed before concluding this lecture.

Keywords: Technical Products, Requirements Engineering, Quality, Multilingual Specifications, Automated Tool.

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