

**USING THREE LAYER MODEL (TLM) IN WEB FORM DESIGN:
WeFDeC CHECKLIST DEVELOPMENT**



**INSTITUT PENGURUSAN PENYELIDIKAN
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA**

BY:

**ZANARIAH IDRUS
NOR HAFIZAH ABDUL RAZAK
NOOR HASNITA ABDUL TALIB
TANIZA TAJUDDIN**

APRIL 2010

Surat Kami : 600-UiTMKDH(RMU 5/4/1/5/09)
Tarikh : 26 April 2009

 Pn. Zanariah Binti Idrus

Ketua Projek
Jabatan Teknologi Maklumat & Sains Kuantitatif
Kampus Sungai Petani
Peti Surat 180
08400 Merbok
Kedah

Pn. Nor Hafizah Binti Abd. Razak

Ahli Projek
Jabatan Teknologi Maklumat & Sains Kuantitatif
Kampus Sungai Petani
Peti Surat 180
08400 Merbok
Kedah

Pn. Noor Hasnita Binti Bd. Talib

Ahli Projek
Jabatan Teknologi Maklumat & Sains Kuantitatif
Kampus Sungai Petani
Peti Surat 180
08400 Merbok
Kedah

Pn. Taniza Binti Tajuddin

Ahli Projek
Jabatan Teknologi Maklumat & Sains Kuantitatif
Kampus Sungai Petani
Peti Surat 180
08400 Merbok
Kedah

Tuan/Puan,

TAJUK PROJEK DANA KECEMERLANGAN KATEGORI (C) : "USING THREE LAYER MODEL (TLM) IN WEB FORM DESIGN: WeFDeC CHECKLIST DEVELOPMENT"

Dengan hormatnya perkara di atas adalah dirujuk.

Sukacita dimaklumkan bahawa Mesyuarat Jawatankuasa Penyelidikan Dana kecemerlangan Kampus Kedah telah meluluskan cadangan penyelidikan yang telah dikemukakan oleh tuan/pun bertajuk di atas dengan syarat-syarat seperti berikut :-

- i Tempoh projek penyelidikan ini ialah satu tahun iaitu bermula 1 Mei 2009 hingga 30 April 2010.
- ii Kos yang diluluskan ialah sebanyak RM 5,000.00 sahaja.



ISO 9001:2000 Cert. No. KLR 5001

TABLE OF CONTENT

Description	Page
Research Offer Letter	
Report Submission Letter	
List of Project Team Members	
Acknowledgement	i
Table of Contents	ii
List of Figures	v
List of Tables	vi
List of Appendixes	vii
Abstract	viii

1.0 Introduction

1.1 The context of study	1
1.2 Problem Statement	4
1.3 Research Question	5
1.4 Research Objectives	5
1.5 Significance of Study	5
1.6 Report Structure	6

2.0 Literature Review

2.1 Introduction	7
2.2 Human Computer Interaction (HCI)	7
2.3 Definition of form	8
2.4 Definition of guidelines	9
2.5 TLM guidelines to form design	9
2.5.1 Relationship	10
2.5.2 Conversational Layer	11
2.5.3 Perceptual Layer	14

2.6	Others Web Form Design Guidelines	17
2.6.1	Process improvement approach	17
2.6.2	Designing Framework using Principle and Patterns	19
2.7	Conclusion	20
3.0	Methodology	
3.1	Introduction	22
3.2	Three-Layer Concept Understanding	24
3.2.1	Books, Articles and Online Magazines	24
3.2.2	Emails	24
3.2.3	Journal	25
3.3	Develop checklist based on guidelines	25
3.3.1	Understand the TLM guidelines	25
3.3.2	Identify Criteria	26
3.3.3	Create New Criteria	27
3.3.4	The Form Design Checklist Components	27
3.4	Collect Three Malaysian E-Government Web Forms	28
3.5	Validate WeFDeC	28
3.5.1	Pre-test	30
3.5.2	Post-test	30
3.5.3	Comparison of selected forms using WeFDeC	31
3.6	Conclusion	34
4.0	Checklist Development	
4.1	Introduction	35
4.2	TLM guidelines	35
4.2.1	Relationship	38
4.2.2	Conversational	39
4.2.3	Perceptual	40
4.3	Identify criteria	41
4.4	Create New Criteria	45

ABSTRACT

Since web application forms become as one of the major sources in retrieving information especially in e-government system, it is important to design web forms that can give good experiences to users. For the reason, the research presented in this report produced a design checklist (WeFDeC) conforming to task-based form guideline of TLM model, studied how WeFDeC checklist be applied as guidance in designing a better web form and investigate whether the selected local government form conform to WeFDeC checklist. The methodology consists of; develop checklist based on TLM guidelines, select three Malaysia government web forms, validate WeFDeC checklist and compare the forms with WeFDeC checklist. Compared results of pre-test and post-test showed that WeFDeC checklist able to provide guidance in developing web forms. The study on the selected government forms suggests that the forms did not meet TLM model guidelines and need improvement. Continuous studies on the government form could ensure of effectiveness and usableness of the forms. For further work of WeFDeC, the measurement, reliability and effectiveness shall be tested with other web form design checklist and to mobile forms.