COMPUTATIONAL TRACING TOOL TO EXTRACT POTENTIAL PATTERN OF COMPUTER LITERACY AMONG E-BOOKS USERS

UNIVERSITI TEKNOLOGI MARA

RESEARCH MANAGEMENT INSTITUTE (RMI)
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA

BY :

MOHD TALMIZIE BIN AMRON
NORIZAN BINTI MOHAMAD
AZLIN BINTI DAHLAN

MAC 2013

3. Acknowledgements

First and foremost, praise to Allah the Most Gracious, the Most Merciful.

This report would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of this research.

We thank the management of Research Management Institute (RMI) for their trust and allowing us to carry out this research. Our special thanks go to Prof. Madya Dr. Mazidah Puteh for her support and continuous encouragement.

Last but not least, our families and the one above us all, Allah the Al-Mighty, for giving us the strength to think ahead and move forward.

Mohd Talmizie Amron
Norizan Mohamad
Azlin Dahlan

5. Report

5.1 Proposed Executive Summary

Nowadays being a computer literate is necessary. Persons with sufficient computer literacy skills should possess both the knowledge and ability to use computers and the associated technology efficiently. In educational sector, the state government is investing considerably in promoting computer literacy among the pupils through the supply of electronic books (e-book). It is a significant commitment towards achieving a fully developed nation through the Vision 2020 plan. One of the important Malaysian Government's agendas is to prepare the citizens to be a knowledgeable workforce. It is therefore crucial that the pupils be equipped with the necessary computer skills in response to this workforce requirement. However, the pupils in schools vary in their capacity and abilities in learning to use computer technologies. A performance indicator of their computer literacy skills should be able to indicate their current computer literacy level. Hence, to ensure that the government's end-results are achievable and meet the workforce requirement, the computer literacy of the pupils should be measured periodically. How to best measure the computer literacy skills among the pupils remains a question. The objectives of this study are to explore the possibility of using suitable tracing tool for capturing computing activities, to develop automated tracing tool to analyse the log file and to identify the patterns of computer literacy skills among e-book users. This study will employ a qualitative research methodology which consists of five phases. First phase includes the literature survey followed by tool and data acquisition activities. Third phase are deals with data analysis, followed by coding and implementation in fourth phase. Finally, testing and evaluation will be performed. This phase enables the identification of the pattern and level of computer literacy skills among e-book users. The outcomes of this project have the potential to (1) identify the pattern of computer usage and (2) to track down the computer erroneous behaviour for computer debugging purpose.

5.2 Enhanced Executive Summary

Nowadays being a computer literate is necessary. Persons with sufficient computer literacy skills should possess both the knowledge and ability to use computers and the associated technology efficiently. In educational sector, the state government is investing considerably in promoting computer literacy among the pupils through the supply of electronic books (e-book). It is a significant commitment towards achieving a fully developed nation through the Vision 2020 plan. One of the important agendas is to prepare the citizens to be a knowledgeable workforce. It is therefore crucial that the pupils be equipped with the necessary computer skills in response to this workforce requirement. However, the pupils in schools vary in their capacity and abilities in learning to use computer technologies. A performance indicator of their computer literacy skills should be able to indicate their current computer literacy level. Hence, to ensure that the government's end-results are achievable and meet the workforce requirement, the computer literacy of the pupils should be measured periodically. How to best measure the computer literacy skills among the pupils remains a question. The objectives of this study are to explore the possibility of using suitable tracing tool for capturing computing activities, to develop automated tracing tool to analyze the log file and to identify the patterns of computer literacy skills among e-book users. This research is using the PCAgent tool, to provide a log file for the tracing tool. Each user's action was recorded and the completion time was also captured. Using the tracing tool, the accuracy percentage for all the tasks was calculated as well as the completion or response time. In this research, we found out that response time factor need to be explored further since it gave a slightly contradicting result against the accuracy factor. Hence, in this research, only the accuracy factor was used as a classifier for the expertise classification task.

Contents