

4	Pendekatan <i>mobile learning</i> membolehkan saya belajar tanpa mengira waktu dan tempat. (Mobile learning approach enables me to learn without time and location boundaries.)	-	0.7	0.7	76.1	22.5	4.20	Tinggi (Medium)
5	Pendekatan Mobile Learning memudahkan saya mendapatkan bahan rujukan, maklumat dan berhubung dengan pensyarah pada bila-bila masa. (Mobile learning approach makes it easier to access references and to contact the lecturer at any time.)	-	-	-	77.5	22.5	4.22	Tinggi (Medium)

Table: Mean analysis of the effectiveness

The table above shows the analysis of the effectiveness of mobile connection learning. The mean score for each of the items 1, 2, 4 and 5 are in the high level of 3.99 to 4.22. Item 5 received the highest score with a mean of 4.22 which indicated that 100% of respondents agreed that mobile learning enables them to search for references and information and enables them to contact the lecturer at any time. Obviously here, the students maximize the use of mobile learning applications for teaching and learning purposes which has become the latest trend in education in higher learning institutions.

Discussion

The discussion focused on the impact and effectiveness of mobile learning for students. Many students indicated that learning with mobile application improves the teaching and learning process. This app improves their interest in learning, allows access to records and reference materials regardless of time and place and can be connected to the lecturer at any time. According to Vavoula and Sharples (2002), mobile learning allows teaching and learning to take place without limitation of location and time. The development of mobile technology allows the learning process to not be limited to the physical walls of the classroom. With the wide range of mobile devices and tablets available, the learning environment becomes more interactive, stylish and attractive. Therefore, the mobile learning applications give positive impact on the students in the DPB3013 course.

16. DEVELOPMENT OF A GRAPHICAL USER INTERFACE USING LABVIEW AS A MEDICAL IMAGING LEARNING TOOL

Mitra Mohd Addi¹, Muhammad Rusydi Muhammad Razif, Fauzan Khairi Che Harun
 Universiti Teknologi Malaysia, Malaysia
 mitra@fke.utm.my¹

Introduction

Image-processing can be described as any signal processing for which the input is an image. Some images have defects such as noise or blur which needs specific processing to improve the image. There are several categories of image processing which includes enhancement, restoration, segmentation, registration, compression and pattern recognition. For a photographer, the use of image-processing technique is important to enhance the contrast, brightness, edges, sharpness or smoothing. In medical application, a radiotherapist uses image processing to conduct analysis and restore the region of interest. The image to be processed can be either a coloured image, a grayscale image or a black and white image.

Thermogram image is a coloured image, produced by the thermal camera. The colour distribution in the thermogram is based on the heat distribution. Light colours indicate the hot region of heat distribution and dark colours indicate the cool region. Thermograms are used in various applications such as in military, building inspection, firefighting, and search and secure mission.

Nowadays, thermography is a popular technique used in medical application to diagnose abnormalities in the human body. The technique is very popular as it is a non-invasive and non-contact medical imaging technique, safe and therefore is not harmful to humans. Thermotherapy has a high potential in the future of medical application as it can be used in early detection of skin cancer, pain management, burn depth assessment, fever detection, SARS, fracture, internal injury, and also arthritis. On top of that, thermal imaging is also able to attain the heat distribution of a large number of people in a short period of time.

There are many software that are available to process images and the difference between these software is the methods used in image-processing and the final product of the process. Usually a programmer uses several methods of image-processing to process an image. These series of image-processing methods are called image-processing algorithm.

The growth of image-processing softwares nowadays has become more complex and complicated. Learners and students take a long time to learn and understand how the final image would look like from each image-processing algorithm. This is because the final image is different from the original image after undergoing several processes. For a random normal user, they need to know the type of method that is used by any available image processing software to be able to understand the whole image process.

Another problem that arises during the analysis of the final image is that it is difficult to measure the dimensional characteristic of an image from just 'eye-balling'. The area of the region of interest, major axis length and minor axis length are some examples of the dimensional characteristics that a user usually needs to know from an image, which cannot be measured by just 'eyeballing' the image. Thus, it requires a supporting tool to assist them in measuring those dimensional parameters.

Teaching Innovation

The objective of the project is to develop a graphical user interface (GUI) which is able to be used as a medical imaging learning tool to help interpret, analyze and display images that have undergone several image processing. The GUI is also able to compare the image differences between two or more image-processing algorithm.