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SOFTWARE ENGINEERING (sOFTWARE tESTING)



PBL Assignment 1

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Version 1.0

JAN/APRIL/JULY SEMESTER 1

# PBL Assignment 1

**Question 1 [16 Marks]**

1. Explain the differences between **Software Engineering** and **Computer Science** disciplines. [4 marks]
2. Software complexity can be defined as “the degree to which a system or component has a design or implementation that is difficult to understand and verify”. Give **THREE (3)** factors contributing to software complexity. [6 marks]
3. Efficiency is one of the essential attributes of good software. Briefly, describe the attribute. Give **THREE (3)** efficiency elements that contribute to good software in online banking domain? [6 marks]

**Question 2 [14 marks]**

1. There are two types of product specifications, Generic Products and Customized Products. Give **TWO (2)** differences between these types of products. [4 marks]
2. Discuss how the different types of software such as system software, application software, and web-based software contributes to the inherent complexity in Software Engineering. [3 marks]
3. Change is inevitable in large software projects. Give **THREE (3)** factors which contribute to changes in software. [3 marks]
4. A good software should be possessed with the software external qualities and software internal qualities. Give **ONE (1)** example of each quality and briefly describe it. [4 marks]

**Question 3 [20 marks]**

Instruction: Answer ALL questions in the space provided.

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| Your company has been appointed to develop a Web-based mobile application pilot project for the ***MY Tourism Information System 2013***. The pilot will provide access to information like POIs, restaurant, shops, and events for tourists and citizens of MY using a mobile device with internet access (like *iPhone, Android, BlackBerry*). The registered users (clients) can access the online system per desktop or mobile to view information about touristic data (e.g. Hotels, Points of Interest, Shopping Spots) on any mobile phone with Internet access. The system can also provide interactive maps and routing based on standard solutions (*Google Maps, Microsoft Bing Maps, Ovi Maps, Yahoo! Maps, OpenStreetMap*). The pilot is primarily a web-based platform but can also be used as a platform for native device applications (*iPhone Apps, Android Apps, BlackBerry Apps*) and supports multiple languages and different media types (text, photo and video).  As for the agency, there are two main users, namely; the Tourism Organization (TO) and the visitors. The TO should correspond to advertise their events and MY highlights, advertise hotels, event/tour organizers, restaurant, shops etc. correspond using the application to administrate the reservation operations. The visitors should be able to display orientation & navigation at MY, interactive map of MY on Smart phones/Desktop, up-to-date information like events, shows etc. highlight tours planning, information in case of emergency and plan the trip at home and use the mobile guide while traveling around MY. |

1. Explain **THREE** **(3)** benefits of Software Engineering to be applied in the above case study [6 marks]
2. Assume that you are the leader of the development team for MY Tourism. You need to convince the software members on using Software Engineering discipline. Describe to your team members on **THREE (3)** aspects: theories, methods and tools which are related to the development of MY Tourism Information Systems.

[6 marks]

1. Explain in your own words why Software is now the most important part of every application domain. [8 marks]