PROBLEM SOLVING # 2 : PROCESS MODEL

Question 1

Suggest the most appropriate generic software process model for the following types of software, and justify your reason.

a. A user-interactive system that allows passenger of LRT train to buy a travel ticket from machines placed in train station.

b. An online application for human resource administration and payroll management system that replaces the existing manual system.

c. A mobile-based application using mobile phone devices to replace the existing online food-ordering system

d. A newly attendance system for student in classroom using smart Radio Frequency Identification (RFID) devices

e. A microchip simulation system that reuse the existing component of microcontroller devices.

Question 2

a) Change is inevitable in all large software projects. Change can lead to rework and cost to implement the changes. Explain how software process model can cope with the change..

b)Based on the type of each of the following systems, **SUGGEST** the most appropriate generic software process model that might be used and give a **REASON** for your selection.

i.   A robotic system that reuse the existing component.

ii.   A Food Ordering System that replaces an existing system.

iii.   An interactive system that allows customers to buy prepaid card (MAXIS, CELCOM, DIGI) from machines placed in shopping complex.

Question 3

"Denver airport was built to replace an outdated and congested former airport. There was one sophisticated system being built at the airport, the luggage or baggage handling system. The system was built to replace the old human operated system with robotic carts to move travelers' bags to different gates (arrival, departure) in the airport.

Due to the technology that has never been tried in small scale before and the lack of incremental development, the system plainly did not work. There are numerous mechanical problems, such as bags falling onto the tracks and jamming the cart carts, accumulating in one location unable to move and other problems.

The airport was scheduled for opening in 1993, but without functioning luggage system, the opening was delayed for over a year and the cost for the development has increased to billion dollars."

Based on the "Denver Airport Luggage Handling System" answer the following questions.

a. Software process is a structured set of activities required to develop a software system. Discuss **TWO (2)** problems exist in the above mentioned case study   **[5 marks]**

b. Suggest **ONE (1)** software process that you think suitable for the development of the "Denver Airport Luggage Handling System". Give reason for your answer.   **[4 marks]**

Question 4

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.

a. Describe the Software Process in general and how it helps in the development of **MY Tourism Information System**

e. Identify the most suitable software process model in developing the case study. Give reasons for your chosen process model.

Process Model : Incremental Reason: Already have stable requirements, but at the same time allows changes
Users/stakeholders involvement in development, quick responses and feedbacks for every increment