# **Assignment 5.4** Write down Management Activities for the three case studies.

## **Case 1.3.1 An insulin pump control system**

* *Project planning* 
  + A Project Manager plans the work and controls every change that appears during a software development project. Insulin pump system is a safety critical medical device. It may take two months’ time to complete for a team of 8-10 members. The project manager will divide the tasks and requirements among the team members.
* *Reporting*
  + Continuous reporting of progress of work is necessary. Project manager is responsible to handle this matter. Cross checking progress with customer requirements, having client feedback etc. is important to build this safety critical insulin pump system.
* *Risk management*
  + Project managers assess the risks that may affect a project, monitor these risks and take action when problems arise. The risks for this insulin pump system can be staff turnover, management change, technology change, hardware unavailability, requirement change etc.
* *People management*
  + Project managers have to choose people for their team and establish ways of working that leads to effective team performance. The members involved in developing the software should have clear concept about the medical issues and safety critical measures.
* *Proposal writing*
  + Project proposal includes how the insulin pump system will work, what are the objectives that needs to be carried out in order to develop the system. A short brief about the features of the system should be included. And lastly, a market value of the system should be discussed in order to sell the product or convince the client and have a contract. The proposed system is an embedded system that will control a software. The insulin pump is an integrated component insulin delivery system for diabetes patients. The software is going to collect information gathered from sensors and control a pump to deliver a controlled dose of insulin to a particular patient. The system architecture for the software is Repository architecture. All data or information in the system is managed by a central control system that is accessible to all system components. Components do not interact directly, only through the repository. The software will assist diabetic patients and calculate the dose of insulin that they should inject.

## **Case 1.3.2 A patient information system for mental health care**

* *Project planning* 
  + The proposed system is an information system that is intended for use in clinics. The system will maintain information about patients who are suffering from mental health problem and the information of treatment that they received. Project managers are responsible for planning. Project planning includes planning system architecture, estimating time taken to complete the project, develop a work plan, dividing work into sub-tasks, assign works to the members.
* *Reporting*
  + Project managers are usually responsible for reporting on the progress of a project to customers and to the managers of the company developing the software.
* *Risk management*
  + Project managers assess the risks that may affect a project, monitor these risks and take action when problems arise. The risks for this particular project can be product competition, management change, specification delays, size underestimate, requirements change etc. which can effect project, product and business as well.
* *People management*
  + The project includes several requirements. The system will have to be client-server based model with multiple interfaced access points for a mental health care facility. Project managers have to choose people for their team and establish ways of working that leads to effective team performance
* *Proposal writing*
  + The proposed system is an information system that is intended for use in clinics. The system will maintain information about patients who are suffering from mental health problem and the information of treatment that they received. The system can be also included in local medical practices or community centres. The system architecture for the software is client- server based system and a centralized database of patient information. The database can be accessible by several local systems though secured network connectivity. The system can be used by several users such as doctor, nurse, medical staff and examiners etc.

## **Case 1.3.3 A Wilderness Weather System**

* *Project planning* 
  + Project managers are responsible for planning the system architecture. A wilderness weather monitoring system is an embedded layered architecture. Project managers must also estimate and schedule project development and assigning people to tasks.
* *Reporting*
  + Project managers are usually responsible for reporting on the progress of a project to customers and to the managers of the company developing the software.
* *Risk management*
  + The system is a layered architecture software that includes several sub-systems which collectively helps to monitor the wilderness weather conditions. If the underlying technology that was used to build the system changes or is superseded by new technology, for example better sensors or instrument which can collect more precise data of weather parameters, then it will affect the business. Underestimating the number of weather parameters to manipulate and the size of database is a risk that might affect both project and product of the wilderness weather system. This risks need to be identified and managed at an early stage of development.
* *People management*
  + Project managers have to choose people for their team and establish ways of working that leads to effective team performance. Experienced developer must be included. To avoid risk and project delivery failure, junior developers can work alongside them to ensure learning and for backup.
* *Proposal writing*
* The proposed system is a distributed layered embedded system. The system consists of several sub-systems such as the weather station monitoring system, data management and archiving system and the station maintenance system. The system all together will assist to observe and monitor weather conditions in large areas of wilderness. Wilderness weather system are part of a larger system which is a weather information system that collects data from weather stations and makes it available to other system for processing.