# CHAPTER 10

# PROBLEM ENCOUNTED

# AND CONCLUSION

## 10.1 Overview

Problems arising during the development is unavoidable and the experiences gained during problem solving will become the learning stages by developer. A project that does not encounter any problem is not a well-rounded project. Problems encountered were documented for future references. It can provide guidelines on how to rectify the same problems should it arise again.

Stated below are some of the problems encountered by developer:

❑ Problem encountered at the beginning

❑ Problem encountered during the Requirement analysis tools and technique stage

❑ Problem encountered during the application prototyping development stage

### 10.1.1 Problems encountered at the beginning

Some of the problems faced by the developer at the beginning:

- ❑ Limited idea and knowledge of the remote monitoring process.

- ❑ As the developer is only providing the first draft of this idea, many modifications had to be made from time to time without prior notice.

- ❑ Insufficient guidelines to start the project.

### 10.1.2 Problems encountered during the Requirement Analysis Tools and Technique Stage

Stated below are some of the problems that were encountered during the requirement analysis tools and technique stage:

- ❑ Faced a lot of difficulty in understanding the real process of the remote monitoring system.

- ❑ Different CCTV manufacturers have different strength and weaknesses in their products. The developer has to spend a lot of time in studying the different CCTV system.

- ❑ Rejected by a few identified interviewees

### 10.1.3 Problems Encountered during Application Prototyping development stage

Stated below are some of the problems faced by the developer during the application prototyping development stage:

❑ Establish communication with the CCTV camera required in depth technical knowledge. Two weeks were spent in the MSDN (*Microsoft Developer Network*) library in order to obtain the necessary information.

❑ Developing this project required the developers to have strong networking skill, especially that of data communication. In addition, the finance aspect of the whole project needed to be budgeted wisely since the developer needs to setup a home network; which includes USB camera, network card, hub, modem, additional memory, Windows NT software and other minor development tools.

❑ Communication with modem was challenging. The developer had to find out the AT commands that can be communicate with the modem.

❑ Unpredictable error such as program logic error, data transmission error, illegal operation by Windows error had to be managed carefully by using unit-testing method.

- Facility is also a very important factor that affects the successfulness of the project. There is only one telephone line. To develop the dial up modem module for this project, it requires two telephone lines, two modems and two computers. As the result, the developer had to travel to the nearest colleague's house for testing. When error occurs, it is not easy to debug as it involves the use of multiple resources.

## 10.2 Conclusion

**Remote Monitoring System**

Remote Monitoring system allows users to monitor many different locations by just clicking a button on the Computer. Users do not need to travel to various places, as did traditional practices. A number of high quality cameras needed to be installed within the user premises. The cameras are connected to transmitters or computers; which will compress the images and transmit them at ultra high speed over ISDN, standard telephone lines or over Internet. Basically, there are three types of remote monitoring techniques: Remote monitoring via computer network, Remote monitoring via dial up telephone modem and Remote monitoring via Internet browser. All the three types of remote monitoring technique have their strengths and constraints. Commonly, the data transmission speed is the constraint of the remote monitoring system. The usage of Remote monitoring system is becoming more and more popular. It can be used in different application areas such as ATM bank, house surveillance, traffic congestion and others. CCTV Security systems are cost effective and more profitable. However, the legal aspect of using CCTV camera is an important factor that users need to take into consideration. Cameras may not be used in an area where there is a reasonable expectation of privacy.