



CHAPTER 9

SYSTEM TESTING

9.1 Overview

Testing is defined as the process of exercising or evaluating a system by manual or automatic means to verify if it satisfies specified requirements or identify difference between expected and actual results.

Tabulated below are some of the testing activities that were carried out:

- Unit testing
- Integration testing
- System testing

9.2 Unit testing

In unit testing, separate individual modules were tested. The developer is the person conducting the tests for the various modules. The primary goal for conducting unit testing is to validate the functionality of the various modules.



9.3 Integration testing

Integration testing involves testing groups of integrated modules. The objective of this phase was to determine if the prototype meets the specified requirements and functions properly. At the same time, all the modules should be able to communicate effectively and efficiently with one another.

9.4 System testing

The system testing can only be carried out after the entire modules have been integrated and have been made into an executable file. In this case, the system testing was only carried out after the developer had produced an executable version of the prototype.



9.5 Testing Result

9.5.1 Unit test

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Close button	Click	Exit procedure	Exit procedure	Pass
Stop button	Click	Stop transfer data	Stop transfer data	Pass
Form	Load	Waiting for connection	Waiting for connection	Pass

Table 9.1 Remote monitoring via Computer Network (Host Computer)

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Connect button	Click	Establish connection and receive data	Establish connection and receive data	Pass
Disconnect button	Click	Stop receiving data	Stop receiving data	Pass
Close button	Click	Exit procedure	Exit procedure	Pass

Table 9.2 Remote monitoring via Computer Network (Client Computer)

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Close button	Click	Exit procedure	Exit procedure	Pass
Stop button	Click	Stop transfer data	Stop transfer data	Pass



Form	Load	Waiting for connection	Waiting for connection	Pass
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Table 9.3 Remote monitoring via dial up Telephone Modem (Host Computer)

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Connect button	Click	Establish connection and receive data	Establish connection and receive data	Pass
Disconnect button	Click	Stop receiving data	Stop receiving data	Pass
Close button	Click	Exit procedure	Exit procedure	Pass

Table 9.4 Remote monitoring via dial up Telephone Modem (Client Computer)

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Close button	Click	Exit procedure	Exit procedure	Pass
Start button	Click	Published image to the Web	Published image to the Web	Pass
Browse button	Click	Save image to the particular folder	Save image to the particular folder	Pass

Table 9.5 Remote monitoring via Internet (Host Computer)



Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Start button	Click	Browse the image according to the URL address	Browse the image according to the URL address	Pass
Close button	Click	Exit procedure	Exit procedure	Pass

Table 9.6 Remote monitoring via Internet (Client Computer)

9.5.2 Integration test

Test Item	Test Action	Expected Outcome	Actual Outcome	Pass/Fail
Be a host & Network	Click	Link to the host network module	Link to the host network module	Pass
Be a client & Network	Click	Link to the client network module	Link to the client network module	Pass
Be a host & Modem	Click	Link to the host modem module	Link to the host modem module	Pass
Be a client & Modem	Click	Link to the client modem module	Link to the client modem module	Pass
Be a host & Internet	Click	Link to the host Internet module	Link to the host Internet module	Pass
Be a client & Internet	Click	Link to the client Internet module	Link to the client Internet module	Pass

Table 9.7 Main Menu



9.5.3 System test

The executable version of the prototype can perform all the functions that it is supposed to carry out.

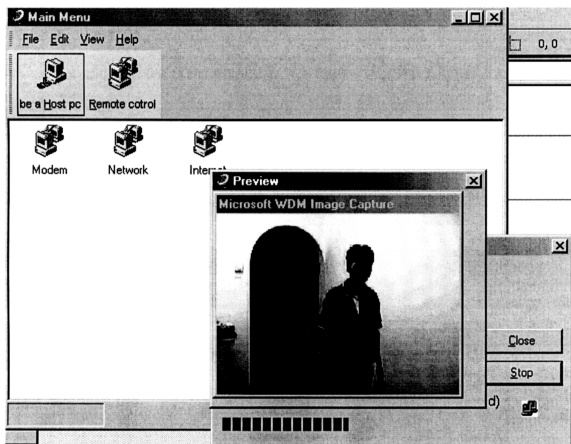


Figure 9.1 Host Computer: Host computer provides service to Remote User via Computer Network

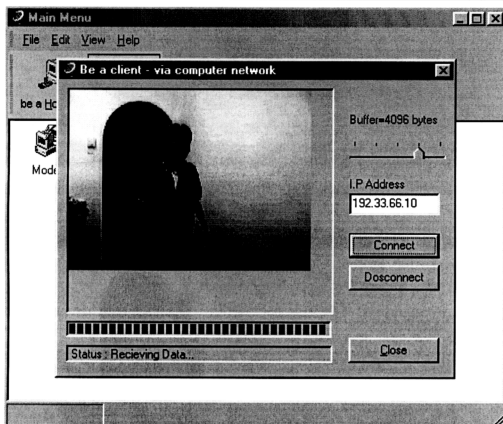


Figure 9.2 Client Computer: Remote monitoring via computer network



Figure 9.3 Host computer provides service to remote user via dial up telephone modem



Figure 9.4 Remote Monitoring: Remote monitoring via dial up telephone modem

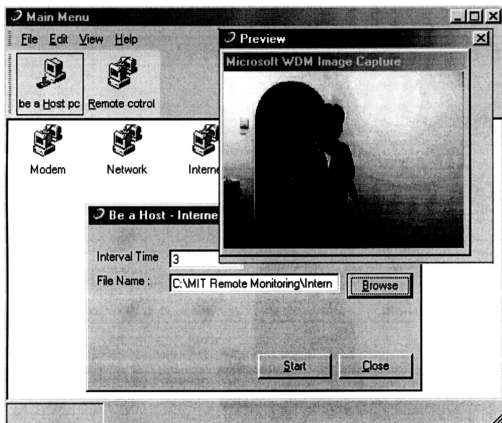


Figure 9.5 Host computer provide service to remote user via Internet browser

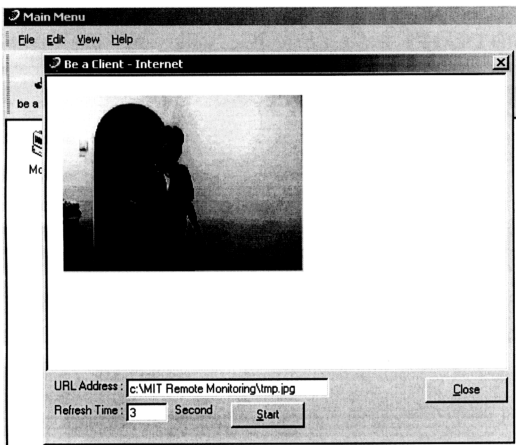


Figure 9.6 Remote monitoring using Internet browser