General Recommendations for Lab report and Project

for CS /EE M117 Class

LAB REPORT and PROJECT MUST BE PRESENTED IN PPT SLIDES and INCLUDE The FOLLOWING SECTIONS:

1 Title page (1 slide)

2. Abstract-short and clear description of Goals of the Report (Project) and the main goals of corresponding lab Experiments (1, 2 slide)

3. Lab experiments results and necessary Calculations.

4. Report Results.

5. Discussion- statements and analysis of obtained results.

6. Conclusions.

All together Reports should not exceed 15 slides.

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Recommendations for Lab Report . <u>"Wireless Data Transmission"</u>
(Based on Lab 1 & 2)

- In lab 1 you investigated data transmission over 802.11b Wireless LAN using different transport protocols and in the presence of noise sources.
- In lab 2 you investigated data transmission over Bluetooth PAN in different situations.

The main goals for the Lab experiments #1 are:

1. To give students the basic knowledge of various factors affecting data throughput in a wireless channel.
2. To expose students to the effect of sporadic losses on TCP throughput.
3. To familiarize students with basic performance measurement tools in computer networks.

The main goals for the Lab experiments #2 are to the test:

4. Effect of distance and Bit Error Rate (BER) on data transmission.
5. Effect of one-to-many connection on Bluetooth data transmission.
6. Interference among Bluetooth devices.
7. Interference and fairness between Bluetooth and IEEE 802.11 devices.

In the Report you need to consider results of:

a. UDP and TCP data throughput using Iperf measurement tool at different locations in BH Hall.
b. UDP and TCP data throughput in Lab with and without microwave turned on.
c. Data throughput using Iperf utility on one-to-one connection at different distances and for different packet types.
d. Data throughput on one-to-three and one-to-five connections.
e. TCP data throughput using Iperf measurement tool in three crossed one-to-one connections.
f. TCP data throughput in one one-to-one connection crossed by IEEE 802.11 data transfer.

Compare and evaluate results of the lab # 1 & 2. Make your conclusions.

LABORATORY RAW DATA SHEET GUIDELINES

LAB **RDS** MUST INCLUDE
THE FOLLOWING SECTIONS:

1 Title page

2. OBSERVATION-short and clear description of the main goals of lab experiments and the main results (qualitative and quantitative).

3. Lab experiment results.
Remember that RDS is a note for the followed report, and you can include information in the RDS about the experiment as much as you need.

5. After each lab experiments fill out and include "Goals and the results" sheet and include with RDS

#	Main Goals	Results with error
1 2		

THIS IS A RECOMMENDATIONS OF THE PROJECT:

Specifications for the Group Projects based on Special Wireless Experiments (SWE) Labs:

Projects - As part of the course requirements, students will work on a project of their choice, relevant to the wireless topics covered in class. Suitable project topics will be posted on the course CCLE and presented in class during the first two weeks of course. A typical project consists of the implementation of an Android application involving communications (peer to peer or with Internet Server) and computing (on smart phone and Internet Server). Projects with other wireless devices are also allowed with instructor consent.

A term project describing the results of the implementation/experiment must be prepared and submitted at the end 9th week. A presentation describing the highlights of the project and preliminary results must be delivered to the class in the last week of classes.

Project team size: 2-6 (larger or smaller teams with TA consent)
Term paper length: 5-15 pages

Title Page

Students' Name, teammates names, course name and course #, quarter, date, Project's title (1slide)

Abstract

Short description of the goals (1, 2 slide).

Lab SWE Results

Table of experiments results related to the project. Consider both qualitative and quantitative results. Use plots, charts, graphs, pictures and other visual representations whenever possible. Fully label all plots and do not forget to present the dimensions of the plotted values.

Discussion

This is the most important section of the lab PROJECT. It shows the skills of the author(s) in terms of his/her ability to correctly interpret the results of the laboratory experiments included into the project. Attempt to explain all deviations from expected results here. Use your head!

Conclusion

What did you learn in this set of the experiments? Were you surprised by the results? Did you form an overall model of the process being studied? Any suggestions for improvement of the exercises are welcome here.

Appendices

Any raw data tables or other material not belonging in the body of the report is included at the end.

References

REPORT for CS / EE M 117 may use any style of referencing.