ELC 343 - TERM PROJECT #9

In this design project the students are to design and implement on the C Stamp BOL microcontroller evaluation board the following data encryption and decryption algorithms.

Specifications:

1. The specifications of the systems are described in the Microchip Application Note AN953.

2. You must add to the system, so that you can demonstrate and convince me that your project works.

3. The application note covers three distinct algorithms from most complex to least complex, in that order. You are to do your project implementation in reverse order, from least complex to most complex.

You are to:

1. Write the programs in any mixture of C and/or Assembly language, as you see fit and with appropriate comments.

2. Build the program.

3. Produce a .lst file for review.

4. Download the .HEX file.

5. Debug the program very carefully; include portions of the debug in your report.

6. Demonstrate the operational program to the instructor.

7. Prepare and produce a fully documented technical report.

8. The report is to include, but not limited to the following:

    a. Introduction.

    b. Discussion of results including development of any equations, detailed graphs and schematics, oscilloscope pictures, and any other component that you think helps you to explain what, why and how you did what you did.

  c. The report must be understandable to another engineer or supervisor not working on this project.

  d. A conclusion of your results and discussion of anything you found especially interesting or not expected from you work on this project.

9. This report is a team report and is due to me no later than the period of the scheduled final

10. The team must make a 20 minute technical presentation to the class the period of the scheduled final. You can use any of the presentation technologies you want. Your presentation slides must be part of the final report.

REPORT FORMAT: Free form, but it must comply with the following:

  a. One report per team

  b. Have a cover sheet with identification: Title, Class, Your Names, etc.

  c. Include all the deliverables previously mentioned.

  d. COMPLETELY word-processed

  e. Double spaced

  f. 12 pt Times New Roman font

  g. Fully justified (optional)

GRADING:

1. Your report will be graded as to clarity, spelling, grammar and organization. The basic requirements are the same as for the technical reports already completed.

2. Whether the system works according to the specifications or how well the system works and how well it was designed.

3. Adherence to standard programming techniques such as using subroutines where possible is required.

4. Your presentation will be graded by your peers, possible some invited guests and I.