CAPSTONE GUIDELINES

HoChiMinh City, 19 December, 2018

Chapter I. INTRODUCTION

1. **Motivation:** the need of the project

2. **Problem Statement – The Need of Study:**
   - Current system description
   - Identify the problem or the gap needed to fill in the case.
   - What need to solve or achieve?

3. The Design Project Objectives and Requirements
   - Who will be benefit to have the results of this study?
   - What are expected outputs and/or application? What are expected results ?
   - Design requirements.

4. Scope and Limitations:
   - Assumptions, if any.
   - Specify some practical constraints

5. Project Plan
   - Specify Project Plan with Gantt Chart
   - Project Jobs: Problem Identification, Design Concepts Consideration, System Design, Prototype Development and Implementation, Results Analysis, Report Writing

Chapter II. DESIGN CONCEPTS CONSIDERATION

1. **Overview:**
   - Introduction to the case, studied company.

2. **Current System Investigation:**
   - Investigate curent system: what components? Structure? How does it work?
   - Advantages and disadvantages of current system

3. **Literature Review:**
   - Investigate curent development approaches in literature related to the similar systems
   - Summarize and classify the systems.

4. Design Concepts Consideration
   - Suggested Areas of Improvement
   - Brief Description of Possible Approaches/Tools for Improvements

Chapter III. SYSTEM DESIGN

1. **Approaches Comparison and Selection:**
4. Summarize advantages and disadvantages of the considered approaches
5. Conduct qualitative and/or quantitative comparison to select the final approach

2. **System Design Description:**
   - From the selected approach, develop design structre of the proposed system.
   - Design Description
   - Analyze and justify the techniques to be used.
   - Key Advantages of the proposed system design

Chapter IV. PROTOTYPE DEVELOPMENT AND IMLEMENTATION

1. **Prototype Development:**
   - Identify parameters, Collected Data
   - Construction the protoype for the system

2. **Results:**
6. Implementation
7. Conduct test runs
8. Describe the obtained results of the prototype's solution

3. **Analysis:**
9. - Conduct validation (experiments, measure of prototype outputs,…) and analyze the efficiency of the obtained system performance
10. Compare alternative solutions subject to feasibility constraints (economic factors, environmental and social) and the appropriate standards: ISO, OSHA, ANSI,HACPP, TCVN . . .
11. Analyze and evaluate the environmental, social and economic impacts

Chapter V. CONCLUSIONS

1. Summary of results: contributions, benefits
2. Recommendations for future research.

References

https://webstore.ansi.org/industry/manufacturing-production

https://www.osha.gov/

Appendices

REGULATIONS

1. **No cheating**
2. **Workload: cover all chapters**
3. **Contribution**
4. **Attendance**