STANDARD PROJECT GUIDLINE

For fourth year computer science students

**1. OBJECTIVE**

This guide book aims to Help students to have a good insight on the rules and procedures that should be followed in industrial project planning, design and implementation phases. Inform students about the evaluation and grading policies. Assist students use consistent formatting throughout their documentation.

Notify industrial project rules, procedures and guidelines for advisors and the evaluation committee.

**2. DOCUMENT STYLE AND FORMATTING**

For the industrial project work, while issues like document content and length are decided by the group and the advisor. Grammar, punctuation, spelling and other mechanical issues are the sole responsibilities of the group members.

**2.1. Language**

The senior project document must be prepared in English.

**2.2. Paper Size and Specification**

You have to use a standard A4 (8.27" X 11.69") paper size.

**2.3. Font**

The specifications below should be strictly followed throughout your document. For the title page(s), refer appendix II.

* + Body: Font type: Times New Roman Font size: 12
  + Major Heading: Font type: Times New Roman [UPPER CASE] Font size: 14 [bold]
  + Second Order Heading: Font type: Times New Roman Font size: 13[bold]
  + Third Order Heading: Font type: Times New Roman Font size: 12 [bold]
  + Font Color: Black (Recommended unless and otherwise other colors carry some sort of message)

**2.4. Spacing**

Document line spacing should be 1.5 with the exceptions of captions, lists, graphs, charts, items with tables and lists in the appendices. The alignment of each paragraph should be justified Lengthy tables may be 1 line spaced.

New paragraphs to start on next line (that is, there is no need of an extra line between paragraphs if paragraphs are formatted as suggested). No paragraph indents necessary. Each chapter must start on a new page. Chapter title should be centered and a Major Heading.

**2.5. Tables**

Tables should be consecutively numbered and labeled. Table numbering should indicate the chapter where it resides in.

**2,6. Figures**

Figures should be consecutively numbered and labeled. Figure numbering should indicate the chapter where it resides in.

**2.7. Margins**

Use the custom margins bellow for your document.

Top: 1" Bottom: 1" Left: 1.25" Right: 1"

**2.8. Page Numbers**

Except for the title page, number all pages which come before the first page of the body chapters consecutively with lower case roman numerals (i, ii, iii, iv…). The first page with Arabic numeral (1, 2, 3, and so on) starts from the page of the introduction. Put page numbers right aligned.

**2.9. Headers**

The header will comprise the title of the Project report. On every odd page will appear the title of the report while on the even pages the title of the chapter or section will be mentioned. The first page of every section or chapter shall not carry the header.

**3. References**

Reference numbers should be cited within the text as well as figure/table captions either as Super scripts or enclosed in square brackets. In this way of citation, all references should be numbered (Arabic numerals) in the order in which they are first cited in the report. Another alternative is citing references using the author’s last name and the year the material published. Here, all references should be arranged in a chronological ascending order.

Strictly avoid citing references in chapter/section/subsection titles. References are cited to convey to the reader that the idea, concept, formulation, data, inference or information being discussed is attributable to the cited literature. All figures/tables, which are taken from literature, must be acknowledged by citing the reference number or the author and the year of publication at the end of the caption. The main reference sources include books/monographs/ handbooks, archived journal papers, conference papers in published proceedings, institutional technical reports, theses/ project documents, dissertations and other archived reports and standards. Internet websites are also increasingly becoming an important source. However, it should be noted that Internet references should not form the entire list of references. Allowing URLs as references must not be misunderstood to mean that all Internet material is acceptable. Internet material may be transitory, may not be technically reviewed and may have questionable authenticity, that is, it may not be proper archival material. It may be used as secondary information source to supplement the main sources.

List references at the end of the paper in either numerical order or chronologically ascending order. Sample references could be as listed below:

For a book: author(s), book title (bold), publisher, city, year.

Example:

[1] L. R. Rabinerand B. H. Juang. **Fundamentals of Speech Recognition**. PTR Prentice Hall Inc, Englewood Cliffs NJ, 1993.

[2] ጌታቸውበለጠ:: የጥበባትጉባኤ::አስቴርነጋአሳታሚድርጅት፣አዲስአበባ፣2012::

For a journal paper: author(s), paper title (bold), journal name, volume number, issue number, page numbers (inclusive), publisher, year.

Example:

[3] R. K. Aggarwal and M. Dave. **Acoustic modeling problem for automatic speech recognition system: conventional methods (Part I).** In International Journal of Speech Technology, Vol. 14, Issue 4, pp 297 - 308, Springer Science+Business Media, 2011.

For a proceedings paper or chapter in an edited book: author(s), paper or chapter title, volume title, editor(s) (if applicable), volume number (if applicable), page numbers (inclusive), publisher, city, year.

Example:

[4] S. T. Abate and W. Menzel. Syllable-Based Speech Recognition for Amharic. In Proceedings of the 5th Workshop on Important Unresolved Matters, pp. 33–40, Association for Computational Linguistics, Prague, Czech Republic, 2007.

For an internet source: author(s), year, webpage title (bold), URL [access date].

Example:

[5] M. P. Lewis (Ed). (2009). Ethnologue: Languages of the World (Sixteenth edition) [Online]. Available: http://www.ethnologue.com/ [February 05, 2013].

**4. PRESENTATION SLIDE FORMATTING**

You are expected to defend your project by preparing a catchy presentation. Developing an outline or structure for your presentation will help you communicate a clear and meaning full message to your audience.

**4.1. Slide layout**

Your slides should have white background with little or no graphics. Your bullet points should be short and quick hits and try to keep the number of bulleted items around six per slide.

**4.2. Font**

Use Arial font type with color black. Main body contents should be coined in 20-24 pts.

Font type, size and style of the main content area on all slides except for the title slide should be the same.

Title of your project should be maximum of 36 point-size Each content slide should have a title and should solely reflect the comprised content. The titles should be brief and descriptive. They should not be full sentences.

The title of each slide should be 30- point size

**4.3. Total number of slides**

A general rule of thumb is one slide per minute. If you have a 35-minute presentation, you should include about 30 slides. You don’t want to overwhelm your audience with too much information. Focus on the key concepts you want your audience to remember. However, for the sake of your defense up to 27 slides are allowable.

Notice!

This is one of the biggest mistakes students make with PowerPoint: They cram too much text onto their slides. Your text-only slides should be short, quick-hit highlights written as phrases rather than complete sentences. If your audiences are busy reading your slide, they are not going to be paying attention to you. Or they may not read the slide at all, which renders your Power Point presentation useless. So, make sure to leave some white space around the main content on your slide. This helps to focus the reader’s attention on the key information.

**5. OVERALL GUIDELINE**

In this section, general guidelines that students, advisors, examiners and project coordinator must follow are specified.

**5.1. Evaluation guideline**

The evaluation guideline is proposed to help students, advisors, examiners and project coordinator work together so that there will be transparent, honest and fair evaluation process during the project undertaking. This part is divided into three main components

**5.2. Advisor contact**

Since there will be adviser evaluation form which use students score in which it will be given to the students you are expected your project advisers to contact by communicating with them.

Apart from its usefulness as a tool to evaluate students’ individual efficiency on the project, this procedure helps students do their project continuously in a progressive manner.

**5.3. Project Deliverables**

The second method of evaluation is based on the project deliverables that students should produce at different stages of the project. Students are expected to submit the deliverables below based on the schedule prepared by the department.

Project proposal, Project documentation, Document presentation, Implementation Demonstration

Note that: The quality in terms of content, format, English grammar and punctuation mark usages are considered. Delivery time is another parameter that is considered in this part. For each delayed day students will be penalized by certain points set by the project committee from the total mark of that particular deliverable.

**5.4. Presentation and Demonstration**

This is the third component that students are evaluated with. Here Dressing protocol, confidence while presenting the work, quality of presentation slide and appropriate time usage are considered. Proper presentation of your work is one of the most important skills that you are expected to develop during your stay in campus. Here some students assume that they have to say something even if it does not answer the question they are asked while others think that they have to defend everything. Here you will be evaluated based on how correctly and well you defended your work, and your honest y on accepting your weaknesses and limitations that are beyond your control. Concerning your demonstration, you should be able to map your implementation to the problem statement you started with, the requirements (both functional and nonfunctional) that you promised to deliver and the solution you proposed and designed in the design phase. Your implementation must be traceable to the documents you have produced. Your implementation source code will be checked for its originality and readability (e.g. Use of comments, following best coding practices) parameters.

**6. Plagiarism**

Any form of plagiarism will result into a severe measure. Students can use the work of others that they found help full without committing plagiarism. Use proper citation to acknowledge work of others. Stealing information through direct copy - paste will results into an automatic Flea ding to a complete rework of the entire project.

**7. Grade Decision**

The grade of the project work will be decided by the advisor, examiner and committee.

**8. Group effort evaluation**

Your effort as a team will be evaluated through comments and result given by advisors and examiners based on your punctuality to meetings and deadlines, willingness to accept and correct feedbacks, team spirit, and time management during presentations.

Students can exert their effort on their particular area according to their interest and skill. But they should have a significant role and participation in every piece of the project work. They should know what every deliverable is and how it is produced.

**9. Approaches, methodologies and tools**

The recommended approach for doing your project is Object Oriented Software Development approach. But by discussing with their advisors, students can select any modern software development approach available. You can select, again by discussing with your advisors, any appropriate software and tools that can assist you achieve your project’s objective.

**10. CONTENT OF THE PROJECT DOCUMENT**

**Preliminary Sections**

**Topic/Title Page:** Giving the logo and name of the institution, title of the project, the name and identification number of the student(s), and the name of the supervisor. The exact format is given in Appendix II as a sample page.

**Remember:** you should be able to pick a title which is relevant enough in solving real world problem(s) and improving your problem solving skills.

**Certificate:** a certificate as per the format shown in Appendix IV to be signed by the supervisor.

**Acknowledgment:** acknowledge guidance/advice/help received from people you have interacted with during the course of your project, restricting it to technical discussions associated with the contents of the project.

**Table of Contents:** (Microsoft word can generate this automatically) List of Tables [If any]: giving figure number, figure title, and page number (Microsoft word can generate this automatically). List of Figures [If any]: giving table number, table title, and page number. If there are very few figures and tables, then the list of figures and list of tables may be put on the same page. Otherwise they may be put on different pages (Microsoft word can generate this automatically) Acronyms [If any]: all acronyms and symbols used in the report must be defined here. Order should be alphabetically ascending.

**DEBRETABOR UNIVERSITY**

**FACULITY OF TECHNOLOGY**

**DEPARTMENT OF COMPUTER SCINCE**

**PROJECT PROPOSAL**

**ON**

**“YOUR PROJECT TITLE”**

A PROPOSAL SUBMITTED TO THE FACULTY OF TECHNOLOGY DEPARTMENT OF COMPUTER SCINCE OF

DEBRETABOR UNIVERSITY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF BSC IN COMPUTER SCINCE

**BY:**

**NAME OF GROUP MEMBER**

**ADVISOR:**

**NAME OF ADVISORS**

**MONTH, YEAR**

* Acknowledgement, Acronyms, Abbreviation
* Operational Definitions
* List of Figures
* Abstract

1. Introduction 
   1. Background
   2. Statement of the problem
   3. Objectives of the project
      1. General objective
      2. Specific objectives
   4. Purpose of the project
   5. Scope of the project
   6. Methodology 
      1. Data gathering techniques
      2. Design Methodology
      3. Implementation Methodology

* Hard ware,
* Software( for Front end and Back )
* Documentation
  + 1. Testing Methodology
* Unit testing, Integration testing, System testing (Alpha testing, Beta testing)

1. Requirement Analysis Description 
   1. Overview of the existing system
      1. Activities of the system
      2. Problem of Existing System
      3. Weakness and strength
      4. Business Rule
   2. Overview of the proposed system
      1. Functional Requirement
      2. Non-Functional Requirement
      3. Systems Requirement (Hardware and Software requirement)
   3. Constraints and Assumptions (separately)
2. System Modeling
   1. Use case Model
      1. Actor Specification
      2. Use case Diagram
      3. Use case Description
   2. Sequence Diagram
   3. Class Diagram
   4. Activity Diagram
3. System Design
   1. Design Goal
   2. System Decomposition
   3. System Architecture
   4. Deployment Diagram
   5. Persistence Data Management
   6. Access Control and security
   7. User Interface Design
4. Conclusion and Recommendation
   1. Conclusion
   2. Recommendations
5. References and Appendix (if any)

**General brief description for each chapter title**

**CHAPTER ONE**

**1. INTRODUCTION**

**1.1. Introduction**

Reasons for studying the problem selected should be listed. Works already done in that area should be mentioned. In here, you need to discuss about the significance of your focus area. Besides, the problem area and motivation to the need for your project work is described. Moreover, if your focus area leans on a specific organization you need to say so about the organization.

**1.2. Statement of the Problem and Justification**

Here you are expected to describe specifically how works done in that area now and what the problem is and the problem that you intend to solve. It should convey the project's importance, benefits, and justification.

**1.3. Project Objective**

Objectives to be achieved by the study should be discussed.

**1.3.1 General Objective of the system**

Write here aim of your project in general term

**1.3.2 Specific Objective of the System**

Here your measurable statements on the specific task to be answered

**1.4. Scope of the Project**

Here you need to define specific boundaries of your project in terms of what the project does.

**1.5. Limitation**

Describe the thing that your system not doing and why you have chosen not to do them

**1.6. Significant of the project**

Discussed the importance of your project after implementation (The societal and technological importance of your project)

**1.7. Beneficiaries**

Describe who will benefit from the project?

**1.8. Feasibility study**

Put here your project Economic feasibility, Technical feasibility, Operational feasibility and Schedule feasibility

* **Economic feasibility:** describe your Cost-benefit analysis, identify all the financial benefits and costs associated with your project including Tangible vs. intangible benefits and Tangible vs. intangible costs
* **Technical feasibility:** Assessing your group member and organization’s ability to construct the proposed system
* **Operational feasibility:** explain your proposed system solve problems or take advantage of opportunities
* **Schedule feasibility:** put your project time frame and completion dates meet the department academic year schedule deadlines. Using the Gant chart, pert chart or any other tool

**1.9. System Development Methodology**

This is an explanation of the theory related to the mathematical tools and techniques used and understanding of the concept involved. Relevance and source of the data used (if any) would make part of it. Innovation related to coding and testing strategies used (if any coding is done) will be cited. Discuss clearly *Data modeling technique and software tool*

**Work breakdown stricture (WBS)**

Here describe the Division of your project into manageable and logically ordered tasks and subtasks

**CHAPTER TWO**

**2. ANALYSIS**

**2.1. The Current Systems (existing system) description**

Discuss detailed study of the existing system what are theMajor function of the current system (current system description). What are the problems of the existing system?

* 1. **. Essential use case diagram**

Show depiction of your system’s behavior or functionality under various conditions as the system responds to requests from users (Full functioning for a specific business purpose).

**2.3. Description of essential use case diagram**

Describe your use case diagram

**2.4. Essential user interface**

**2.5 Business Rules**

Here discuss clearly the business rule of your system

**2.6. Proposed system description**

Overview of the new system, Inputs and outputs of the new system and the activities of your proposed system

**2.7. Functional Requirements**

Here document high level functionality of the system.

**2.8**. **Non-Functional Requirements**

Describe the mechanism of manage your system and all the remaining requirements (like performance, security, etc) which are not covered by the functional requirements of you system.

**2.9. Use case diagram for new system**

After use case diagram of new system describe her use case scenario

# CHAPTER THREE

## 3. DESIGN

## 3.1 subsystem decomposition

This section describes the services provided by each subsystem. Here diagrammatically depict your components.

## 3.2 proposed system architecture

View of the software architecture and briefly describes the assignment of functionality to each subsystem.

## 3.3. Sequence diagram for each use case

Shows how processes operate with one another and in what order of your system

**3.4. Activity diagram**

Show your system activity graphical representations of workflows of stepwise activities and actions with support for choice.

Note: after your activity diagram put figure of user interface prototype

## 3.5. Class diagram

Show the relationship among objects identified using class diagram, during this activity, you need to examine each subsystem service and each analysis object. You need to identify missing operations and attributes that are needed to realize the subsystem service. Specify visibility and signatures. During this activity, you need to decide which operations are available to other objects and subsystems, and which are used only within the subsystem. You need to also specify the return type of each operation as well as the number and type of its parameters. Specify contracts. During this activity, we describe in terms of constraints the behavior of the operations provided by each object. In particular, for each operation, we describe the conditions that must be met before the operation is invoked and a specification of the result after the operation returns. Here, you can use the UML class diagram to specify attributes and operations with their visibility information.

## 3.6. Collaboration diagram

Describes interactions among objects in terms of sequenced messages

## 3.7. State chart diagram

Show The state diagram in the Unified Modeling Language is essentially a state chart with standardized notation, which can describe many systems, from computer programs to business processes

**3.8. Component diagram**

You must depicts how components are wired together to form larger components and or software systems

## 3.9. Deployment diagram

Here visualize the topology of the physical components of a system where the software components are deployed

Note: addition to the above communicate with your adviser and add the following content on your document

1. Access control and security
2. Persistent data management

**APPENDICES**

**Appendix I**: Sample Weekly Contact Monitoring Form

Group Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Attendance

Student ID, Student Name, Present (P) or Absent (A)

Brief Summary of Agenda Discussed

Brief Summary of Decisions Made

Assignments given until next meeting

**Appendix II**: Sample Cover Page

UNIVERSITY OF GONDAR

FACULTY OF NATURAL AND COMPUTATIONAL SCIENCES

DEPARTMENT OF INFORMATION SYSTEMS

<TITLE OF THE PROJECT>

COMP XXXX: INDUSTRIAL PROJECT

BY

NAME OF THE STUDENTS ID NO

PROJECT ADVISOR: <ADVISOR’S NAME>

MONTH YEAR

**Appendix III**: Sample Declaration

DECLARATION

This is to declare that this project work which is done under the supervision of<<Your Advisor Here>>and having the title <<Your Title Here>> is the sole contribution of: <<Group Members Here>>

No part of the project work has been reproduced illegally (copy and paste) which can be considered as Plagiarism. All referenced parts have been used to argue the idea and have been cited properly. We will be responsible and liable for any consequence if violation of this declaration is proven.

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group Members:

Full Name Signature

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Appendix IV:** Sample Certificate

CERTIFICATE

I certify that this BSc industrial project report entitled <<your title here>> by:

<<List your name here>> is approved by me for submission. I certify further that, to the best of my knowledge, the report represents work carried out by the students.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Name and Signature of Supervisor

**Senior project coordinators**