Addis Ababa University
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SEEK WISDOM, ELEVATE YOUR INTELLECT AND SERVE HUMANITY !

ADDIS ABABA UNIVERSITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING

[_____STREAM]

FINAL YEAR PROJECT PROPOSAL

TITLE: [Smart Attendance Monitoring System]

GROUP MEMBERS: 1.

ADVISOR(S):

DATE:

Please note that:

- You may use different formatting, including the logo, but the cover page has to contain at least the information included here**.**
- Most of the sections of a proposal starts on a new page-refer for it below.

ABSTRACT

The abstract provides a concise summary of the entire proposal. It must not be greater than half a page in length. It should touch on the main points addressed in your proposal. As a rule of thumb, you may summarize each section of the proposal (i.e. introduction, problem statement…) in one or two sentences and include these sentences in the abstract in a sequential manner.

The abstract section of the example included below introduces the “Smart Attendance Monitoring System” and highlights its key features, emphasizing the use of “RFID technology and a centralized database for accurate and efficient attendance tracking.”

CONTENTS

LIST OF FIGURES AND TABLES

ACCRONAMES

If you have any accronames you use in the proposal, you can include here. E.g.

AAiT	Addis Ababa institute of Technology
AAU	Addis Ababa University
AC	Alternating Current
AVC	Automatic Voltage Control
BMS	Battery Management System
CAD	Computer Aided Design
DC	Direct Current

INTRODUCTION

This section can be 2-3 pages in length. The introduction section addresses what has been done by other researchers until this time in the area of your project interest, and tells you WHERE you should start. Usually, a few of the end sentences of this section should mention what other researchers have not addressed yet but you want to tackle it in the area of your particular topic.

In the example included below, the introduction sets the stage by acknowledging the challenges of manual “attendance tracking in educational institutions.” It outlines the significance of “automating the process”, what other researchers do in this regard, and what is left and for what portion of the problem you proposed a solution - the “Smart Attendance Monitoring System.” The introduction also briefly mentions the significance of your proposed solution; in this example- the use of “RFID technology and a centralized database” to enhance the efficiency of “attendance tracking”.

PROBLEM STATEMENT

Though this section's length depends on the number of problems you are going to address, usually it is 1-2 pages.

At this stage, you have identified what has been done, what is left, and the particular problem you want to solve at the end of the project.

This section usually answers the WHY section of your project- Which currently persistent problems do you want to address in this particular project and WHY is it important? You may consider optimizing the current system in cost, power, speed, space, noise…. by adding up-to-date technologies.

In the example proposal, the section delves into the issues associated with "traditional attendance tracking" methods. It identifies problems such as "time-consuming manual processes, errors in recording, and the potential for fraudulent activities like proxy attendance." The problem statement emphasizes the need for "a modern, automated solution" to address these challenges.

OBJECTIVE

This section usually ends on a single page but you may extend it up to 2 pages.

The objective section outlines the specific goals of the project. It answers the question “WHAT are you going to do to solve the problem and what will the product/service look like after your proposed solution is implemented?” You may need to break down this section into General objectives and Specific objectives.

General objective

Set you final goal using 1-3 sentences.

Specific Objectives

Try to address specific components, using some bullet points that can give you the final goal in sum.

The example proposal breaks down the objectives into three key components: “integrating RFID technology for precise student identification, establishing a centralized database for real-time attendance tracking, and developing an automated reporting module for both instructors and administrators.”

METHODOLOGY

The length of this section is highly dependent on your project scope- recommended length is 2-3.

At this stage, you identified the problem you want to solve, the objective, and the scope of your project. In this sub-section we would like you to tell us about “WHICH Methods” and how you are going to approach the project development and implementation.

The methodology section describes the step-by-step approach the project will take. It is highly recommended that you use flow charts instead of bullet points. You may need to use graphic design tools or project management software such as Microsoft Visio, Lucidchart, or even drawing software to create these charts. Microsoft Word/Excel is also more than enough at this time. Please refer to the below flowchart for your reference.

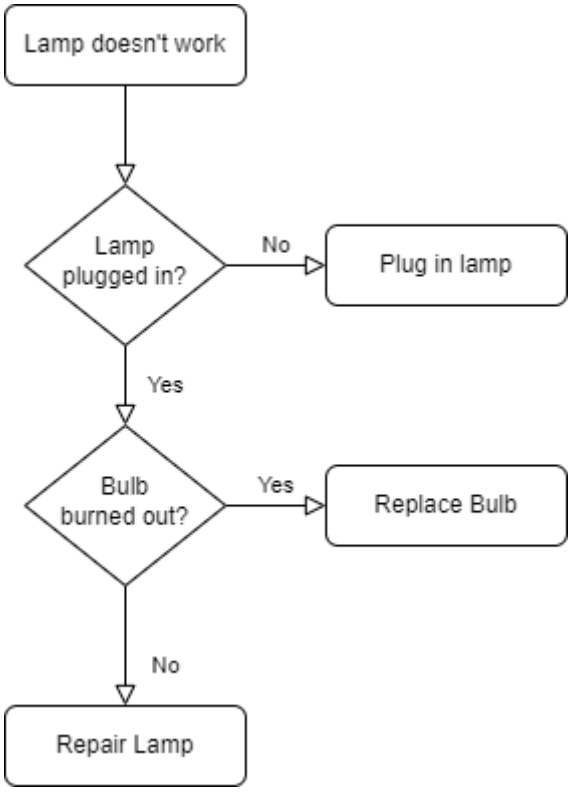


Figure 1: Flowchart for Methodology

The methodology section of the example proposal begins with a detailed system design phase, followed by the “integration of RFID technology, implementation of the centralized database, and development of the automated reporting module.” Each phase is explained in terms of its purpose and expected outcomes.

RESOURCES REQUIRED AND ESTIMATED BUDGET

At this stage, we expect that you have put your approach to tackling the project. This section lists the resources necessary for the successful implementation of the project both hardware and software tools. You better tabulate this section using tables; refer to them below. You don't necessarily need all columns of the table.

Table 1: Budget table

No.	Name	Type	Part number	Manufacturer	Quantity	Unit price	Sub-total price
						Total price	

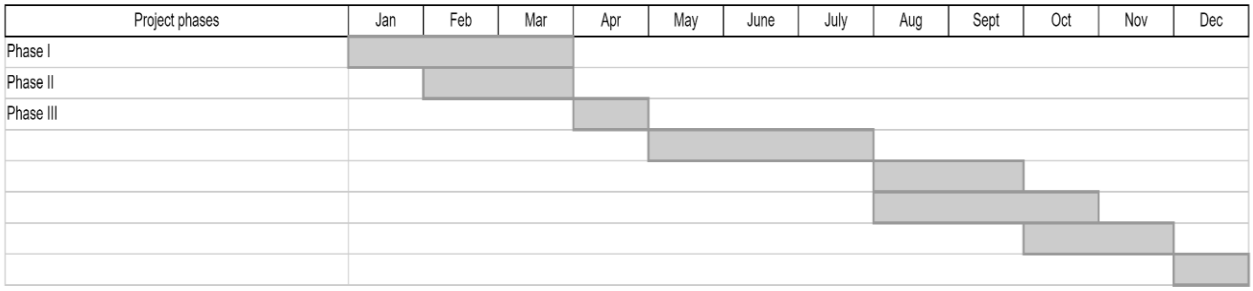
The example proposal of "the Smart Attendance Monitoring System" includes RFID technology components like cards and readers, a database management system, development tools and software, projectors for demonstrations, and a team of professionals including a project manager, systems architect, software developers, a database administrator, an RFID technology expert, and a user experience (UX) designer.

TIMELINES

At this stage, you know what you are going to do and its estimated budget. Another important budget of a project is TIME. This section should answer the question of WHEN the project will be completed- the estimated time.

The timelines section provides a month-by-month (or week-by-week for short-term projects) breakdown of the project schedule. We highly recommend you use a Gantt chart for time scheduling. You can make the chart in Excel and export it into Word or you can make it in Word using tables.

Table 2: Gantt chart for timeline



The example proposal outlines the activities for each phase, starting from the “system design in the first two months and concluding with documentation and presentation in the eleventh and twelfth months.” This timeline ensures a structured and organized approach to project development.

REFERENCES

We are sure that we used others' papers, books, and any form of published and/or unpublished resources when we were researching the project background and along the way. As a result, we should include these materials in an organized and sequential form. We can use any form of referencing technique such as IEEE (usually for Electrical Engineers). You may check this for different referencing techniques.

The example proposal's references section includes a list of sources that have been referred to and cited in the proposal. This ensures transparency and credibility by acknowledging the existing body of knowledge related to attendance tracking systems and RFID technology.

APPENDIXES

If you have any additional information that you don’t want include in the main proposal but want to give the reader more information about, such as formula derivations, figures… you can damp them under this section.

EXAMPLE PROPOSAL:

TITLE: SMART ATTENDANCE MONITORING SYSTEM

ABSTRACT

The Smart Attendance Monitoring System is a pioneering solution devised to modernize traditional attendance tracking mechanisms in educational institutions. This comprehensive project leverages cutting-edge Radio-Frequency Identification (RFID) technology and implements a robust centralized database to enhance accuracy, efficiency, and transparency in attendance recording. By addressing the challenges inherent in manual attendance systems, this system not only promises to automate the attendance process but also aims to provide real-time insights, ultimately reducing administrative overhead and fostering an environment of informed decision-making.

INTRODUCTION

In the context of educational institutions, the conventional process of manually recording attendance is riddled with inefficiencies. The Smart Attendance Monitoring System introduces a paradigm shift by integrating RFID-enabled student identification cards, automating the entire attendance tracking process. This not only eliminates the errors associated with manual methods but also opens the door to real-time data collection and reporting. Beyond mere automation, the system aspires to empower educators with valuable attendance trends and patterns, contributing to more informed decision-making.

PROBLEM STATEMENT

The traditional methods of attendance tracking are laden with challenges that hinder the optimal functioning of educational institutions. Manual attendance processes are prone to errors, time-consuming, and vulnerable to fraudulent practices such as proxy attendance. The Smart Attendance Monitoring System seeks to mitigate these challenges by presenting a holistic solution that ensures accuracy, saves instructional time, and safeguards against unauthorized attendance entries. Through these measures, the system aims to create a more reliable and transparent attendance-tracking ecosystem.

OBJECTIVE

The primary objectives of the Smart Attendance Monitoring System are multi-faceted, aiming to deliver a holistic solution that encompasses:

1. **RFID Technology Integration**: The development and implementation of an RFID-based student identification system that ensures seamless and reliable attendance tracking.
2. **Centralized Database Integration:** The establishment of a robust centralized database system that seamlessly integrates with the RFID infrastructure. This database facilitates real-time data storage, retrieval, and analysis.
3. **Automated Reporting Module:** The design and implementation of an intelligent reporting module capable of generating comprehensive attendance reports. These

reports cater to the specific needs of both instructors and administrators, providing valuable insights into attendance trends and patterns.

METHODOLOGY

Phase 1: System Design

This phase involves a comprehensive analysis to define the system architecture and identify the components required for RFID integration and database implementation. Stakeholder consultations will be conducted to ensure that the system aligns with user requirements. Key deliverables include:

- Stakeholder Analysis
- System Architecture Definition
- Stakeholder Consultations
- Definition of Components for RFID Integration and Database Implementation

Phase 2: RFID Integration

This phase focuses on the development and integration of RFID technology components for student identification. Rigorous testing will be conducted to validate the accuracy and efficiency of the RFID system, ensuring compatibility with various student identification scenarios.

- Development of RFID Technology Components
- Testing and Validation

Phase 3: Database Implementation

This phase involves the selection and implementation of a suitable Database Management System (DBMS), schema design, and integration with the RFID infrastructure.

- DBMS Selection
- Schema Design
- Integration with RFID Infrastructure

Phase 4: Automated Reporting

This phase is dedicated to the design and implementation of an intelligent reporting module. The module will offer customizable reporting features, allowing stakeholders to derive meaningful insights from attendance data.

- Design Reporting Module
- Implementation
- Customizable Reporting Features

Testing and Debugging

The entire system will undergo rigorous testing and debugging to ensure overall reliability, accuracy, and security.

Documentation and Presentation

This final phase involves the preparation of comprehensive project documentation and the creation of presentations for the project defense.

RESOURCES REQUIRED

The successful implementation of the Smart Attendance Monitoring System necessitates a range of resources:

- RFID Technology Components: RFID cards, readers, and software solutions.
- Database Management System: Selection and implementation of a suitable DBMS (e.g., MySQL, PostgreSQL).
- Development Tools and Software: Programming languages such as Python or Java for system development.
- Projectors: Essential for system demonstrations and user training sessions.
- Human Resources: A dedicated project manager, software developers, a database administrator, and an RFID technology expert to ensure the successful execution of the project.

TIMELINES

The project unfolds over a structured timeline, with each phase allocated a specific duration:

- Month 1-2: System Design
- Month 3-4: RFID Integration
- Month 5-6: Database Implementation
- Month 7-8: Automated Reporting
- Month 9-10: Testing and Debugging
- Month 11-12: Documentation and Presentation

REFERENCES

[Include a list of references]