**Kathmandu University**

**Department of Computer Science and Engineering**

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**A Project Proposal**

**on**

**“SkyScout”**

**[Code No.: COMP 311]**

**(For partial fulfillment of Year I/Semester II in Computer Engineering)**

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# Abstract

It should include summary of what you are intending to do as project work. It should answer three main questions. What are you doing? Why are you doing? And How are you doing? The abstract should cover exact problem and how your work is going to address those issues. Abstract provides description about the project in minimum possible words. Abstract should contain 150-200 words as follows:

* Background (1 to 2 sentences)
* Purpose/Aim (1 to 2 sentences)
* Procedure and Method/Tools (1 to 2 sentences)
* Expected Outcome (1 to 2 sentences)
* Conclusion (1 sentence)
* Recommendation (1 sentence)

**Keywords:** (keywords of your project that describe your project, e.g.,*Procedural**programming, file, information).*

Table of Contents

[Abstract i](#_Toc167798850)

[List of Figures iii](#_Toc167798851)

[List of Tables (if any) iv](#_Toc167798852)

[Acronyms/Abbreviations (if any) v](#_Toc167798853)

[Chapter 1 Introduction 1](#_Toc167798854)

[1.1 Background 1](#_Toc167798855)

[1.2 Objectives 2](#_Toc167798856)

[1.3 Motivation and Significance 2](#_Toc167798857)

[1.4 Expected Outcomes 2](#_Toc167798858)

[Chapter 2 Related Works/ Existing Works 3](#_Toc167798859)

[Chapter 3 Procedure and Methods 4](#_Toc167798860)

[Chapter 4 System Requirement Specifications 5](#_Toc167798861)

[4.1 Software Specifications 5](#_Toc167798862)

[4.2 Hardware Specifications 5](#_Toc167798863)

[Chapter 5 Project Planning and Scheduling 6](#_Toc167798864)

[5.1 Tasks: 6](#_Toc167798865)

[APPENDIX 7](#_Toc167798866)

[References 8](#_Toc167798867)

[Bibliography *(Optional)* 9](#_Toc167798868)

# List of Figures

It gives information about all the figures used in the documentation. All figures used in the report should be listed, used during explanation of the works. See the example below:

[Figure 4.1 Sample Gantt chart 6](#_Toc91578187)

Make sure to add caption to your figures (by clicking Insert Caption) to make them appear automatically in the above list. You will need to click Update Field to update the list.

# List of Tables (if any)

It should give information about all the tables used in the documentation. Tables should be given appropriate caption.

[Table 3.1 Sample table 4](#_Toc91578215)

# Acronyms/Abbreviations (if any)

The list of all abbreviations used in the documentation is included in this section. See the example below:

VRVirtual Reality

RAM

Random Access Memory

DMA

Dynamic Memory Allocation

1. Introduction

## Background

For years, humans have sought to study weather, with the evolution from basic sky observations to sophisticated models utilizing vast amounts of data from satellites, radars, and weather stations. The incorporation of machine learning algorithms has allowed for more accurate and timely forecasts unlike early methods involving weather predictions on the basis of pattern recognition and historical data. Despite these advancements, the challenge remains to present this data in a manner that is accessible and actionable for the general public.

One of the major challenges includes unintuitive user interface. Many existing apps have clunky interfaces that are not intuitive for all users. Additionally, the weather apps commonly have linguistic problem, making it inaccessible to the common people.

The proposed weather application “SkyScout” seeks to address these gaps by integrating cutting-edge technology and user-centered design principles. Further, the application will also seek to address the inaccessibility issue by offering an interface available in Nepali and English language. The application will process and analyze vast datasets to provide accurate and localized weather analysis. Furthermore, the application will incorporate features such as severe weather alerts, historical weather data, and predictive analytics. These features are designed to not only inform users about current weather conditions but also help them understand weather patterns and prepare for future events. The ultimate goal is to create a tool that not only provides weather information but also empowers users to make informed decisions based on accurate and comprehensive data.

## Objectives

The objectives of SkyScout are as follows:

**1.2.1 Provide Accurate and Timely Weather Forecasts:** Utilize advanced meteorological data and predictive models to deliver precise and real-time weather information, including temperature, precipitation, wind speed, and humidity.

**1.2.2 Enhance Accessibility:** Develop an intuitive, user-friendly interface that is available in multiple languages to ensure accessibility for a diverse user base.

**1.2.3 Incorporate Historical Data and Predictive Analytics:** Enable users to access historical weather data and utilize predictive analytics to identify trends and patterns, assisting in long-term planning and decision-making.

**1.2.4 Offer Weather Alerts:** Implement a system that shows weather alerts for specific conditions such as severe weather warnings.

By achieving these objectives, SkyScout seeks to set a high standard for weather applications.

## Motivation and Significance

Motivation to choose the topic, importance and contribution of your project work is included in this section.

* Why did you choose this particular topic as your project?
* How does the work address drawback of existing systems?
* How is it different from the existing works?

It consists of short paragraph about features of your project work. A brief introduction of features that project is going to address, helps to make the project proposal more robust.

## Expected Outcomes

What outcomes do you expect from this project?

1. Related Works/ Existing Works

It focuses on discussion of similar types of other task/projects that have been performed earlier. It should include recent projects, works, website, etc. as reference. Referencing should be in APA format. Below are some examples:

According to (Doe, 2012), Management System should include components of…

Thapa and Shrestha (2010) have done similar project where they have implemented…

The Minesweeper (Rai & Parajuli, 2012) has features like….

Similar kinds of project work were performed earlier which has properties…

In writing this section, your purpose is to convey to your readers what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are (Taylor & Procter, 2008). It also should include previous work, comparison between works, drawbacks and current work.

1. Procedure and Methods

It includes the explanation of the sequential procedure that you intend to perform during the project work. It may include algorithms, flowcharts, System Diagrams and other analysis and design which give general idea about how you approach different development procedures during the project work. It may contain a few paragraphs and diagrams which may describe your work.

Table . Sample table

|  |  |  |
| --- | --- | --- |
| **Header** | **Header** | **Header** |
| Content | Content | Content |

1. System Requirement Specifications

This chapter specifies the requirements of the proposed system. It may include software specifications and hardware specifications.

## Software Specifications

This section presents the description of the software system to be developed. It should include the functional and non-functional requirements of the software.

## Hardware Specifications

It contains description of any additional hardware that may be required for the project. It also gives information about required minimum configuration of the system to develop the system.

1. Project Planning and Scheduling

It should give general idea on how you are planning to allocate your time/resources for different process of your project development.

Gantt chart is essential to represent your time allocation for the project. GANTT chart with activities and milestones is included in this section.

A **Gantt chart** is a type of bar chart that illustrates a project schedule. Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project. Terminal elements and summary elements comprise the work breakdown structure of the project.

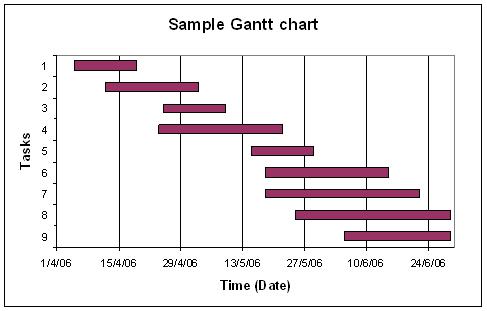


Figure . Sample Gantt chart

## Tasks:

1. Problem identification and requirement gathering
2. Problem analysis
3. Design
4. …

# APPENDIX

An **appendix** typically includes data and supporting documents used by the author to develop the report. Screenshots which assist in your planning and works are also included in this section.

# References

It is the list of books, resources, internet links, magazines, research papers etc. that help your work as reference during your project duration. References should be included in APA format. APA format for reference and citation can be generated in different word processing software, including Microsoft Word. In Microsoft Word, you may go to Manage Sources to prepare the list of articles, books etc., and then insert Bibliography. If the sources are updated after inserting the bibliography, then the list also needs to be updated by right-clicking on the list and selecting Update Field.

Rai, B., & Parajuli, K. (2012). The Minesweepers. *Example Journal Name*.

Taylor, D., & Procter, M. (2008). The literature review: A few tips on conducting it. *Health Sciences Writing Centre*.

# Bibliography *(Optional)*

It includes listing of the books, Internet sources and other similar works that you take use indirectly in designing, carrying out, and understanding your project.

Bibliography should be included in APA format.