A Project Report On

THE PROJECT TITLE GOES HERE

Submitted in partial fulfillment of the requirement for the 8th semester

Bachelor of Engineering

in

Computer Science and Engineering

DAYANANDA SAGAR COLLEGE OF ENGINEERING

(An Autonomous Institute affiliated to VTU, Belagavi, Approved by AICTE & ISO 9001:2008 Certified)

Accredited by National Assessment & Accreditation Council (NAAC) with 'A' grade

Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078

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Under the guidance of

Dr. Firstname Lastname   **Dr. Secondname Lastname**

Professor, CSE , DSCE   Asst Professor, CSE , DSCE

2020 - 2021

Department of Computer Science and Engineering

DAYANANDA SAGAR COLLEGE OF ENGINEERING

Bangalore - 560078

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Dayananda Sagar College of Engineering

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<u>CERTIFICATE</u>

This is to certify that the project entitled [**Project Title Goes Here**] is a bonafide work carried out by **John Doe [1DS17CS001]**, **Mary Sue [1DS17CS002]**, **Marty Sue [1DS17CS003]** and **Mark Twain [1DS17CS004]** in partial fulfillment of 8th semester, Bachelor of Engineering in Computer Science and Engineering under Visvesvaraya Technological University, Belgaum during the year 2020-21.

Dr. Firstname Lastname   **Dr. Ramesh Babu D R**   **Dr. C P S Prakash**

(Internal Guide)   Vice Principal & HOD   Principal

Asst Prof. CSE, DSCE   CSE, DSCE   DSCE

Signature:...........   Signature:...........   Signature:...........

Name of the Examiners: Signature with date:

1..........................   ....

2..........................   ....

Acknowledgement

We are pleased to have successfully completed the project [**Project Title Goes Here**]. We thoroughly enjoyed the process of working on this project and gained a lot of knowledge doing so.

We would like to take this opportunity to express our gratitude to **Dr. C P S Prakash**, Principal of DSCE, for permitting us to utilize all the necessary facilities of the institution.

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[Project Title Goes Here]

John Doe, Mary Sue, Marty Sue, Mark Twain

June 3, 2021

Abstract

This is a sample abstract. It should consist of a single paragraph of no more than 250 - 300 words. Describe the background, goals and methodology of your project in brief here. Use full, short sentences instead of punctuating your sentences with multiple commas. The Abstract typically does not include blank lines between the paragraphs, but you may include them. Do not include any images here. What follows is random text to fill up the space to show you what the desired length (including these words) looks like. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur. **(286 words)**.

Contents

Part I

Overview

Welcome to the main body of the report. As you can see we have used the part tag above to label the first part of our report, called the overview. We have done this so that LaTeX can automatically number our document. There are multiple tiers to this numbering, such as sections, subsections, subsubsections and paragraphs. You can also use chapters, but for that at the top of the document you must enable report instead of article. I think 4 levels of nesting is enough. LaTeX also uses the information you have given it to populate the table of contents (Index). So please use the appropriate tags instead of manually changing the font, it will make your document easier to edit, maintain and will also give you a neatly formatted index.

1 Sample Section

This is a section. I have used the section tab which you can view in the source file.

1.1 Sample Subsection

This is a sample subsection. This uses the subsection tab which you can view in the source file. This also numbers the subsection with a decimal with the section number as its root. To start a new section just use the section tab again!

1.1.1 Sample Subsubsection

This is a sample subsubsection. Note that the numbering is a subset of the subsection. This also indents the index to the right. You may also notice that the size of the titles decreases as you go lower.

2 text formatting

LaTeX includes some default text sizes. These are labelled:

huge

LARGE

Large

large

normalsize

small

footnotesize

scriptsize

2.1   Bold, Italics, Underline and mathmode

You can use the text tag for normal text. If you are typing paragraphs, it is best to not use any markup as this may cause overflow errors. the textbf tag will give you **bold text**. You can also use Texmaker's B button on the left editing pane.

You can use textit tag for italics. This will *italicize the text*. You can also use Texmaker's i button on the left editing pane.

You can use the underline tag for underline. This will <u>underline the text</u>.

Rendering beautiful equations is one of the features of LaTeX. You can represent Greek and other symbols easily by using the backslash with the symbol name. However to do this you must first enable mathmode. You can do this by using Dollar symbols to encase the mathematical symbols. I use flalign to align my equations properly. Given below are some samples:

$$Stall\,velocity\,V_{stall} = \sqrt{\frac{2W}{\rho S(C_L)_{max}}} \tag{1}$$

$$Takeoff\,distance\,Sg =$$
$$\frac{1.21(W/S)}{g\rho_\infty C_{Lmax}(T - D/W) - \mu_r(1 - (L/W))]_{0.7VTO}} \tag{2}$$
$$+1.1N\sqrt{\frac{2W}{\rho SC_{Lmax}}}$$

You can see that LaTeX also numbers our equations for us!

2.2   Coloured Text

We can use the textcolour tag to color our text (color is spelt with an american spelling). You can also nest the text styles and sizes mentioned above into the colour tags to produce custom text with different font styles, sizes and colours. Given below are some samples:

Large red coloured text

Normal blue coloured text

Bold green coloured text

Italicized yellow coloured text

3   Two Column

If you want your report to have the look of a research paper, you can use the twocolumn tag. If you want to switch out of two columns, you can just use the onecolumn tag again. The empty space between the columns is determined by the columnsep parameter, which is at the head of the file.

You can use the multicols package for 2 or even 3 column layouts and switch dynamically between them on the same page. This however may cause formatting issues and is generally not recommended. If you need to switch to two columns, use a new page to avoid formatting issues. The rest of this page is random text to show you how a two column layout looks.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur? At vero eos et accusamus et iusto odio dignissimos ducimus qui blanditiis praesentium voluptatum deleniti atque corrupti quos dolores et quas molestias excepturi sint occaecati cupiditate non provident, similique sunt in culpa qui officia deserunt mollitia animi, id est laborum et dolorum fuga. Et harum quidem rerum facilis est et expedita distinctio. Nam libero tempore, cum soluta nobis est eligendi optio cumque nihil impedit quo minus id quod maxime placeat facere possimus, omnis voluptas assumenda est, omnis dolor repellendus.

This is the end of two column view.

3.1 Hyperlinks

LaTeX provides us with Hyperlinks via the Hyperref package. You can use the href tag to link to a URL and name it something. The url tag can be used to link a URL without an alias. The mailto option can be used when referring to an email ID so that the mail client opens up directly when clicked. Latex generated PDFs also show a blue box around links. Examples below:

Link with alias: DSCE - Homepage

Link without alias: `https://dsce.edu.in/`

My email address is: ashutosh@gnu.org

Combine color with href: DSCE - Homepage

4 Code and Algorithms

4.1 Code

LaTeX provides us with several packages to handle code. Some of these include verbatim and listings. Listings is far more powerful and as usual, it has to be declared in the header with the usepackage along with colour. Later we define lstset (given in the source file). We define the language and what colours we want for the keywords, numbers, comments et al. An example output is given below:

```java
// Hello.java
import javax.swing.JApplet;
import java.awt.Graphics;

public class Hello extends JApplet {
    public void paintComponent(Graphics g) {
        g.drawString("Hello, world!", 65, 95);
    }
}
```

4.2   Algorithms

Algorithms or Pseudocode can be written using Algorithm2E or Algorithm (deprecated) or Algorithmx packages. Here is an example using Algorithm2e. The package must be included in the document preamble.

Data: this text

Result: how to write algorithm with LaTeX2e

initialization;

while *not at end of this document* **do**

> read current;
>
> **if** *understand* **then**
>
> > go to next section;
> >
> > current section becomes this one;
>
> **else**
>
> > go back to the beginning of current section;
>
> **end**

end

Algorithm 1: How to write algorithms

5   Tables

LaTeX provides several packages for tables. It is easy to draw and modify tables with any number of rows and columns. The table will automatically flow to the next page incase it does not fit in one page. You can use the Xtabs or tabular package to handle many different types of tables. Given below is a sample:

Comp	Ult Load (N)	LA (N)	FoS	MoS
Wing	10	12	13	43
Fuselage	45.14	66.67	1.4	47
Boom	978	3.42	286	186
Landing gear	490.32	294	13.67	03.67

Table 1: Critical Margins Table

FoS = Factor of Safety

MoS = Margin of Safety

The width of the rows and other properties can be edited on the first line begin tabular (see source). Try to avoid multiple table packages together as this may lead to errors.

6 Images

165 LATEX provides the graphicx package to include images. There are special packages to handle text warping, but using Minipages is a convenient way of handling images. Sample given below:

Figure 1: Hello, I am a cat

Figure 2: Another cat

Be sure to check the hyperlinks to the figures. Change the file names to something you can
170 easily remember to avoid getting confused. Make sure all the begin and end tabs are proper, else the images will not render. You can also use scale instead of absolute values in centimeters or millimeters.

7 References

To include References the right way (using Biblatex), search for a Bibtex generator on Google,
175 and feed its output to a seperate Bibtex (Bib) file. Then we simply reference it in our main file and you will get the citations neatly ordered. If you want a quicker (improper hack), then just paste the results of the citation generator.

[1] Figure 2f from: Irimia R, Gottschling M (2016) Taxonomic revision of Rochefortia Sw. (Ehretiaceae, Boraginales). Biodiversity Data Journal 4:e7720

180 [2] BRANDON, J. 2007. Similarity of temporal query logs. Doctoral dissertation. University of California, Los Angeles.

Please note that the citation formats for different documents (articles, reports, dissertations,papers, conference proceedings) and organisations (ACM, IEEE) are different. Use a consis-
185 tent style.