Title of the Project Report

Capstone project report to be submitted in partial fulfillment of the requirements for the degree

of

Bachelor of Science in Computer Science and Engineering

by

First Author Name
153014000

Second Author Name
153015000

Under the supervision of

Supervisor Name

COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY OF LIBERAL ARTS BANGLADESH

SPRING 2021

DECLARATION

Project Title	Title of the Project Report
Authors	*First Author Name* and *Second Author Name*
Student IDs	153014000 and 153015000
Supervisor	Supervisor Name

We declare that this capstone project report entitled *Title of the Project Report* is the result of our own work except as cited in the references. The capstone project report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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CERTIFICATE

This is to certify that the capstone project report entitled **Title of the Project Report**, submitted by **First Author Name** (Student ID: *153014000*) and **Second Author Name** (Student ID: *153015000*) are undergraduate students of the **Department of Computer Science and Engineering** has been examined. Upon recommendation by the examination committee, we hereby accord our approval of it as the presented work and submitted report fulfill the requirements for its acceptance in partial fulfillment for the degree of *Bachelor of Science in Computer Science and Engineering*.

Supervisor Name
Assistant Professor

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Dr. Syed Akhter Hossain
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University of Liberal Arts Bangladesh

Place: Dhaka
Date: April 22, 2021

ACKNOWLEDGEMENTS

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We are extremely thankful to our parents for their unconditional love, endless prayers and caring, and immense sacrifices for educating and preparing us for our future. We would like to say thanks to our friends and relatives for their kind support and care.

Finally, we would like to thank all the people who have supported us to complete the project work directly or indirectly.

First Author Name and **Second Author Name**
University of Liberal Arts Bangladesh
Date: April 22, 2021

To my mother
FA Mother name
and father
FA Father name

–First Author Name

To my mother
SA Mother name
and father
SA Father name

–Second Author Name

ABSTRACT

Write abstract here

Keywords: keyword1, keyword2

Contents

List of Figures

List of Tables

Chapter 1

Introduction

Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being larger than only Mercury. In English, Mars carries the name of the Roman god of war and is often referred to as the "Red Planet".The latter refers to the effect of the iron oxide prevalent on Mars's surface, which gives it a reddish appearance distinctive among the astronomical bodies visible to the naked eye. Mars is a terrestrial planet with a thin atmosphere, with surface features reminiscent of the impact craters of the Moon and the valleys, deserts and polar ice caps of Earth. Figure 1.1 shows a photo of Planet Mars.

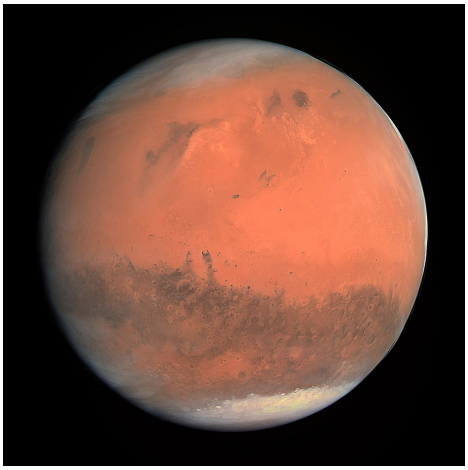

Figure 1.1: Pictured of the Planet Mars in natural color captured in 2007.

The orbit of every planet is an ellipse with the Sun at one of the two foci. Mathematically, an ellipse can be represented by the Eq. (1.1).

$$r = \frac{p}{1 + \varepsilon \cos\theta} \tag{1.1}$$

where p is the semi-latus rectum, ε is the eccentricity of the ellipse, r is the distance from the Sun to the planet, and θ is the angle to the planet's current position from its closest approach, as seen from the Sun. So (r, θ) are polar coordinates.

For an ellipse $0 < \varepsilon < 1$; in the limiting case $\varepsilon = 0$, the orbit is a circle with the Sun at the centre (i.e. where there is zero eccentricity).

1.1 Historical observations

During the seventeenth century, Tycho Brahe measured the diurnal parallax of Mars that Johannes Kepler used to make a preliminary calculation of the relative distance to the planet.[288] When the telescope became available, the diurnal parallax of Mars was again measured in an effort to determine the Sun-Earth distance. This was first performed by Giovanni Domenico Cassini in 1672. The early parallax measurements were hampered by the quality of the instruments. The only occultation of Mars by Venus observed was that of 13 October 1590, seen by Michael Maestlin at Heidelberg. In 1610, Mars was viewed by Italian astronomer Galileo Galilei, who was first to see it via telescope. A portait of Galileo Galilei is depicted in Fig 1.2. The first person to draw a map of Mars that displayed any terrain features was the Dutch astronomer Christiaan Huygens.

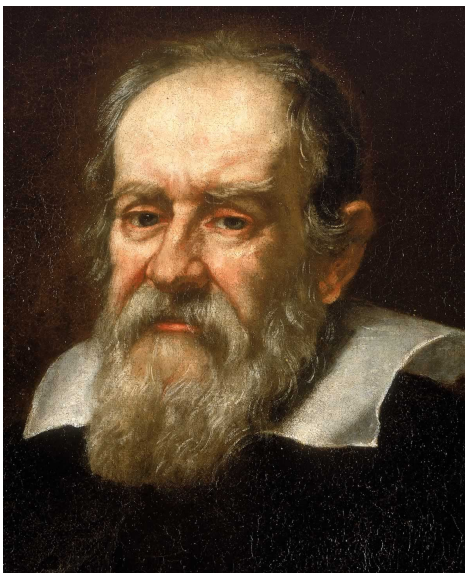

Figure 1.2: Galileo Galilei, first person to see Mars via telescope in 1610.

1.2 Climate of Mars

The climate of Mars has been a topic of scientific curiosity for centuries, in part because it is the only terrestrial planet whose surface can be directly observed in detail from the Earth with help from a telescope.

Although Mars is smaller than the Earth, 11% of Earth's mass, and 50% farther from the Sun than the Earth, its climate has important similarities, such as the presence of polar ice caps, seasonal changes and observable weather patterns. It has attracted sustained study from planetologists and climatologists. While Mars' climate has similarities to Earth's, including periodic ice ages, there are also important differences, such as much lower thermal inertia. Mars' atmosphere has a scale height of approximately 11 km (36,000 ft), 60% greater than that on Earth. The climate is of considerable relevance to the question of whether life is or was present on the planet. The climate briefly received more interest in the news due to NASA measurements indicating increased sublimation of one near-polar region leading to some popular press speculation that Mars was undergoing a parallel bout of global warming, although Mars' average temperature has actually cooled in recent decades, and the polar caps themselves are growing. Table 1.1 show the surface temperature range of planet Mars in different measuring scale.

Table 1.1: Surface temperature range of planet Mars in different measuring scale.

Surface temp.	min	mean	max
Kelvin	130 K	210 K	308 K
Celsius	-143 °C	-63 °C	35 °C
Fahrenheit	-226 °F	-82 °F	95 °F

Chapter 2

How to use this template?

2.1 Set Your Report Particulars

Assuming, a student named "Afsin Fairuz" is working under the supervision of Associate Professor Dr. Mohammad Shahriar Rahman on her Thesis titled "Blockchain Based Food Distribution in the Planet Mars" alone whose Student ID is 243014007. Afsin wants to dedicate her Thesis to her Mother *Mansura Akhter* and Father *Manzurul Haque*.

In order to setup report particulars, Afsin would configure the report as follows:

```
% Use one: Thesis/Capstone project report/Project report
%\def\RoportType{Capstone project report\xspace}
\def\RoportType{Thesis\xspace}
%\def\RoportType{Project report\xspace}

\def\ReportTitle{Blockchain Based Food Distribution in the Planet
Mars\xspace}
\def\Supervisor{Dr. Mohammad Shahriar Rahman\xspace}
\def\SupervisorPosition{Associate Professor\xspace}
\def\reportSubmissionDate{\today}
%\def\reportSubmissionDate{February 02, 2029}
\def\reportSubmissionTerm{Fall 2028}
```

2.2 Set Group Members Particulars

According to the description given in Sec 2.1, Afsin would configure the group members particulars as follows:

```
\def\numberOfAuthors{1} % write 1, 2 or 3 (depends on your group)
%
\def\firstAuthor{Afsin Fairuz\xspace}
\def\firstAuthorID{243014007\xspace}
\def\firstAuthorFatherName{Manzurul Haque\xspace}
\def\firstAuthorMotherName{Mansura Akhter\xspace}
```

2.3 Changing Chapter Title

In order to create a new chapter or rewrite the chapter title, you need to use `\chapter{}` command. For example, this chapter starts with `\chapter{How to use this template` which means, the title of this chapter is "How to use this template?". If you want to change the title to "methodology", use the command as follows: `\chapter{Methodology}`.

2.4 Adding a Section

You can add a section using `\section{}` command.

2.4.1 Adding a Subsection

You can add a subsection like this one using `\subsection{}` command.

2.4.1.1 Adding a Sub-subsection

You can add a subsubsection like this one using `\subsubsection{}` command.

2.5 Adding a table

A table can be added in your documents by creating a table environment. The following is an example.

The following is an example of a table environment:

```
\begin{table}[ht]
  \centering
  \caption{A test table.}
  \begin{tabular}{l c c c}
    \hline
    Name    & Weight (lb) & Height (in) & Gender \\ \hline \hline
    Alice   & 133         & 65          & F     \\ \hline
    Bob     & 160         & 72          & M   \\ \hline
    Charlie & 152         & 70          & M  \\ \hline
    Diana   & 120         & 60          & F   \\ \hline
  \end{tabular}
  \label{tab:1}
\end{table}
```

Next time you recompile your project, a table will be generated as shown in 2.1.

Table 2.1: A test table.

Name	Weight (lb)	Height (in)	Gender
Alice	133	65	F
Bob	160	72	M
Charlie	152	70	M
Diana	120	60	F

2.6 Citing Articles

In order to cite an article, please copy the BibTeX for the corresponding article from Google Scholar or any digital library. A typical BibTeX of an article looks as follows:

```
@article{krizhevsky2012imagenet,
  title={Imagenet classification with deep convolutional neural networks},
  author={Krizhevsky, Alex and Sutskever, Ilya and Hinton, Geoffrey E},
  journal={Advances in neural information processing systems},
  volume={25},
  pages={1097--1105},
```

```
  year={2012}
}
```

Get a required BibTeX and paste that in the *references.bib* file of this project. You should take a note of the key to use in your report. In the above example `krizhevsky2012imagenet` is the key.

Next, go to the desired location in your report to insert the reference. To cite this article, please write a command as follows: `\cite{krizhevsky2012imagenet}`. Next time you recompile your project, you should get a reference as follows: [1]

Now, please go to the Bibliography section of your report where you will find bibliographic detail of your referred article.

Chapter 3

Proposed Method

Chapter 4

Experimental Results

Chapter 5

Conclusion

Bibliography

[1] Alex Krizhevsky, Ilya Sutskever, and Geoffrey E Hinton. Imagenet classification with deep convolutional neural networks. *Advances in neural information processing systems*, 25:1097–1105, 2012.

Please use the following page format for the cover of your report

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