

## Metric Conversions

**Supervisor:** *LÊ THANH NHÂN*

**Semester:** *01*

**Batch No:** *T5.2309.E0*

**Group No:** *04*

Order:	Full name	Roll No.
<i>1.</i>	<i>Lượng Đức Tùng</i>	<i>Student1513387</i>
<i>2.</i>	<i>Bùi Trọng Anh Đức</i>	<i>Student1513435</i>
<i>3.</i>	<i>Lê Khánh Nguyên</i>	<i>Student1513438</i>

*Month: 12 Year: 2023*

This is to certify that

**Mr. LƯỢNG ĐỨC TÙNG**

**Mr. BÙI TRỌNG ANH ĐỨC**

**Mr. LÊ KHÁNH NGUYỄN**

Have successfully Designed & Developed

## **METRIC CONVERSIONS**

Submitted by:

**Mr. LE THANH NHAN**

Date Of Issue:

Authorized Signature:

# Content

Content

Acknowledge

Synopsis

Review1 ..... 1 - 6

Review2 ..... 7 - 9

Review3 ..... 10 - 29

Testting Document ..... (điền số trang theo thực tế)

Final Checklist ..... (điền số trang theo thực tế)

Tasksheet ..... (điền số trang theo thực tế)

# Acknowledge

I would like to extend my heartfelt gratitude to all those who played a crucial role in the successful development and implementation of the eProject: Metric Conversion Website at APTECH. This project marks a significant milestone, and it is with great pleasure that I acknowledge the contributions of the individuals and teams involved.

First and foremost, I express my sincere appreciation to Mr Le Thanh Nhan faculty and staff who provided unwavering support and guidance throughout the entire process. Their expertise and encouragement were instrumental in steering the project towards success.

I am deeply thankful for the dedication and hard work of the project team members . Their collaborative efforts and creative input have resulted in a website that not only meets the academic standards of our institution but also showcases innovation and excellence.

Special recognition goes to Le Thanh Nhan faculty, whose mentorship and insightful feedback were invaluable. His guidance helped shape the project and ensured its alignment with the academic goals of APTECH.

Lastly, I extend my appreciation to the FPT Aptech administration, alumni, and all stakeholders whose continued support has been instrumental in bringing this project to fruition. The collaborative spirit demonstrated by the FPT Aptech community has made this achievement possible.

In conclusion, the eProject: Metric Conversion Website stands as a testament to the dedication and collaboration within our Aptech community. I am confident that this platform will serve as a valuable resource for students, faculty, and the broader academic community.

Your Sincerely,

Team Group 04.

# Synopsis

The Objective of this program we aim is to give a sample project to work on real life projects. These applications help us build a larger more robust application.

The objective is not to teach us HTML/JavaScript but to provide us with a real life scenario and help us create basic applications using the tools.

Hence, we can revise the chapters before we start with the project.

This project is meant for students like us who have completed the module of HTML5. These programs should be done in the Lab sessions with assistance of the faculty if required.

With this website, we hope everyone can easily calculate units more quickly and easily.

We collaborative efforts and creative input have resulted in a website that not only meets the academic standards of our institution but also showcases innovation and excellence.

It is very essential for us that will have a clear understanding of the subject. We think we should go through the project and solve the assignments as per requirements given.

And get back ***eprojects@aptech.ac.in*** as the assigned schedule.

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Problem Definition	<b>SWD/Form</b> No.01/PD/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 1 of 38

## Problem Definition

Why does one need metric conversion for? Science projects seem more authoritative when the units used are metric units, such as grams, milliliters, and degrees Celsius.

Anyone can do good backyard science with inches and ounces, but when he shows his work in a science fair, metric conversion will show that he understand the importance of these units to scientists.

There are various units of measurement; one of the earliest types of measurement concerned that of length. Many times we need to convert some data from one unit to other. Hence you are expected to develop a calculator for such metric conversions.

1. There should be a separate web page that displays the metric conversion chart.

The chart should include the multiplying factors for the conversion

- Length conversion:
  - Should include the multiplying factors for following
    - Inches millimeters
    - Feet Meters
    - Yards - Meters
    - Miles Kilometers
- Area conversion
  - Should include the multiplying factors for following
    - Square inches Square millimeters

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Problem Definition	<b>SWD/Form</b> No.01/PD/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 2 of 38

- Square feet Square meters
  - Square yards Square meters
  - Acres Hectares
  - Square miles Square kilometers
- Volume conversion
  - Should include the multiplying factors for following
    - fluid ounces milliliters
    - gallons liters
    - cubic feet - cubic meters
    - cubic yards - cubic meters
- Mass conversion
  - Should include the multiplying factors for following
    - Ounces grams
    - Pounds kilograms
    - short tons (2000 lb) - mega grams (or "metric ton")
- Temperature conversion
  - Fahrenheit Celsius
  - Celsius Fahrenheit

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Problem Definition	<b>SWD/Form</b> No.01/PD/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 3 of 38

2. There should be separate web pages for the various conversions, you need to include the conversions of

- a. Area
- b. Length
- c. Volume
- d. Mass
- e. Temperature
- f. Currency

3. Along with the above conversion techniques, there should also be information related to all the measurement units as how / who invented them. A brief history about these units should be provided under the separate section as history of measurement units

4. Provide some articles e.g.

- a. The SI System : An article describing what the SI system of units is
- b. Metric System : An article describing the differences between the various metric systems.
- c. The meter An article defining the meter as used in the metric system, both past and present.
- d. Traditional U.S. Units: An article describing the traditional units of measurement used throughout the United States.

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		



<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Problem Definition	<b>SWD/Form</b> No.01/PD/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 4 of 38

5. Also provide the frequently asked questions (FAQs) like

- a. How do I enter numbers in Scientific Notation?
- b. What is a knot? What is a nautical mile?
- c. What about rainfall? How do I convert between inches of rain, and millimeters of rain?
- d. What is the difference between the long ton, short ton, and metric ton?
- e. At what temperature are Celsius and Fahrenheit the same?

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Customer Requirements Specifications	<b>SWD/Form</b> No.02/CRS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 5 of 38

# Customer Requirements Specifications

## User:

### input:

- Select type convert from
- Numeric
- Select type convert to

### Process:

- Storage type convert form user input
- Multiply the numeric by the conversion factor

### Output:

- Result convert to text box

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Customer Requirements Specifications	<b>SWD/Form</b> No.02/CRS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 6 of 38

## Webmaster:

### input:

- Enter username and password
- New type conversion
- Conversion factor

### Process:

- Validate account
- Create new type convert page
- Create new conversion factor

### Output:

- New Page conversion with conversion factor

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Customer Requirements Specifications	<b>SWD/Form</b> No.02/CRS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 7 of 38

## Hardware / software requirement:

### Software:

- Notepad/HTML editor
- Dreamweaver
- IE 5.0/ Netscape 6.0

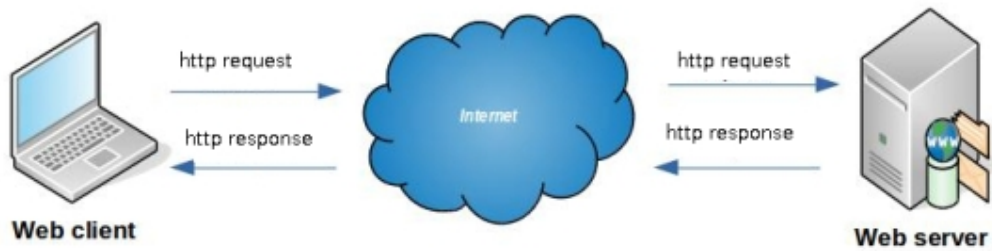
### Hardware:

- A minimum computer system that will help you access all the tools in the courses is a Pentium 166 or better
- 64 Megabytes of RAM or better

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Architecture and design of the project	<b>SWD/Form No.03/ARD/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 8 of 38</b>

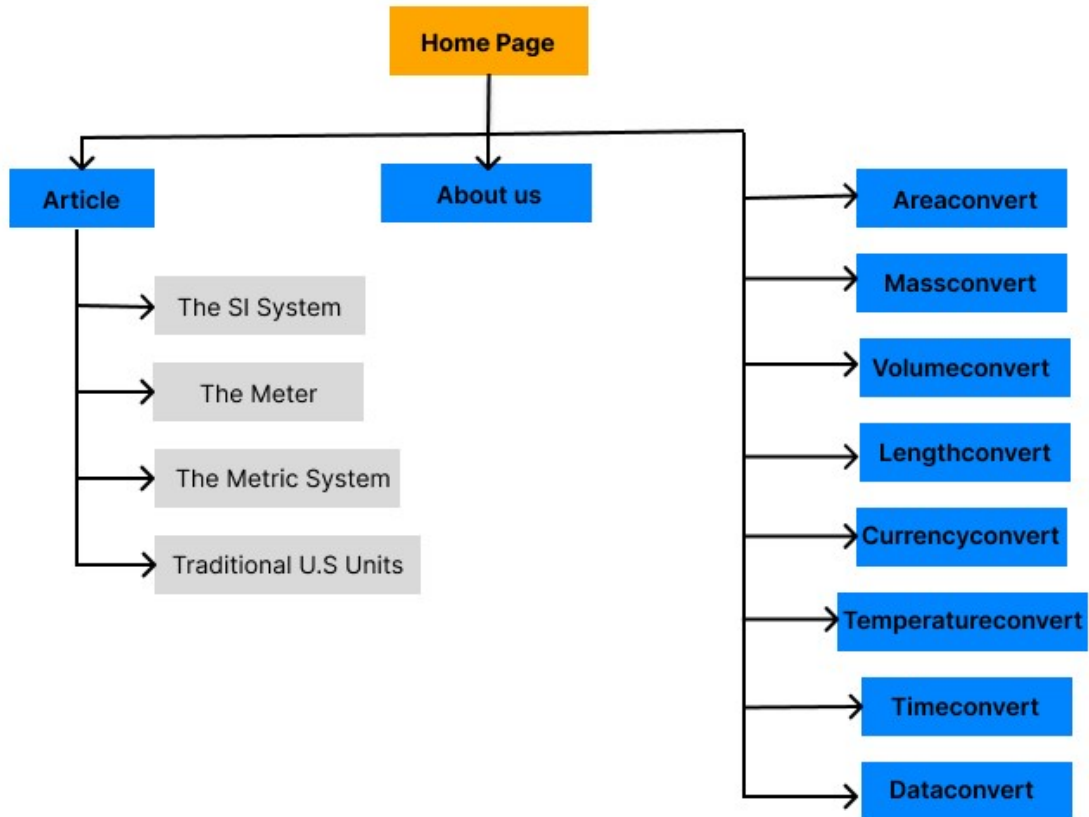
## Architecture and design of the project



	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> SiteMap	<b>SWD/Form</b> No.04/SM/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 9 of 38

# SiteMap



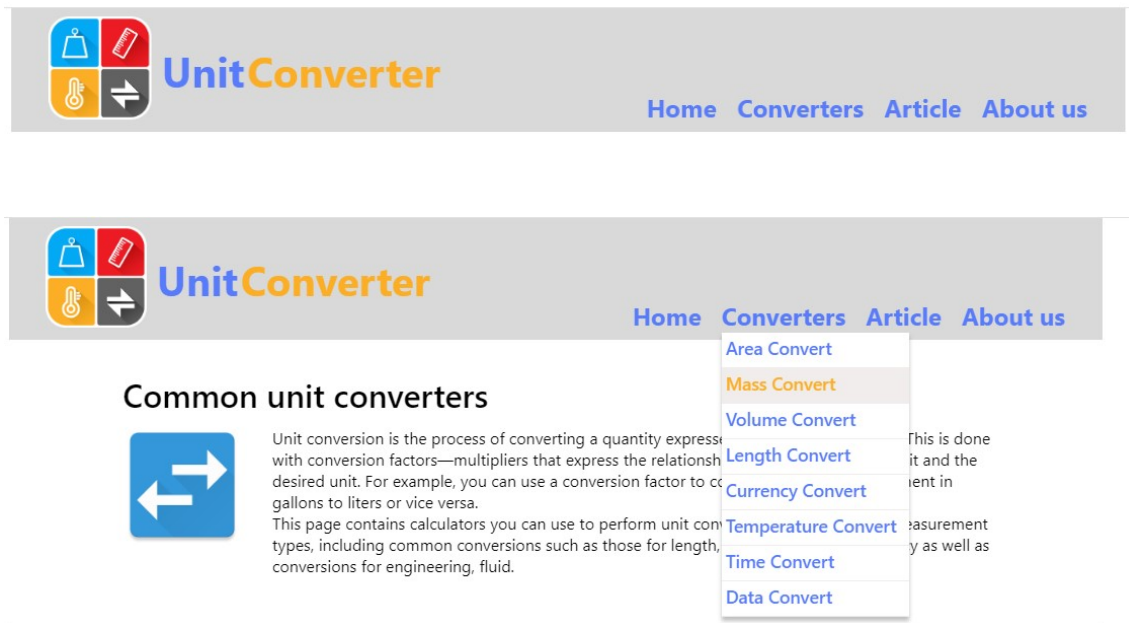
	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 10 of 38

# Screen shots

## I. Homepage:

### 1.Header:



Description: on top of home page, include: Logo and Navbar

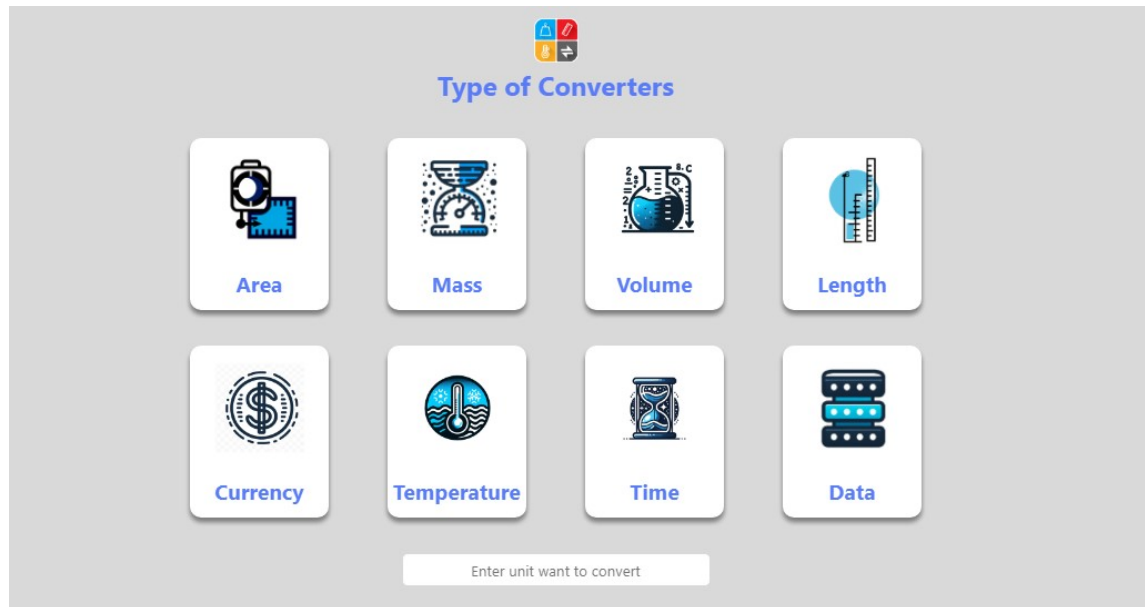
From: Homepage

To: Homepage, AreaCovert, DataConvert, LengthConvert, TemperatureConvert, TimeConvert, VolumeConvert, Article, Aboutus

### 2.TypeOfConver:

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 11 of 38

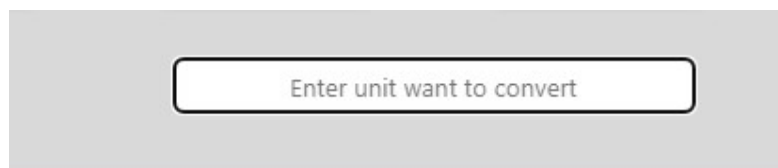


Description: Show type of convert

From: Homepage

To: AreaCovert, DataConvert, LengthConvert, TemperatureConvert, TimeConvert, VolumeConvert.

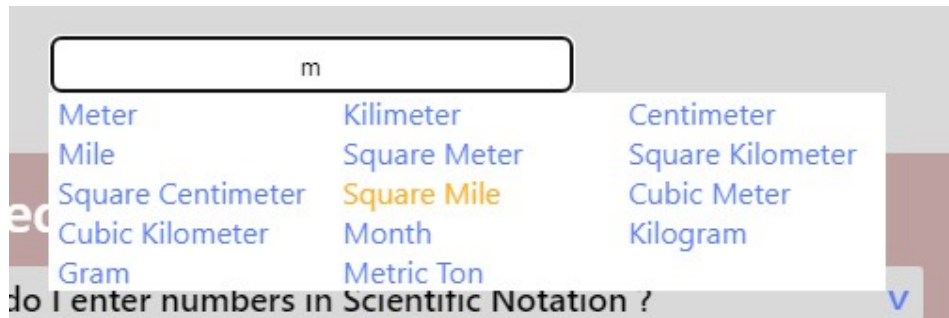
### 3.Search Unit Convert:



	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		



<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 12 of 38

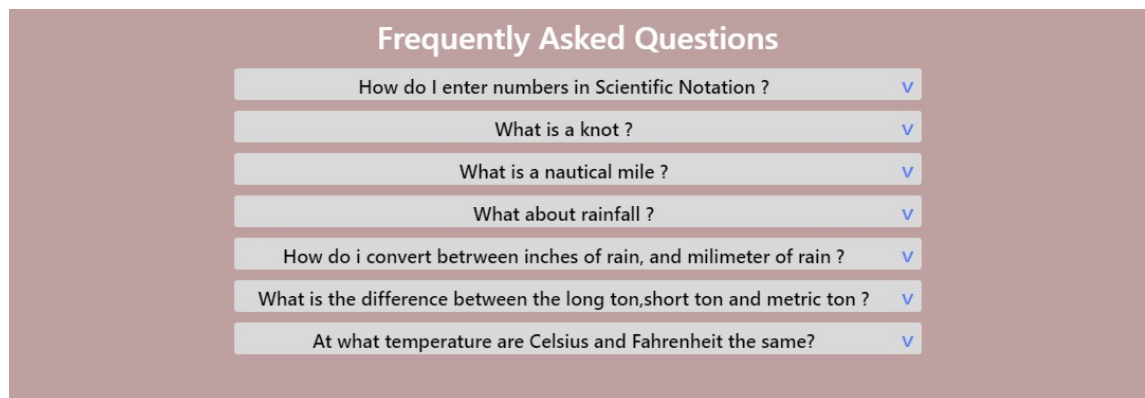


Description: user find unit to convert

From: Homepage

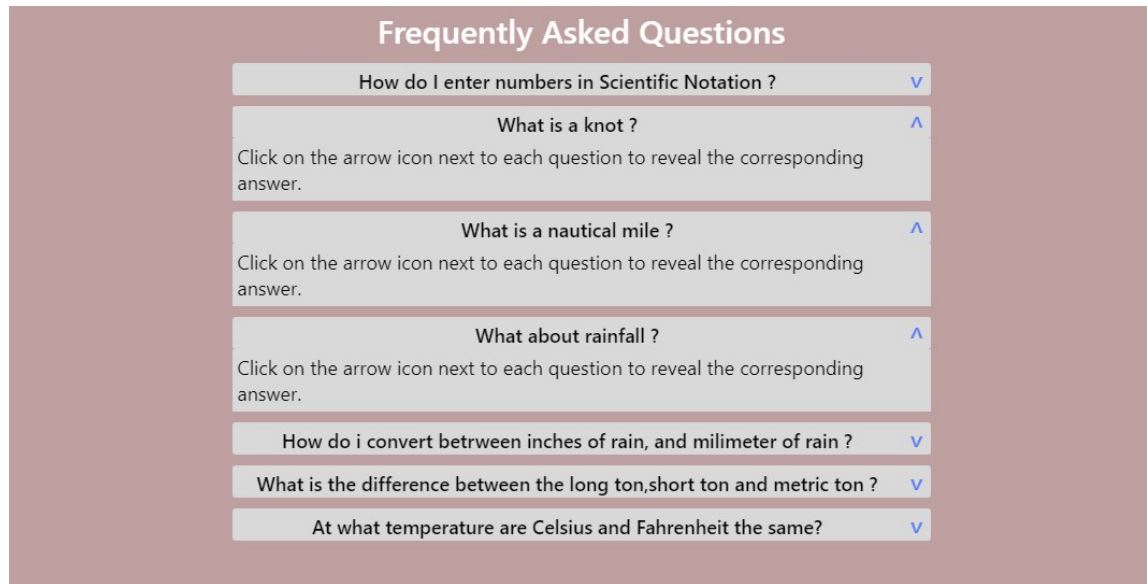
To: AreaCovert, DataConvert, LengthConvert, TemperatureConvert, TimeConvert, VolumeConvert.

#### 4.FAQs:



	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 13</b> of 38



Description: Provide the frequently asked questions and answer its

From: Homepage

## 5.Footer:



Description: on end of home page, include: Logo, copyright information, link to type of convert and location

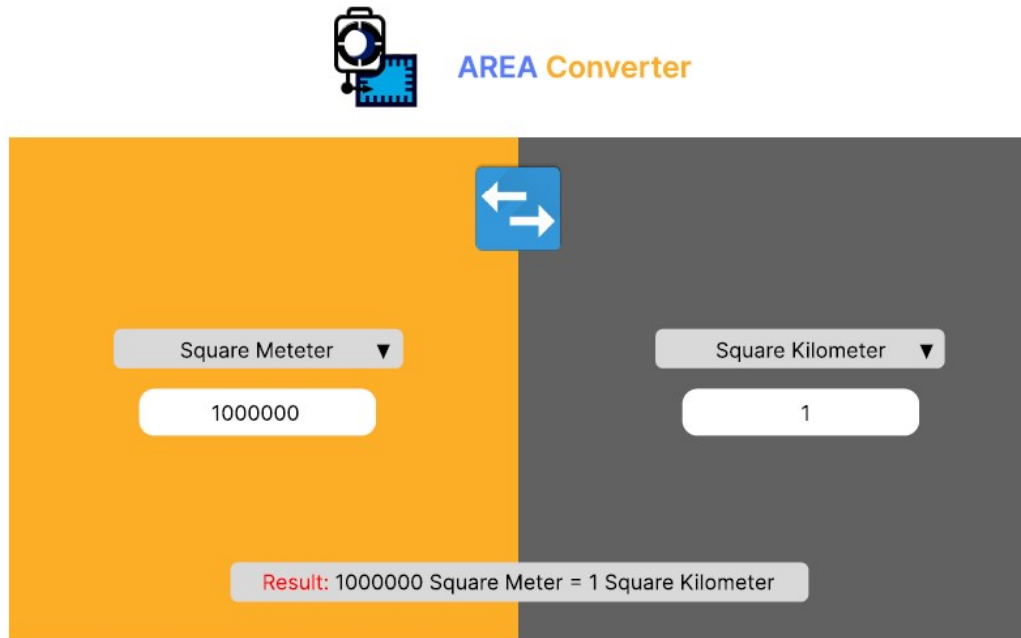
From: Homepage

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 14 of 38

To: Homepage, AreaCovert, DataConvert, LengthConvert,  
TemperatureConvert, TimeConvert, VolumeConvert, Article, Aboutus

## II. AreaConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.

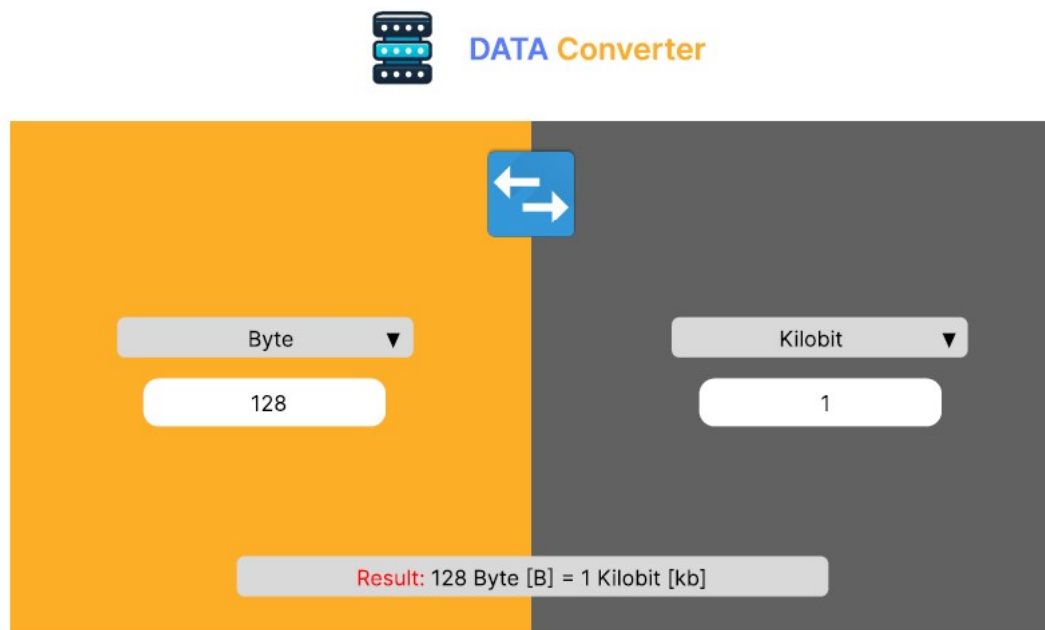
	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 15 of 38

Description: include convert of area, information related to all the measurement area units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

### III. DataConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 16 of 38

Description: include convert of data, information related to all the measurement data units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

#### IV. LengthConvert:

- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI

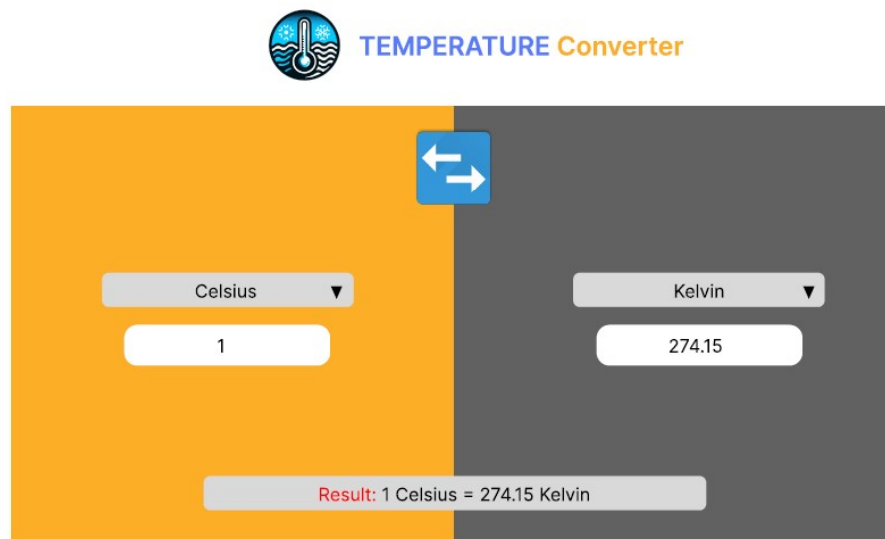
	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 17 of 38

Description: include convert of length, information related to all the measurement length units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

## V. TemperatureConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.

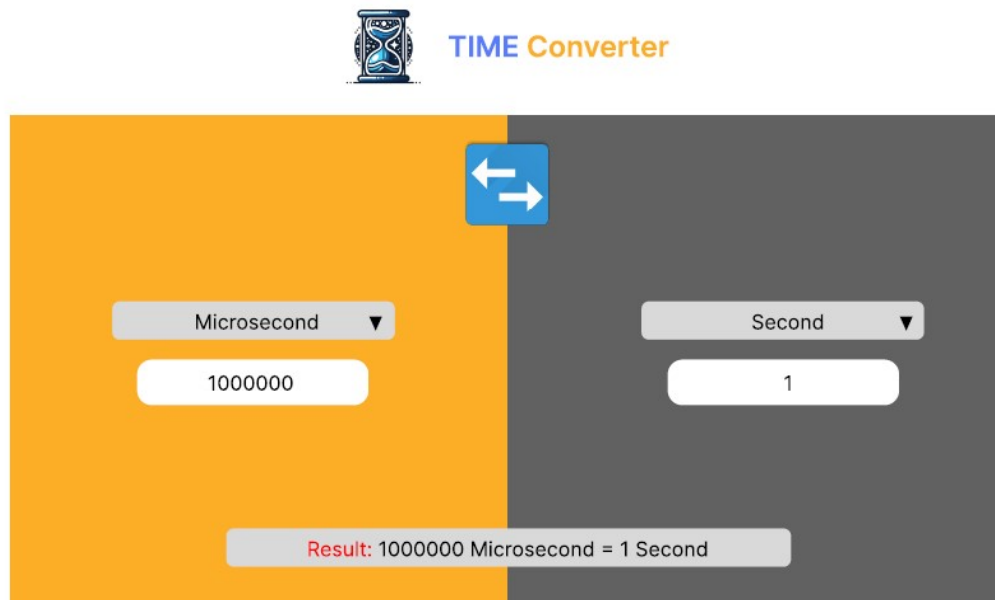
	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 18 of 38

Description: include convert of Temperature, information related to all the measurement Temperature units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

## VI. TimeConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

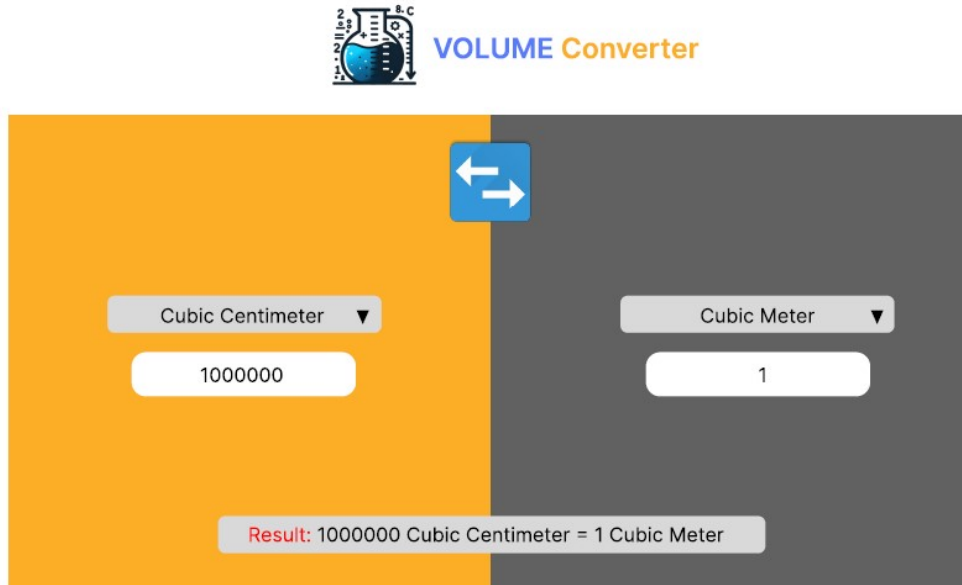


<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 19 of 38

Description: include convert of time, information related to all the measurement time units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

## VII. VolumeConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.
- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

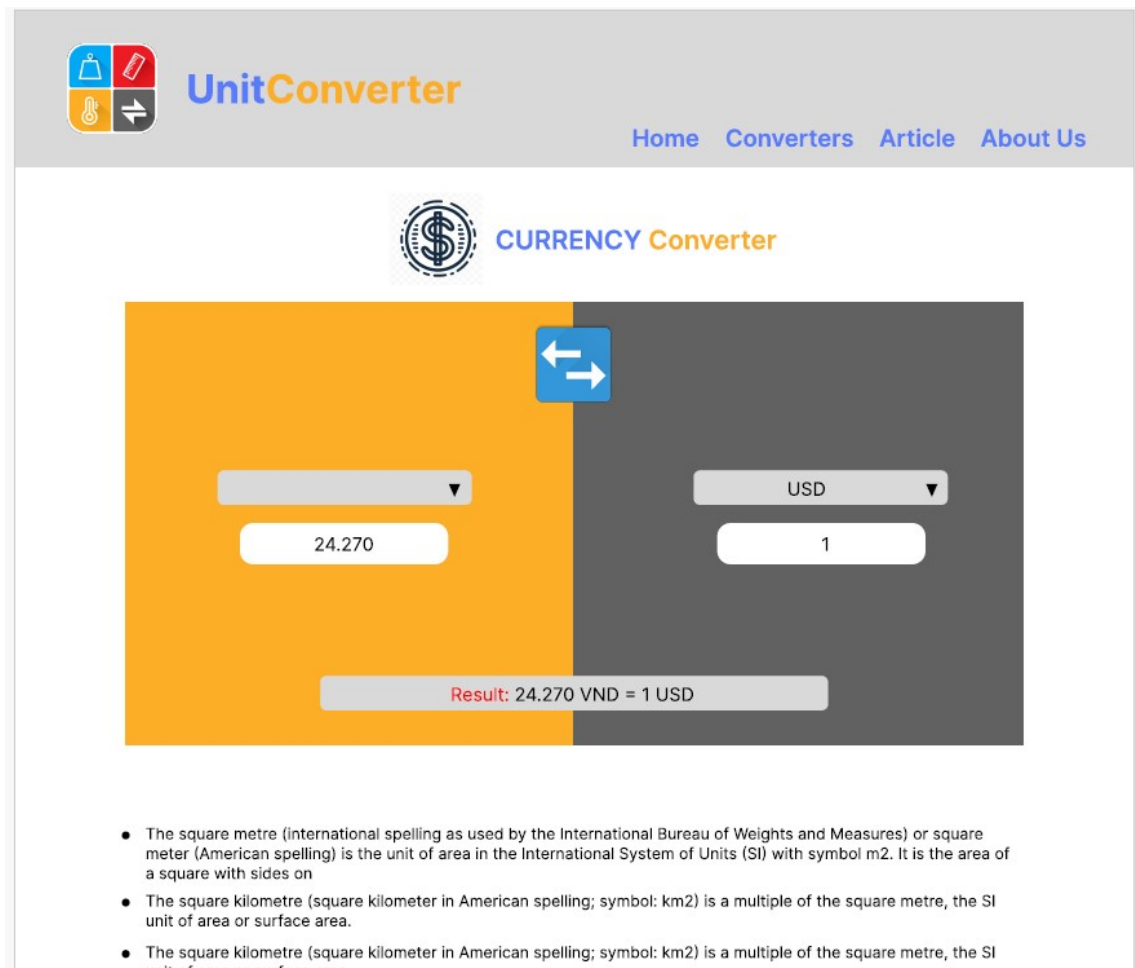


<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 20 of 38

Description: include convert of volume, information related to all the measurement volume units

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

### VIII.CurrencyConvert:



The screenshot displays the 'UnitConverter' website's 'CURRENCY Converter' interface. It features a dual-column layout with an orange background on the left and a grey background on the right. The left column has a dropdown menu and a text input field containing '24.270'. The right column has a dropdown menu set to 'USD' and a text input field containing '1'. A blue double-headed arrow icon is positioned between the two columns. Below the input fields, a grey box displays the result: 'Result: 24.270 VND = 1 USD'. At the bottom of the page, there are three bullet points providing information about the square metre and square kilometre units.

- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides of one metre.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.

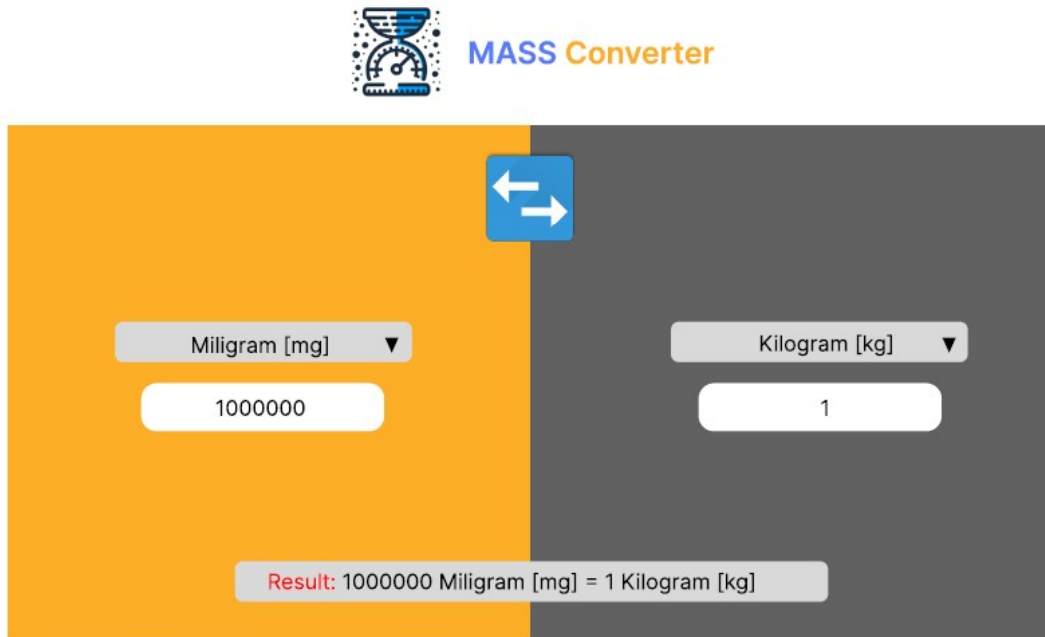
Description: include convert of currency, information related to all the measurement currency units

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 21 of 38

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

## IX. MassConvert:



- The square metre (international spelling as used by the International Bureau of Weights and Measures) or square meter (American spelling) is the unit of area in the International System of Units (SI) with symbol m<sup>2</sup>. It is the area of a square with sides on
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square kilometre (square kilometer in American spelling; symbol: km<sup>2</sup>) is a multiple of the square metre, the SI unit of area or surface area.
- The square mile (abbreviated as sq mi and sometimes as mi<sup>2</sup>)[1] is an imperial and US unit of measure for area. One square mile is equal to the area of a square with each side measuring a length of one mile.

Description: include convert of mass, information related to all the measurement mass units

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 22 of 38

From: Navbar, Type of Convert , Search unit convert and Footer on homepage

## X. Article

### Article



#### U.S Metrication

The United States, like many other countries, has a rich history of traditional units of measurement that were used for centuries before the adoption of the metric system.

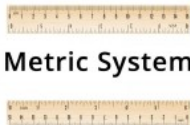
[Read more...](#)



#### The Meter

The meter, a fundamental unit of length in the metric system, has undergone a historical evolution in its definition, reflecting efforts to establish a universally consistent and precise standard.

[Read more...](#)



#### Metric System

#### The Metric System

The metric system, a globally recognized standard for measurement, provides a uniform language for expressing quantities in various fields.

[Read more...](#)



#### The SI System

The International System of Units (SI) is the modern form of the metric system and is the world's most widely used system of measurement.

[Read more...](#)

Description: Provide some articles : The SI System , Metric System, Traditional U.S. Units...

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form No.05/SS/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 23 of 38</b>

To: Article detail : theSIsystem, themetricssystem, themeter, usmetrication...

From: Navbar and Footer on homepage

## 1. SI Units:


**UnitConverter**

[Home](#)
[Converters](#)
[Article](#)
[About Us](#)

### Article ► SI Units



#### Introduction

**1. Base Units:**

- Length: Meter (m)
- Mass: Kilogram (kg)
- Time: Second (s)
- Electric current: Ampere (A)
- Temperature: Kelvin (K)
- Amount of substance: Mole (mol)
- Luminous intensity: Candela (cd)

Symbol	Name	Quantity
s	second	time
m	metre	length
kg	kilogram	mass
A	ampere	electric current
K	kelvin	thermodynamic temperature
mol	mole	amount of substance
cd	candela	luminous intensity

**2. Derived Units:**

- Derived units are formed by combining the base units. For example, the unit of speed is meters per second (m/s), which is derived from the base units of length and time.

**3. Prefixes:**

- The SI system uses prefixes to denote multiples or fractions of the base units. For example, kilo- (k) means a thousand times, milli- (m) means a thousandth, and so on.

Description: Provide articles detail about : The SI Unit

From: Article

	<b>Prepared by (Student)</b> <b>Project Group No: 04</b>	<b>Approved by (Faculty)</b> <b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form No.05/SS/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 24 of 38</b>

## 2. U.S Metrication:



**UnitConverter**

[Home](#) [Converters](#) [Article](#) [About Us](#)

### Article ▶ U.S Metrication














#### Introduction

The United States, like many other countries, has a rich history of traditional units of measurement that were used for centuries before the adoption of the metric system. While the metric system is widely recognized and utilized in scientific and international contexts, traditional units of measurement still hold a place in American culture and everyday life. This article explores some of the traditional units that have played a significant role in the United States.

#### Length Measurements:

1. Inches, Feet, and Yards:
  - Derived from the English system, these units are commonly used for measuring lengths in everyday life. Twelve inches make a foot, and three feet make a yard. These units are prevalent in construction, carpentry, and home improvement projects.
2. Miles:
  - Miles are used to measure longer distances, especially in the context of road travel. The mile is still the standard unit for expressing distances on road signs and maps across the United States.
3. Surveyor's Units:
  - In land surveying, the chain (66 feet), rod (16.5 feet or 1/4 chain), and acre (43,560 square feet) are traditional units that have historical roots. These units are often encountered in property descriptions and legal documents.

#### Volume and Capacity Measurements:

1. Gallons, Quarts, Pints, and Cups:
  - The gallon, quart, pint, and cup are commonly used units for measuring liquid volumes. These units are prevalent in cooking recipes, beverage containers, and fuel measurements.
2. Bushels:
  - Used in agriculture, a bushel is a unit of dry volume typically used to measure quantities of fruits, vegetables, and grains. The bushel remains relevant in farming communities and markets.


Description: Provide articles detail about : U.S Metrication

From: Article

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form No.05/SS/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 25 of 38</b>

### 3. The Meter:




**UnitConverter**

[Home](#) [Converters](#) [Article](#) [About Us](#)

---

## Article ▶ The Meter



**Introduction**

The meter, a fundamental unit of length in the metric system, has undergone a historical evolution in its definition, reflecting efforts to establish a universally consistent and precise standard.

**Historical Development:**

1. **French Revolution and Prototype:**
  - The metric system, introduced during the French Revolution in the late 18th century, aimed to create a decimal-based system of measurement. The original definition of the meter, established in 1799, was based on a fraction of the Earth's circumference. However, practical challenges in measurement led to the creation of a physical prototype known as the International Prototype of the Meter (IPM) in 1889.
2. **Wavelength of Light:**
  - In 1960, the meter underwent a significant redefinition based on the wavelength of a specific spectral line of krypton-86. This provided a more stable and reproducible standard compared to the physical prototype. However, the reliance on a specific atomic transition posed some challenges.

**Contemporary Definition (SI System):**

1. **Speed of Light:**
  - The current and widely accepted definition of the meter is based on the speed of light in a vacuum. This redefinition occurred in 1983, establishing the meter as the distance that light travels in a vacuum during 1/299,792,458 seconds. This definition ties the meter to a fundamental constant of nature, ensuring precision, reproducibility, and global uniformity.

**Significance and Applications:**

1. **Scientific Research:**
  - The meter is crucial in scientific research across various disciplines. In physics, astronomy, and other fields, precise

Description: Provide articles detail about : The Meter

From: Article

### 4. Metric System:

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		



<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form No.05/SS/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 26 of 38</b>



**UnitConverter**

[Home](#) [Converters](#) [Article](#) [About Us](#)

## Article ► Metric System



# Metric System



### Introduction

The metric system, a globally recognized standard for measurement, provides a uniform language for expressing quantities in various fields. While the International System of Units (SI) is the modern and widely accepted metric system, there have been historical variations and local adaptations. This article explores the differences between various metric systems and highlights the evolution towards the universally accepted SI system.

### Historical Background:

The metric system originated during the French Revolution in the late 18th century, with the intention of establishing a decimal-based system that would be easy to understand and apply. Over time, different countries and regions adopted their own variations of the metric system, leading to some differences in unit definitions and practices.

### Varieties of Metric Systems:

- 1. Original French Metric System:**
  - The original metric system introduced in France in 1799 had base units like the meter, gram, and liter. However, the definitions of these units evolved over the years. For instance, the meter was initially defined as one ten-millionth of the distance from the North Pole to the Equator but was later redefined in terms of a specific wavelength of light.
- 2. Centimetre-Gram-Second (CGS) System:**
  - The CGS system, an adaptation of the metric system, replaced the original French definitions with centimeter, gram, and second as the base units for length, mass, and time, respectively. While widely used in physics, the CGS system faced challenges due to its small and large unit sizes.
- 3. Meter-Kilogram-Second (MKS) System:**
  - Another variation, the MKS system, emerged with the meter, kilogram, and second as the base units. This system aimed to address some of the challenges associated with the CGS system, providing more practical unit sizes for everyday measurements.
- 4. International System of Units (SI):**
  - The SI system, established in 1960 and periodically updated, is the latest and most widely adopted metric system. It

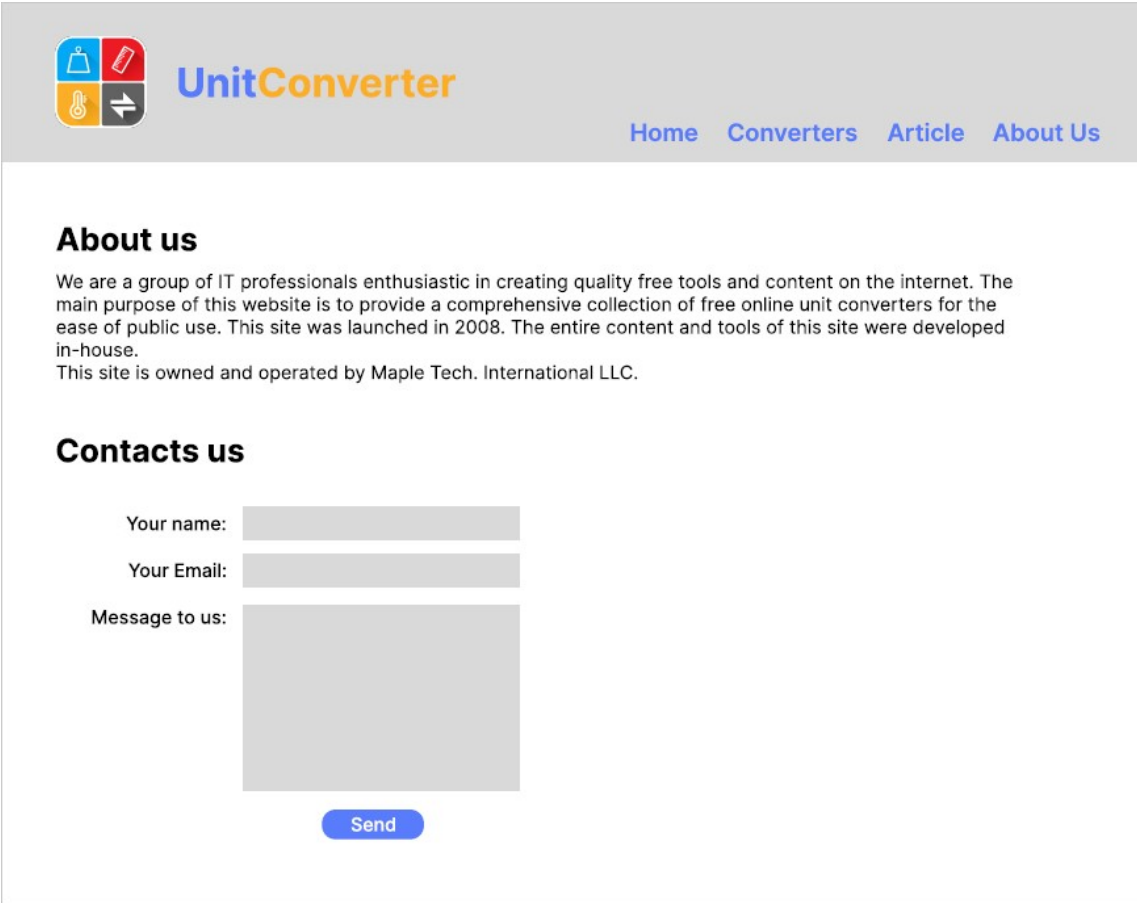
Description: Provide articles detail about : The Meter

From: Article

## XI. Aboutus

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Screen shots	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 27 of 38



The image shows a web browser window displaying the 'UnitConverter' website. The header features a logo with four icons (a scale, a pencil, a thermometer, and a double arrow) and the text 'UnitConverter'. Navigation links for 'Home', 'Converters', 'Article', and 'About Us' are on the right. The 'About us' section contains a paragraph about the site's purpose and ownership. Below this is a 'Contacts us' section with input fields for 'Your name:', 'Your Email:', and 'Message to us:', followed by a 'Send' button.

Description: Provide information of my team, and contact us

From: Navbar, footer on homepage

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		



<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Checklist Of Validations	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 28 of 38

## Checklist of Validations

Option	Validated

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Submission Checklist	<b>SWD/Form</b> No.05/SS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No: 29</b> of 38

## Submission Checklist

<b>Sr. No.</b>	<b>Particulars</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>	<b>Comments</b>
1.					
2.					
3.					
4.					
5.					
6.					
7.					

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Testing document	<b>SWD/Form</b> No.06/TD/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 30 of 38

# Testing document

Sr.No	Features Tested	Remarks
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Final checklist	<b>SWD/Form</b> No.07/FC/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 1.0	<b>Page No:</b> 31 of 38

## Final checklist

Sr.No	Aspected Tested	Suggestion/ Remarks
1	Are all the users able to view the images and links?	
2	Have all the views, modules and controllers been properly integrated and is the site function as a single page application?	
3	Are the GUI content devoid of spelling mistakes?	
4	Is the application user-friendly?	
5	Is the Website launching correctly in all popular browsers?	
6	Are all the forms validated with proper criteria?	
7	Do all text links lead to the appropriate website?	
8	Do all image links lead to the appropriate website?	
9	Are all the images and links clearly visible on the page?	
10	Does the Web page work properly in all the tested browsers?	
11	Does the Web page take too long to be loaded fully?	
12	Is the navigation sequences correct through all the Web pages on the site?	
13	Is the JavaScript code working as expected in all click events?	
	(Sinh viên ghi thêm...)	

	<b>Prepared by (Student)</b> Project Group No: 04	<b>Approved by (Faculty)</b> Le Thanh Nhan
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Task Sheet	<b>SWD/Form No.08/TS/Ver1.0</b>
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 2.0	<b>Page No:</b> 32 of 38

No	Member	Contents	Page Name	Activity Plan	Date of Preparation of Activity Plan		
				Planned Start Date	Actual Start Date	Actual Days	Status
1	Lượng Đức Tùng	Homepage	Homepage.html	08-12-2023	08-12-2023	8	OK
		Areaconvert	Areaconvert.html	08-12-2023	08-12-2023	10	OK
		Massconvert	Massconvert.html	08-12-2023	08-12-2023	10	OK
		Volumeconvert	Volumeconvert.html	08-12-2023	08-12-2023	10	OK
		Currencyconvert	Currencyconvert.html	08-12-2023	08-12-2023	10	OK
		Lengthconvert	Lengthconvert.html	08-12-2023	08-12-2023	10	OK
2	Bùi Trọng Anh Đức	Timeconvert	Timeconvert.html	08-12-2023	08-12-2023	10	NA
		Dataconvert	Dataconvert.html	08-12-2023	08-12-2023	10	NA
		Aboutus	Aboutus.html	08-12-2023	08-12-2023	8	NA
3	Lê Khánh Nguyên	Article	Article.html	08-12-2023	08-12-2023	8	OK
		Temperatureconvert	Temperature.html	08-12-2023	08-12-2023	8	OK
		The meter	Article.html/the-meter	08-12-2023	08-12-2023	8	OK
		The metric system	Article.html/the-metric-system	08-12-2023	08-12-2023	8	OK
			Article.html/traditional-us-unit	08-12-2023	08-12-2023	8	OK
		The SI system	Article.html/the-si-system	08-12-2023	08-12-2023	8	OK

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No: 04</b>	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		

<b>Design Plan:</b> Metric Conversions	<b>Document Name:</b> Task Sheet	<b>SWD/Form</b> No.08/TS/Ver1.0
<b>Effective Date:</b> 08-12-2023	<b>Version</b> 2.0	<b>Page No:</b> 33 of 38

	<b>Prepared by (Student)</b>	<b>Approved by (Faculty)</b>
	<b>Project Group No:</b> 04	<b>Le Thanh Nhan</b>
<b>Signature</b>		
<b>Date</b>		