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| A picture of a winding road and trees  Reliability of Solar Energy  in  South East Asia | Link:  http  Team Name:  Responder  Student Names & IDs:  Siew Joe Kane 103130764  Foo Chi Ping 103487570  Year and Semester:  2, Semester 4  Word Count:  2000+ |
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Table of Contents

[1 Introduction 2](#_Toc117970179)

[1.1 Background and Motivation 2](#_Toc117970180)

[1.2 Visualisation Purpose 2](#_Toc117970181)

[1.3 Project Schedule 2](#_Toc117970182)

[2 Data 3](#_Toc117970183)

[2.1 Data Source 3](#_Toc117970184)

[2.2 Data Processing 3](#_Toc117970185)

[3 Requirements 4](#_Toc117970186)

[3.1 Must-Have Features 4](#_Toc117970187)

[3.2 Optional Features 4](#_Toc117970188)

[4 Visualisation Design 5](#_Toc117970189)

[5 Validation [optional - Bonus Points] 6](#_Toc117970190)

[6 Conclusion 7](#_Toc117970191)

# 1 Introduction

## 1.1 Background and Motivation

**Target Audience**

The users who will benefit from this visualization are energy enthusiasts, climate scientists, climate activists and businesspeople from the energy sector.

**Potential tasks**

The audience of this visualization will want to observe which country has a better prospect of utilizing and generating a healthy amount of energy from solar compared to other alternatives in the space of renewable energy.

**Importance of the project**

The importance of this visualization project is to give insight to whether solar energy is a viable source of energy and should remain as an option for renewable energy.

## 1.2 Visualisation Purpose

**Questions users will be able to answer with your visualisation**

The visualization project aims to answer the question whether solar energy is a reliable renewable energy source in south-eastern region of Asia. The data could originate from government websites and publicly available data published by energy corporations.

List of possible benefits of the completed visualisation:

1. Figure out which south-east Asian country has the best prospects in harnessing the potential of solar energy.
2. Figure out if solar energy is a viable renewable energy source.

## 1.3 Project Schedule

Make sure that you plan your work so that you can avoid a big rush right before the final project deadline. Write this in terms of weekly deadlines.

# 2 Data

## 2.1 Data Source

**From where and how are you collecting your data?**

Data collected for the visualization project are from publicly available government websites and published research data published by energy corporations.

The data used originate from the following sources:

1. data.gov.my
2. data.gov.sg
3. data.world
4. <https://www.aiddata.org/>

**What type of data set is it (e.g., table, network, field)?**

The data used are in the form of CSV (Comma Separated Values) format. Although, the data available online are mainly in Excel formats with styled headers and body to describe the purpose of the research and data, therefore, some data cleaning and understanding were necessary.

**Attributes in data set and type of data are the values (i.e., categorial, ordinal, interval, ratio/quantitative)**

< insert comments >

**Data in the set that will not be included in your visualisation**

NOTE: Make sure that the data can be used to answer the questions outlined in Section 1.2.

## 2.2 Data Processing

**Do you expect to do substantial data cleanup?**

Data cleaning is expected due to the heavily formatted Excel sheet available online. Although, with data sets available in CSV format out of the box, then this step is unnecessary.

**What quantities do you plan to derive from your data?**

The whole entry available within a dataset will be used for processing.

**How will data processing be implemented?**

With invalid data, those entries will be filtered out in JavaScript when reading data. Null or missing values will also be filtered out rather than giving them average or ignored.

**Will you be deriving any variables?**

< insert comments >

**Describe clean-up process that was implemented. Explanation and calculation of derived variables (if used).**

< insert comments >

# 3 Requirements

## 3.1 Must-Have Features

These are features without which you would consider your project to be a failure. Were you able to deliver all the promised features? If not, explain why.

## 3.2 Optional Features

Those features which you consider would be nice to have, but not critical.

Were you able to deliver any of these extra features?

# 4 Visualisation Design

How will you display your data? Provide some general ideas that you have for the visualisation design. Include sketches of your design. Include at lease 2-3 alternative

ideas for your visualisation. Describe and justify your choice of visual encoding and

idioms. Show the evolution of your design. How has it progressed? Justify the visualisation idioms you have chosen to represent your data.

Description (including screen shots) and explanation of final design.

[NOTE 1: You are encouraged to provide your own structure to this section (i.e., section headings etc).

NOTE 2: You MUST show evidence of iterative design (i.e., sketches of alternative

and preliminary designs). ]

Include screenshots of final design.

# 5 Validation [optional - Bonus Points]

Test your visualisation with users and report the results.

# 6 Conclusion

Provide a summary of the project and what you learnt from doing it.

**References**

1. Murray, S. and O'reilly Media (2017). Interactive data visualization for the web : an introduction to designing with D3. Sebastopol, Ca I Pozostałe: O’reilly Media.
2. Ware, C. (2008). Visual thinking for design. Amsterdam: Morgan Kaufmann/Elsevier.