NGEE ANN POLYTECHNIC

School of InfoComm Technology

Data Visualisation
Diploma in FI
October 2020 Semester

ASSIGNMENT 1
(Individual Assignment)

Submission Deadline:
20th December 2020 (Sunday), 11:59PM

Tutorial Group	:	P01 / P02 / P03
Student Name	:	
Student Number	:	

Penalty for late submission:
10% of the marks will be deducted every calendar day after the deadline.
NO submission will be accepted after 24th Dec 2020 (Thursday), 11:59PM.

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DATA VISUALISATION & STORY TELLING ASSIGNMENT

1. INTRODUCTION

The goal of this assignment is to design and implement a dashboard and/or interactive visualisations that allow you to explore a given dataset. You will be involved in cleaning and preparing the data where necessary, exploring the data, designing your visualisations, and implementing your dashboard **using Tableau Desktop**.

This assignment constitutes **30% of your overall DV module grade**. It is an individual assignment.

2. OBJECTIVES

a) Understand, prepare and clean a curated dataset.

b) Identify meaningful exploratory questions from the dataset.

c) Design a multitude of visualisations to effectively derive answers to the declarative and exploratory questions identified earlier.

d) Perform data story telling using a dashboard and/or interactive visualisations for target audience.

3. ABOUT THE DATASET

Have you ever wondered when the best time of the year to book a hotel room is? Or what is the optimal length of a hotel stay in order to get the best daily rate? The **hotel_bookings.csv** dataset can help you to explore and perhaps find some answers to these questions.

This data set contains hotel reservations information for a city hotel and a resort hotel, and includes information such as when the booking was made, length of stay, the number of adults, children, and/or babies, and the number of available parking spaces, among other things.

The metadata of the hotel_bookings.csv dataset is provided in the accompanying **metadata.txt** file.

4. ASSIGNMENT REPORT RECOMMENDED STRUCTURE

You may use the following pointers to structure your report. You should include visuals, diagrams and/or tables where appropriate to enhance your report's readability.

1) Project Objectives

- Provide a list of primary exploratory questions you are trying to answer with your visualisation(s).
- Provide the background on why your proposed target audience or others should care.
- The questions may evolve over the course of the project. Update this part by adding or removing exploratory questions you consider necessary in the course of your analysis.

2) Data Preparation

- Describe the state of the data (e.g. is it clean, is it complete). Do you expect to do substantial data cleanup?
- How will you prepare your data so that it is suitable for exploration and analysis? Describe the steps involved in detail.
- Did you perform further research to better understand the context of the data and metadata? Elaborate on the process and describe any further findings.

3) Exploratory Data Analysis and Visualisation

- Perform univariate and multivariate analysis on your dataset.
- Using descriptive analytics techniques (i.e. statistical analysis, correlation analysis and basic visualisations etc), document your findings.
- Identify the core findings and insights that help to answer the exploratory questions identified earlier. Create the visualisations accordingly.
- What are the different visualisations you have considered? Justify the design decisions you made using visualisation and design principles.
- Describe each visualisation by highlighting the exploratory questions it answers.
- Where necessary, explain how to interpret the visualisations in order to answer the exploratory questions (e.g. interactive elements).

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4) Dashboard

- From your library of visualisations created earlier, identify suitable ones to create a dashboard. Recall that dashboards should incorporate only visualisations related to one main topic.

- Depending on your exploratory questions, create multiple dashboards to aid you in performing your video recorded data story telling presentation subsequently.

Guidelines for Assignment Report

- Include all the screenshots of your visualisations and dashboards in your Report.

- Provide clear images showing the key design and interactive elements where necessary.

5. PRESENTATION AND DATA STORY TELLING

Using your dashboards and visualisations, you are required to submit a **video recorded presentation** to perform data storytelling and share your findings. The video recorded presentation **should not exceed 5 minutes**. Video recorded presentations which exceed the allotted time will be penalized.

You must record your video presentation using **Microsoft Teams**.

After completion of your video recorded presentation, you are required to **submit the link to your video** (from Microsoft Stream). Instructions to submit your video recorded presentation link are provided in the following section.

6. ASSIGNMENT DELIVERABLES

Upon completion of the assignment, you are required to submit the following deliverables:

i. **Assignment Report (in Microsoft Word / PDF format)**

- Submit in "**Assignment 1 Report Submission**" folder in MeL

ii. **Tableau Packaged Workbook (in .twbx format)**

- Submit in "**Tableau Packaged Workbook Submission**" folder in MeL

iii. **Link to video recorded presentation (using Microsoft Teams)**

- Submit using this link: Assignment 1 Video Presentation Submission Link

  (Login using only your NP student account)

All deliverables are due for submission by 20th Dec 2020 (Sunday), 11:59PM.

7. ASSESSMENT CRITERIA

No.	Deliverable	Weightage
1.	Assignment Report	40%
2.	Tableau Packaged Workbook	30%
3.	Video Presentation	30%
	TOTAL	100%