SUBJECT: BSD1323 STORYTELLING AND DATA VISUALIZATION		MARKS: 90(30%)
TOPIC: CHAPTER 3 to CHAPTER 8		
GROUP PROJECT	DUE DATE: 17 May - 17 June 2022	
GROUP PROJECT MEMBERS (ID, NAMES, SECTION) 1. TAN CHEK CHENG SD21031 (01G) 2. NURUL ATHIRAH BINTI RAMLI SD21015 (01G) 3. LIM JING ROU SD21024 (01G) 4. NUR ADIBAH BINTI MOHD ZUHAIRI SD21012 (01G)		

Report Group Project BSD 1323 Group 1

4a. Motivation of your project topic

The purpose of this study was to examine mobile phone addiction behaviour and mobile phone awareness in a sample of 12 respondents. The goal of this study is to evaluate and explore the data's facts and insights, as well as to get a comprehensive grasp of the dataset through data exploration and visualisation.

4b. Details explanation of your storyline

Twelve respondents from Kedah, Selangor, Pahang, Johor Bahru, Kuantan, and Terengganu are included in this story. The storyline consists of 19 story points divided into seven sections. Gender, phone brand, daily total time spent, number of apps used, most used app category, daily frequency of phone unlock, and total battery consumed are the seven components of the respondents usage behaviour study.

The first part demonstrates the association between gender, phone brand, and total daily time spent. The second section shows the relationship between phone brand and average daily percentage of battery utilisation and overall battery usage among respondents. The third section displays the daily total time spent, while the fourth displays the number of applications utilised and the cumulative percentage of all apps used. The most popular app category is shown which illustrates the most often used app category in relation to the daily percentage of battery utilisation, total battery usage, and rank of daily frequency of phone unlock among respondents. The sixth section displays the daily frequency of phone unlocking among respondents, while the last part indicates the association between daily total battery consumption and running total battery utilisation among respondents.The data collected for 15 days from the 12 respondents are available along with the following information:

Qualitative data
- *Gender* - Type of Gender (Female or Male)
- *App category* - App Category by Respondents (Entertainment, Social, Information and Reading)
- *Phone brand* - Type of Phone Brand Used by Respondents
- *Day – Number of day is recorded to collect the data*

Geographic data

- *State and city of Malaysia* - Type of the location where Respondents is located

Date data

- *Date – Actual date in data collection*

Quantitative data

- *Daily total time spent* - Total Time Spend on Mobile Phone Recorded on This 15 Days
- *Number of app used* - Total Number of App Used Each 15 Days
- *Battery usage* - Total Battery Usage Recorded Each 15 Days
- *Frequency of phone checking* - Total Number of Unlocked Phone Screen

4c. Detail analysation of each story point

Story point	Caption of the story point	Detail Analysation of Story point
1	Introduction of group member of project	All the members are being introduced that including TAN CHEK CHENG SD21031 (01G), NURUL ATHIRAH BINTI RAMLI SD21015 (01G), LIM JING ROU SD21024 (01G) and NUR ADIBAH BINTI MOHD ZUHAIRI SD21012 (01G).
2	Purpose and Usage behaviour explaination	The purpose of this storyline is to understand and discover the facts and trends of the data, extract the real insight through performing the data exploration and visualisation from the dataset in the story.
3	Respondents details	- There are 4 respondents from Kedah, three of them (Lim Jing Rou, Lim Jing Hung and Lim Jing Chong) are from Alor Setar and one from Sungai Petani (Nur Adibah binti Mohd Zuhairi). - There are 3 respondents from Pahang, all of them live in separate cities: Kuala Lipis (Muhammad Amin Bin Che Ali), Kuantan (Nurul Athirah binti Ramli), and Pekan (Evy Amalin Aisyah binti Kamal Azhar). - There are 2 respondents from Kulai, Johor Bahru (Tan Chek Cheng and Voon Gueay Sian). - The remaining respondents are from different states, including Selangor (Tan Won Jing), Kelantan (Amsyar Muhaimin bin Mat Rahim), and Terengganu (Alya Fatini binti Mat Zahit).
4	Listing of respondent usage behavior analysis	The respondents are analysed through 7 different aspects including Gender, Daily total spend, most used app category, Total battery use, Phone brand, Number of apps used, Daily frequency of phone unlock.
5	Preview story of gender	- The storyline mentioned the gender which are female and male. - Based on story point, different genders may perform different usage behaviour depending on their interests, personality and characteristics, global trends and environmental factors. - Otherwise, the other story point based on gender will relate to other variables.
6	Detail analysis of gender	- The percentage of female respondents is higher than the male respondents. - Vivo is the most popular phone brand among respondents, with two female and two male respondents. Both Samsung and iPhone users are represented by two female respondents. Only one female respondent uses Huawei, while only one male respondent uses Oppo, Redmi, and Xiaomi respectively. - The daily total time spent among female respondents is

		higher than the male respondents.
		• There is an increasing trend of daily total time spent by female respondents in these 15 days.
		• There is a decreasing trend of daily total time spent by male respondents in these 15 days.
7	Preview story of phone brand	• The story point shows about the phone brand that was used by respondents.
		• From the story point created, it stated that users have become more discerning in their phone selection. Sustainability is a crucial issue in meeting their requirements because everyone expects their phones to last longer.
		• Through data visualisation, the relationship between phone brand and battery utilisation may be seen.
8	Detail analysis of Phone brand	• The percentage of respondents by phone brand which is Vivo, is the most frequently used phone brand as compared to others phone brand.
		• The most used phone brand among the respondents is Vivo (33.33%), followed by Samsung and iPhone (16.67%), whereas Huawei, Oppo, Redmi and Xiaomi are all 8.33% respectively.
		• Although iPhone top average total battery usage but Oppo users have a higher average percentage of battery usage than iPhone users.
		• Huawei users have the lowest average total battery usage as well as the lowest average percentage of battery usage.
9	Preview story of daily total time spent	From the visualisation, daily total time spent may lead the users to spend varied amounts of time on different days. Dates, weekdays, and weekends can all influence how much time is spent. It can be compared by the variations in daily total time spent with the duration of our story.
10	Detail analysis of Daily Total Time spent	• The date, weekdays (Monday, Tuesday, Wednesday, Thursday. Friday) and weekends (Saturday and Sunday) are clearly stated from day 1 until day 15.
		• The overall trend of daily total time spent of all respondents shows a fluctuation trend which increases and decreasing within 15 days of the story.
		• The daily total time spent among all the respondents decreased from 20/5/2022 to 23/5/2022 (Friday to Monday) and then increase to 25/5/2022 (Wednesday). Then the trend is fluctuating but shows the increases on 27/5/2022(Friday), 29/5/2022 (Sunday), 1/6/2022 (Wednesday) to 2/6/2022 (Thursday).
		• The highest total time spent by all respondents is 5504

		minutes on 30/5/2022 (Monday) while the lowest is 4465 minutes on 31/5/2022(Tuesday).
		• Nur Adibah Binti mohd Zaihairi shows the highest total time spent (12108 minutes) while the lowest is (3734 minutes) by Tan Won Jing.
11	Preview story of number of apps are used	There are a variety of various apps available for public use. Different people use the different number of everyday depending on their usage behaviour. In this story, the number of apps used by the respondents will be clearly stated.
12	Detail analysis of Number of apps are used	The top 3 respondents with the highest number of apps used are Alya Fatini with 368 apps used, Nur Adibah with 347 apps used and Lim Jing Hung with 276 apps used in these 15 days.
13	Preview story of most used app category	Usage patterns of different categories of apps such as social, entertainment, information, and reading can slightly change a user's usage habits, such as how often they check their phone, how long unlock time, etc.
14	Detail analysis of Most used app category	• The majority of respondents are using two app categories which are entertainment and social. • The use of social categories is generally higher than entertainment among respondents except for Lim Jing Chong, Voon Gueay Siean. • Nur Adibah is the only one that uses the information and reading app category. • The social category tops the rank of daily frequency of phone unlock and has the highest percentage of battery usage and total battery usage among all 15 days except for day 3 followed by second rank entertainment and the lowest rank is information and reading. • In the information and reading category, there are only two days record of daily percentage of battery usage and total battery usage are day 2 and 11. The trend shows a slight increase in both daily percentage of battery usage and total battery usage from day 2 to day 11. • The trend of fluctuation of daily percentage of battery usage of all most used app categories is almost the same as total battery usage that increases and decreases at the exact same day except from day 12 by entertainment category.
15	Preview story of frequency of phone unlock	The frequency with which a user's phone is unlocked is one of the most effective techniques to detect how frequently the phone is used. In this story, respondents will be compared based on how frequently they unlock their phones on a daily basis.

16	Detail analysis of Frequency of Phone unlock	• Nur Adibah Binti Mohd Zuhairi has the overall higher frequency of phone unlocking within 15 days of story duration and recorded the highest in May 28, 2022. • Lim Jing Rou also has the overall lower frequency of phone unlocking within 15 days of story duration and recorded the lowest in May 28, 2022.	
17	Preview story of total battery usage	Total battery use may vary depending on how respondents use their phones on various days. Total daily battery use is tracked for the life of the tale, which is 15 days.	
18	Detail analysis of Total battery usage.	• The change of trend of daily total battery usage of all respondents increases and decreases from 20th May to 3rd June 2022. • Nur Adibah has the overall highest running total battery usage in 15 days because she has the most often running total battery usage in around 8 days, which is on 21 May, 24 May, 25 May, 26 May, 28 May, 30 May,31 May ,1 June of 2022 • Lim Jing Hung has the lowest running total battery usage in these 15 days of story as he has the least often running total battery in about 6 days which are on 22 May, 23 May, 26 May, 30 May, 31 May and 1 June of 2022 • The highest total battery usage by respondents is 37077 mAh on May 27, 2022 (Friday) while the lowest is 26625 mAh on May 23, 2022 (Monday)	
19	Conclusion	• By gender, female respondents are higher than the male respondents. • By phone brand, majority of respondents are using vivo and iphone brand has the highest average of battery utilization in the term of durability. • By daily total time spent, there is a trend of fluctuation in overall and Nur Adibah Binti Mohd Zuhairi recorded the highest total time spent. • By most used app category, social category is more frequently used compared to other category. • By frequency of phone unlock, Nur Adibah Binti Mohd Zuhairi recorded the highest. • By number of apps used, Top 3 respondents with the highest number of apps used are Alya Fatini, Nur Adibah and Lim Jing Hung. • By total battery usage, higher total battery usage around the weekends.	

4d. Concluding remark

After going through the whole story, the data observed is showing that female respondents are higher than male respondents. In this story, Vivo brand is the most popular phone brand among the respondents. The iPhone brand has the greatest average of battery utilisation as compared to others in terms of sustainability. Daily total time spent showing fluctuation in overall. Nur Adibah Binti Mohd Zuhairi has the highest total time spent and frequency of phone unlock. The popular most used app category among the respondents is social category with the largest daily percentage of battery consumption in these 15 days. Top 3 respondents with the highest number of apps used are Alya Fatini, Nur Adibah and Lim Jing Hung. Furthermore, higher total battery usage was recorded around the weekends.

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![UMP logo] UNIVERSITI MALAYSIA PAHANG PUSAT SAINS MATEMATIK	**TOPIC:** CHAPTER 3 to CHAPTER 8		
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GROUP PROJECT: MARKING SCHEME

CLO	Description	PLO mapping	Percentage	Marks
CLO2	Demonstrate the data visualization skill using an effective storytelling.	PLO2: Cognitive Skills and Functional work skills with focus on Numeracy skills C3: Application	10%	30

LEVEL OF ACHIEVEMENT				
1 **Inadequate**	**2** **Emerging**	**3** **Developing**	**4** **Good**	**5** **Excellent**

QUES.	ELEMENTS	MARKS	LEVEL OF ACHIEVEMENT
1&2	a. At least 2 weeks daily data from all members. b. At least 1 Date data type in the dimension shelf. c. At least 2 Categorical/qualitative data types in the dimension shelf. d. At least 1 Geographic data type in the dimension shelf. e. At least 3 Quantitative data types in the measure shelf.	5	
3	a. A catchy title and a clear storyline. b. At least 7 story points. c. Combination of text, image, worksheets, and dashboards. d. Combination of several types of visualization from each data field types. e. Interactive visualizations (include filters and animation).	5	
TOTAL (10)			

CLO2 RUBRICS OF QUESTION 4								
CRITERIA	**LEVEL OF ACHIEVEMENT**						**WEIGHTAGE**	**SCORE**
	0 **Non-existent**	**1** **Inadequate**	**2** **Emerging**	**3** **Developing**	**4** **Good**	**5** **Excellent**		
Motivation of your story	No motivation of the story provided	Very little motivation of the story provided	Motivation of the story provided but missing all major points	Motivation of the story provided but unclear	Clear and good motivation of the story provided	Very clear and excellent motivation of the story provided	0.5	
Details explanation of the storyline	Failed to explain the storyline	Not Efficiently, effectively, and accurately explain the storyline	Partly accurate, but not effectively explain the storyline	Effectively explain the storyline but not accurate	Accurately and effectively but not efficiently explain the storyline	Accurately effectively, and efficiently explain the storyline	1	
Details analysation of each story point	Failed to analyse the story points.	Not Efficiently, effectively, and accurately analyse the story points	Partly accurate, but not effectively analyse the story points	Effectively analyse the story points	Accurately and effectively but not efficiently analyse the story points	Accurately effectively, and efficiently analyse each story point	2	
Concluding remarks	No concluding remarks provided	Very little concluding remarks provided and inaccurate	Concluding remarks provided but unclear and inaccurate	Concluding remarks provided but partly inaccurate	Clear and good concluding remarks provided	Very clear and excellent concluding remarks provided	0.5	
						TOTAL (20)		

CLO	Description	PLO mapping	Percentage	Marks
CLO3	Display a powerful data visualization, report, dashboard or stories in solving various applications using appropriate software.	PLO3: Functional work skills with focus on Practical, and Digital skills P4: Mechanism	10%	30

CRITERIA	LEVEL OF ACHIEVEMENT						WEIGHTAGE	SCORE
	0	1 Inadequate	2 Emerging	3 Developing	4 Good	5 Excellent		
Theory/ Knowledge on data visualization and dashboard	No theoretical knowledge on data visualization and dashboard observed	Very little knowledge on data visualization and dashboard observed or some information is incorrect	Some knowledge or information observed on data visualization and dashboard but missing all major points	Some knowledge or information observed on data visualization and dashboard but still missing some major points	Good knowledge on data visualization and dashboard observed, missing some minor points	Excellent knowledge on data visualization and dashboard observed; provides all necessary background principles	1	
Efficiency/ Assembly/ Tidiness	Failed to demonstrate the given task	Not efficiently, effectively and neatly demonstrated the given task	Partly efficient, but not effectively and neatly demonstrated the given task	Efficiently, but not effectively and neatly demonstrated the given task	Efficiently and effectively but not neatly demonstrated the given task	Efficiently, effectively and neatly demonstrated the given task	1	
Techniques on Story & Data Validation	Failed to create a story	Inappropriate techniques on story are demonstrated	Partly correct techniques on story are demonstrated, with partly valid data	Correct techniques on story are demonstrated, with partly valid data	Good techniques on story are demonstrated, with valid but not completely accurate data	Competent techniques on story are demonstrated, with valid and accurate data	2	
Results (the story points)	Failed to create a story	Lack of story points / zero readability of the result. Poor originality , taking credits of others work	Partly complete story points	Story points are presented but at low readability. Reader has to guess some of the missing information. Less originality, copy paste here and then	Clear and neat presentation of story points. All required results are presented. Readability. Complete with labels, title, axes, etc.	Very Clear and neat presentation of story points. All required results are presented. High readability. Complete with labels, title, axes, etc.	1	

Results (the interactive data visualization and story points)	No interactive data visualization and story points	Lack of interactive data visualization and story points / zero readability of the result. Poor originality, taking credits of others work	Very minimal interactive data visualization and story points are shown	Result presented but at low readability / some result presented. Reader has to guess some of the missing information. Less originality, copy paste here and then	Clear, neat presentation. All required results are presented. Readability. Complete with labels, title, axes, etc	Very Clear, neat presentation. All required results are presented. High readability. Complete with labels, title, axes, etc	1	
						TOTAL	**30**	

CLO	Description	PLO mapping	Percentage	Marks
CLO4	Work collaboratively as part of a team to solve given problem through group discussion and presentation.	PLO4: Functional work skills with focus on Interpersonal skills A3: Valuing	5%	15

CRITERIA	LEVEL OF COMPETENCY					WEIGHTAGE	SCORE
	1 Very Weak	2 Weak	3 Fair	4 Good	5 Very Good		
Foster Good Relationship	No clear evidence of ability to foster good relationships and work together effectively with other group members towards goal achievement.	Able to foster relationship and work together with other group members towards goal achievement but with limited effect and require improvements.	Able to foster relationship and work together with other group members towards goal achievement with some effect(s) and require minor improvements.	Able to foster good relationship and work together with other group members towards goal achievement.	High ability to foster good relationship and work together effectively with other group members towards goal achievement.	1	
Alternate Roles	No clear evidence of ability to assume alternate roles as a group leader and group members demonstrated in practice.	Attempt to demonstrate in practice the ability to alternate roles as a group leader and group members but with limited effect and require improvements.	Able to demonstrate in practice the ability to assume alternate roles as a group leader and group members with some effect(s) and require minor improvements.	Able to demonstrate in practice the ability to assume alternate roles as a group leader and a group member to achieve the same goal.	Show clear evidence to assume alternate roles as a group leader and a group member demonstrated in practice.	1	
Respect and accept opinions	Not able to respect and accept opinion of others that leads to conflicts	Limited respect and acceptance of others' opinions in achievement group's objectives	Able to respect and accept opinion of others in achieving group's objectives	Able to well respect and accept opinion of others in achieving group's objectives	Able to very well respect and accept opinion of others in achieving group's objectives	1	
					TOTAL (15)		

*Note: A self and peer review questions will be given to each of the student to assess their group member and their teamwork and the outcome will assist lecturer to assess the CLO4 rubric.

CLO	Description	PLO mapping	Percentage	Marks
CLO5	Demonstrate an active communication through group discussion and presentation.	PLO5: Functional work skills with focus on communication skills A3: Valuing	5%	15

CRITERIA	LEVEL OF COMPETENCY					WEIGHTAGE	SCORE
	1 Very Weak	2 Weak	3 Fair	4 Good	5 Very Good		
Clear delivery of ideas	Not able to deliver ideas clearly and require major improvements	Able to deliver ideas and require further improvements	Able to deliver ideas fairly clearly and require minor improvements	Able to deliver ideas clearly	Able to deliver ideas with great clarity	3/5	
Confident delivery of ideas	Not able to deliver ideas confidently	Able to deliver ideas with limited confidence and require further improvements.	Able to deliver ideas fairly confidently and require minor improvements	Able to deliver ideas confidently	Able to deliver ideas with great confidence	3/5	
Effective and articulate delivery of ideas	Not able to deliver ideas effectively	Able to deliver ideas with limited effect and require further improvements	Able to deliver ideas fairly effectively and require minor improvements	Able to deliver ideas effectively and articulately	Ability to deliver ideas with great effect and articulate	3/5	
Understand and respond to questions	Not able to understand and respond to a question	Able to understand and answer questions but not able to accurately answer the question	Able to understand and answer questions satisfactorily	Able to respond to questions well	Able to fully understand and respond to questions very well	3/5	
Adapt delivery to audience level	Not able to deliver appropriately to the audience level	Able to deliver ideas with limited appropriateness to the target audience and require further improvements.	Able to deliver ideas appropriately to the target audience satisfactorily	Able to deliver ideas appropriately to the target audience well	Able to fully deliver ideas appropriately very well	3/5	
					TOTAL (15)		