

Higher Nationals - Summative Assignment Feedback Form

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Unit Title	Computing Research Project		
Assignment Number	1	Assessor	Tran Thi Kim Khanh
Submission Date	10/12/2023	Date Received 1st submission	
Re-submission Date		Date Received 2nd submission	
Assessor Feedback: <p>*Please note that constructive and useful feedback should allow students to understand:</p> <ul style="list-style-type: none"> a) Strengths of performance b) Limitations of performance c) Any improvements needed in future assessments <p>Feedback should be against the learning outcomes and assessment criteria to help students understand how these inform the process of judging the overall grade.</p> <p>Feedback should give full guidance to the students on how they have met the learning outcomes and assessment criteria.</p>			
Grade:		Assessor Signature:	Date:
Resubmission Feedback: <p>*Please note resubmission feedback is focussed only on the resubmitted work</p>			
Grade:		Assessor Signature:	Date:
Internal Verifier's Comments:			
Signature & Date:			

* Please note that grade decisions are provisional. They are only confirmed once internal and external moderation has taken place and grades decisions have been agreed at the assessment.

Unit 16: Computing Research Project

Assignment Brief 1

Unit Number and Title	Unit 16: Computing Research Project
Academic Year	2023 - 2024
Unit Tutor	Nguyen The Lam Tung
Assignment Title	Proposing and conducting a research project
Issue Date	01 September 2023
Submission Date	01 August 2023
Submission Format	
<i>Format</i>	The submission is in the form of an individual written report that shows how you have managed the project. This should be written in a concise, formal business style using single spacing and font size 12. You are required to make use of headings, paragraphs and subsections as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. Please also provide a bibliography using the Harvard referencing system.
<i>Submission</i>	Students are compulsory to submit the assignment in due date and in a way requested by the Tutors. The form of submission will be a soft copy in PDF posted on corresponding course of http://cms.greenwich.edu.vn/
<i>Note</i>	The Assignment must be your own work, and not copied by or from another student or from books etc. If you use ideas, quotes or data (such as diagrams) from books, journals or other sources, you must reference your sources, using the Harvard style. Make sure that you know how to reference properly, and that understand the guidelines on plagiarism. <i>If you do not, you definitely get fail.</i>
Unit Learning Outcomes	
<p>LO1: Examine appropriate research methodologies and approaches as part of the research process.</p> <p>LO2: Conduct and analyse research relevant for a computing research project</p> <p>LO3: Communicate the outcomes of a research project to identified stakeholders</p>	

Transferable skills and competencies developed

The assignment offers students the chance to explore various aspects of big data from the perspective of computing professionals or data scientists. It also encourages investigations into the applications, benefits, limitations, and responsibilities associated with big data and provides solutions to the problems it aims to solve.

Vocational scenario

Introduction to theme

Big Data

Over the past decade, the term "big data" has gained increasing popularity. Initially, it referred to data generated in massive volumes, such as internet search queries, weather sensor data, and social media information. Nowadays, big data represents large amounts of information from diverse sources that cannot be processed conventionally or without computational intervention. Big data can be stored in structured, unstructured, or semi-structured formats. Many systems and organizations generate massive quantities of big data on a daily basis, some of which are publicly available for analysis. Consequently, machine learning systems have been developed to sift through this data, rapidly identify patterns, and solve problems. This has led to the emergence of data science analytics as a discipline to design, build, and test machine learning and artificial intelligence systems. Leveraging big data requires a broad range of knowledge and skills, creating new opportunities for previously inaccessible organizations. It allows businesses to gain a comprehensive understanding of global trends, enabling more accurate and up-to-date decision-making. Big data can help identify potential business risks earlier and minimize costs without compromising innovation. However, the rapid application of big data raises concerns about security, the ethical storage of personal data from multiple sources, and the sustainability of energy requirements in large data warehouses.

Task

Students are to choose their own research topic for this unit. Strong research projects are those with clear, well focused and defined objectives. A central skill in selecting a research objective is the ability to select a suitable and focused research objective. One of the best ways to do this is to put it in the form of a question. Students should be encouraged by tutors to discuss a variety of topics related to the theme to generate ideas for a good research objective.

The range of topics discussed could cover the following:

- Storage models.

- Cyber security risks.
- Future developments and driving innovation.
- Legal and ethical trade-offs.

The research objective should allow students to broaden their understanding and widen their perspective of being able to explore, argue, prove, and/or disprove a particular objective. The research objective should be feasible, novel, ethical, relevant and ultimately of interest to the student

Assignment activity and guidance

You have to set your own research question in the research proposal base on the previous range of topic. The research question must be specific enough example: the audience of the research (job, age..), kind of devices(personal devices, household appliances, or combination of some kinds).

Learning Outcomes and Assessment Criteria

Pass		Merit	Distinction
LO1 Examine appropriate research methodologies and approaches as part of the research process			LO1 & LO2 D1 Critically evaluate the project management process and appropriate research methodologies applied.
P1 Produce a research proposal that clearly defines a research question or hypothesis supported by a literature review. P2 Examine appropriate research methods and approaches to primary and secondary research.	M1 Evaluate different research approaches and methodology and make justifications for the choice of methods selected based on philosophical/theoretical frameworks.		
LO2 Conduct and analyse research relevant for a computing research project			
P3 Conduct primary and secondary research using	M2 Discuss merits, limitations and pitfalls of		

appropriate methods for a computing research project that consider costs, access and ethical issues. P4 Apply appropriate analytical tools, analyse research findings and data	approaches to data collection and analysis.	
L03 Communicate the outcomes of a research project to identified stakeholders		L03 D2 Communicate critical analysis of the outcomes and make valid, justified recommendations.
P5 Communicate research outcomes in an appropriate manner for the intended audience.	M3 Coherently and logically communicate outcomes to the intended audience demonstrating how outcomes meet set research objectives.	

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I. Introduction

1. Introduction

diagnosis Bipolar disorder via tracking social media behavior

Nowadays, people are facing a lot of pressure societal pressure to be successful or to secure a great job more and more people are getting problem with mental. This research aims to diagnose mental health issues more specifically, focusing on the diagnosis of bipolar disorder by tracking a person's social media behavior.

2. Main aims and objectives of the project

1. System to Diagnose bipolar disorder via tracking social media behavior
 - 1.1 Tracking social media feature for tracking behavior of account
 - 1.2 Standardized data and database to store information
 - 1.3 Diagnose feature: use Machine learning to analyse information from tracking social media account behaviour to diagnose that a person is getting bipolar disorder or not
 - 1.4 Sorting people account feature: this feature is for sorting social media account that use regular and common use by a person.

Objective:

Goal	Specific	Measurable	Achievable	Realistic	Time-bond
Develop machine learning	Research how to develop machine learning	Conduct brain storm at least 2 paper	Library that could able to customize machine learning	Machine learning could diagnose bipolar disorder base on the information input	2-3 months
Develop things to tracking behavior in social media (Facebook)	Research how to create a __ to gather information from behavior on account in social media	The information gather 24/24	Gather information during user is online	Software engineer could create __ to gather information from behavior of social media account	2-3 months

Develop standardize for information	Research and analyze the behavior of a person with bipolar disorder on social media and standardize the information suitable to gather	Design at least 2 layer to standardize the information	Standardize information	System could standardize information it self	4 months
Sorting people's accounts feature	Develop category for account base on the result of machine	Sorting into 3 difference category for 100% testing accounts	Accounts sorted	System could sorted the accounts base on the result	1-2 months

3. Project Scope

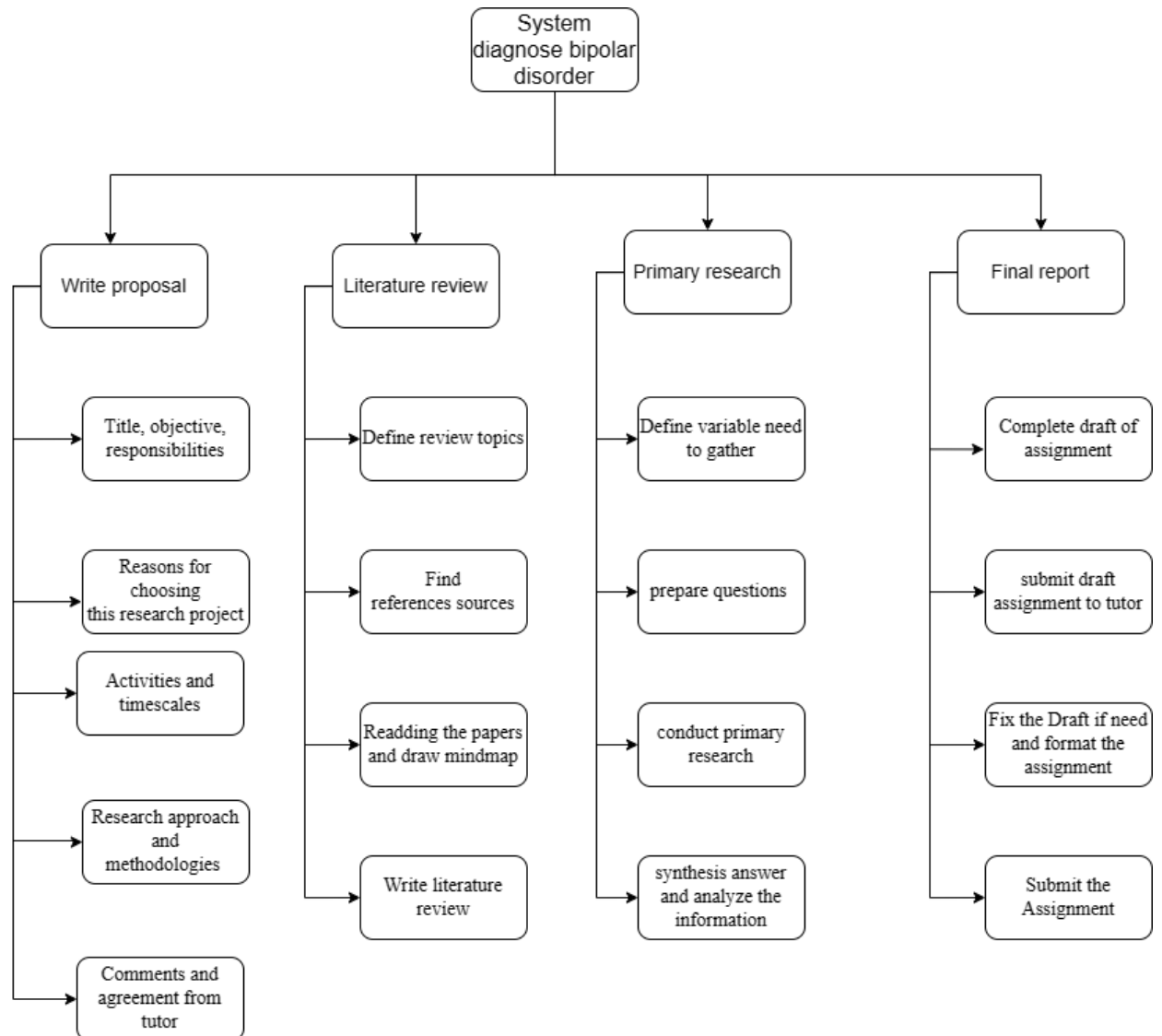
- ❖ System aim to diagnose bipolar disorder base on social media behavior of an account
- ❖ System have implemented machine learning to analyze the information and diagnose bipolar disorder
- ❖ Tracking account behavior, for gather information the system have featured that tracking account behavior for input
- ❖ Develop a standardize layers to classify the account after a few days tracking if a account use by a person or bot or commerce purpose.
- ❖ After have a list of account tracking only account use by people are keeping tracked after a period of time enough to give a result, there is 3 type of category that is depressed, mania, and bipolar disorder.

Exception:

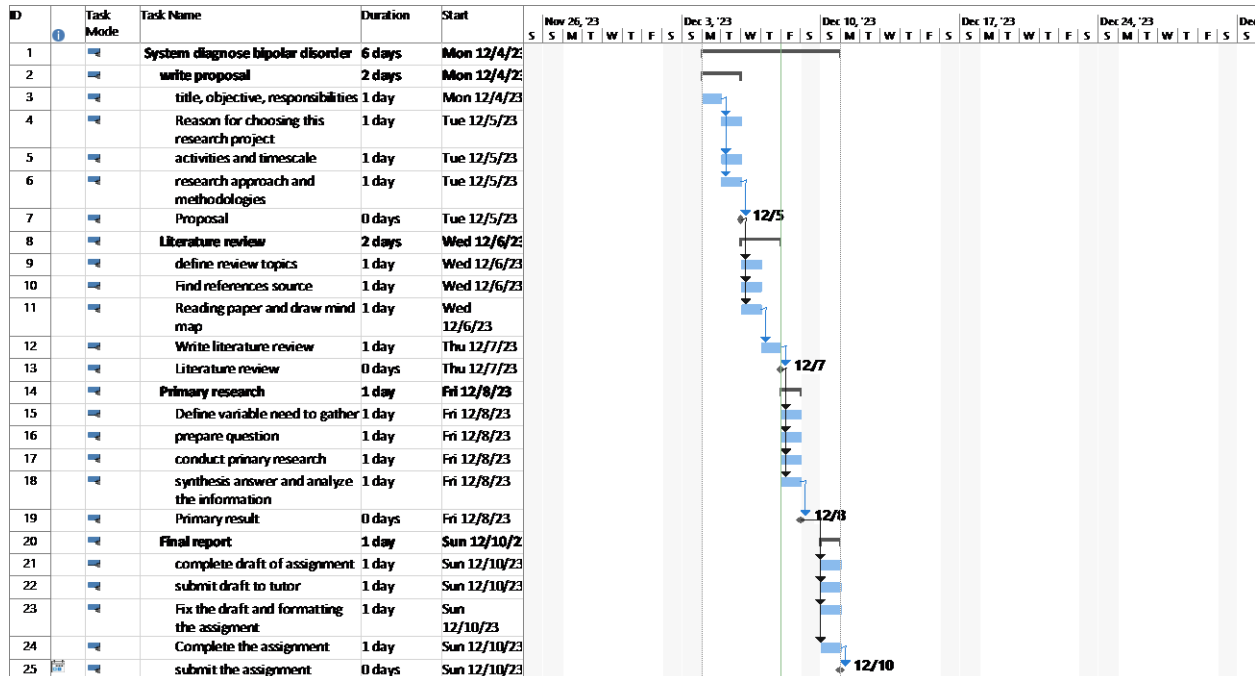
- The system won't measure the stress level for candidate
- The system won't allow to access user information such as video, text , post, sounds,...
- the system won't tracking and analyze social media account use for commerce

4. Project research plan

a. WBS



b. Gantt chart



5. Research Questions

- what bipolar disorder effect to people?
- why people are using social media?
- How does the utilization of social media reflect human psychology?
- What are the effect of bipolar disorder on people?
- How to tracking behaviour social media user?
- How to analyse behaviour of social media users?

II. Literature Review

1. Research Methodologies

a. Primary & Secondary Research

Primary

According to (scribbr, n.d.) Primary research is a research method that use firsthand data which is data that collect by researcher directly. The purpose of Primary research is supporting the existed secondary research or to gather non-exits information

Primary research will be used as a method to consolidate my research, personally I prefer Interview as primary research method because it is pros which are flexible in asking questions, and it is more reliable

to face-to-face interview via pressure on interviewee. I will interview expertise to gather professional information and more accurate. The other method to conduct this research I would love to choose survey with the survey I could gather large amount of information within short period of time. For the survey I'll use it to survey both expertise and patient that got bipolar disorder.

Secondary

According to (scribbr, n.d.) secondary research is a method that use second-hand data which data that already existed. The common purpose of secondary research is gathered exits information that on journal, paper, Boo, etc.

I will choose 5 paper to write literature review I will describe in detail in other session, I choose them by find on the Google Scholar by keyword for example: Disorder. I find 5 paper that have topic, technology relate to my system. Then I define their problem, solution and what technology they are used to solve that problem. Then I Sort them by published year and finally, I draw a mind map and separate branches them into numbers of topics.

b. Quantitative & Qualitative

Qualitative

According to (scribbr, n.d.) Qualitative research is a procedure to collecting data, the main aim that the data that is not a number of data for understanding people opinion or experience.

Qualitative research I will use as questionnaire for interview about five question to gather opinion of interviewee who is expertise in mental health.

Quantitative

According to (scribbr, n.d.) quantitative research is a procedure to collecting data the main aim that the data that is numerical data for finding made prediction, find pattern and averages, ...

Quantitative research will be used as survey by google form about five question to gather prediction about bipolar disorder behavior in social media I would like to ask bipolar disorder patient to gather information.

c. Scientific Method

According to (greenwich, n.d.) Scientific method is a method that use observation to develop a hypothesis and use the hypothesis to generate logical prediction. There is 5 steps of scientific method

Step 1: Observation of behavior or phenomena: in this step, people come to a general conclusion about something base on that behavior or phenomena of that thing.

Step 2: in this step, people should identify factors or variables and detect the relation of them with a result or phenomenon or actions. Afterward, people got a hypothesis

Step 3: use the hypothesis to generate a testable prediction. At this step, people should apply the hypothesis into specific, real-world situation, etc.

Step 4: at this step, people give fairly test to test the hypothesis by observing to tell that the hypothesis true or not

Step 5: at this step, people compare the result that gather from step 4 with the prediction of hypothesis to tell that level of agreement of the observation agree with hypothesis. If the level of agreement is too low to tell that the hypothesis is true, people could return to step 2 or end the method.

d. Research Process

Sequential research process: I prefer sequential research process due to the simplicity of it.

According to (greenwich, n.d.) Step of sequential research process:

- ❖ Step 1: identify the board area of study at this step, people should find out that which topic or field study want to study
- ❖ Step 2: decide on an approach at this step, people decide the method to do research
- ❖ Step 3: Plan how people perform the research at this people design step to process how they perform the research
- ❖ Step 4: Gather data and information at this step people conduct research method to collect data from population and sample.
- ❖ Step 5: analyze and interpret data at this step after collecting data people use raw data and turn it into valuable information for the research.
- ❖ Step 6: Present the result and findings at this step people should format their research papers to prevent or public the research and result.

e. Population in research

According to (scribbr, n.d.) Population in research is group of individuals, objects, events that have characteristic or behave that researcher would like to research about. The (explorable, n.d.) state that There is two type population in research that is target population and accessible population. Target population is all of the group that researcher chose to research. Accessible population usually called study population which is a smaller population of accessible population that research could take their samples from.

In generally according to (byjus, n.d.) there are 4 type of population that are Finite Population, Infinite Population, Existent Population, Hypothetical Population. The finite population is also known as a countable population in which the population can be counted. The existing population is defined as the population of concrete individuals. The infinite population is also known as an uncountable population in which the counting of units in the population is not possible. The population in which whose unit is not available in solid form is known as the hypothetical population

According to (questionpro, n.d.) Sample in research is smaller part in population that researcher select.

The difference between population and sample is (Thacker, n.d.) state that “A population is a complete set of people with specified characteristics, while a sample is a subset of the population”. Generally, the population is a complete set of people or things that research interested in study that population. On the other hand, sample are smaller part that extract from population, sample usually use to represent bigger population.

In the matter of fact, population and sample are take important place in my research, if my target sample in a population is not correct the result will not useable in real apply or train machine will be wrong and take a lot of time to rebuild and fix it. That also lower my research’s Reliability. So that the method I choose to gather sample from population is Convenience Sampling due to the advantages in small study and effective in time and cost. My Target population is Adult with bipolar disorder using Social media specially Facebook. I contact a local group of people with bipolar disorder via social media that run by mental expertise and select 10 people from group’s members include 5 expertise and 5 patient for primary search.

2. Conduct secondary research

In the contemporary context, humans have discovered numerous ways to diagnose various mental illnesses and bipolar disorder, a challenging condition to diagnose due to its diverse symptoms that often overlap with other psychological disorders. Nowadays, an increasing number of individuals are experiencing bipolar disorder symptoms due to work, family, and societal pressures. However, they often lack the time to seek professional help or even determine what they might be suffering from, I will present a solution to help people identify whether they may be experiencing bipolar disorder by examining their behavior on social media. This approach is based on scientific experiments and studies published in scientific journals conducted by researchers in recent times. From these studies, we can infer the possibility of implementing a method to diagnose bipolar disorder through social media activities.

For the approach in machine learning, I find out that classify disorder is a huge problem to solve I find out that (Nova, 2023) have solve this problem. during the covid pandemic (Nova, 2023) found that people are not only suffer from physical but also mental illness. (Nova, 2023)try to approach the problem with machine learning but there is problem about classify the mental illness so author decide to category mental illness into three difference category, BPD (Borderline Personality Disorder), Bipolar disorder, other author use machine learning training them to recognize the what type of mental illness base on the text, the data author take are from forum of reddit and the research only take place in a small of time and place are not wide enough. The advantages of the research tell that it is possible to recognize mental illness in general and bipolar disorder in particular. {Classify}

Secondly, Detect bipolar also a problem that I need to solve I find out, after a few paper I find out that already solve in plenty of papers. (Zavlis et al., 2022) relate that it is possible to diagnose a person if they got mental issue or not, in the research at 2023 (Zavlis et al., 2022)found that the relate

symptoms between Mania with depressed could be use to compare to candidate symptoms to tell that I they are got depressed or Mania or Bipolar disorder , from my point of view the model of research are great but the input is use old dataset and it static. In addition,(Zavlis et al., 2022) use random forest to visualize network to find out the important symptoms. Otherwise. In the research of (Wu et al., 2023) use method to difference Model of machine which call Pool Models to analyze the information that gather from mobile application that they are developed and add it into HAM-D and YMRS to give scale for a person to tell that if they got bipolar disorder ,from my point of view, the system of (Wu et al., 2023) is great the data input is dynamic gather from real-time with various of model in model pool the trustable level are high the research also have some disadvantages is the data gather is only from small group of people.

Thirdly, Let move to the input how to gather information from user,(Zavlis et al., 2022) research use large data scale but it a static data from Canada 2002. Other side, the require of real-time gather data is required by system. (Wu et al., 2023) develop a mobile application to gather information but the weakness of this is user must done self-report the only data that could gather passively is GPS, other data must be done report by patient at this point the candidate could fraudulent report lead to wrong data flow could effective the result seriously especially at small group of candidate. During researching I found the crawler content for website, (Martínez-Castaño et al., 2020) have develop a model that for website crawler to crawl content and post in reddit by using CATENAE and multiple cooperate horizontally-scalable microservices, in addition, Crawler that (Martínez-Castaño et al., 2020) develop also able to perform user filler to avoid repetitions, the researcher also build feature that could crawl information from a single account by giving user information that require by reddit.

In the realm of social media I found that bot may be critical to system due to the numbers, with large amount of bot the system may not be able to perform smoothly, (Najari et al., 2022) was develop a framework to detect social media bot base on seqGAN framework , GANs, LSTM technologies to develop another framework to detect bot call GANBOT. This framework use text to detect social media bot.

❖ Conclusion

After literature review papers I conclude that the most of feature that must have in my system are already developed such as, gather information or crawl content from text and Post, user sleeping period,... Classify disorder also developed by the approaching of machine learning, and how to diagnose a person if they got bipolar disorder, addition, bot filler framework also exists so that the system could run smoothly gather than use performance to analyze bot. although most of feature are developed also there is some small problem need to be solve that is classify user account who is the user of account, for the input I said that it is great if user don't need to do self-report and also I want to gather information of picture and video as well.

❖ Hypothesis

After I propose the following two hypotheses, I will do primary research in part III:

- tracking social media could diagnose bipolar disorder
- the system support in reducing the harm of bipolar disorder by notice patient in early

III. Primary Research

1. Data collection tool

I use Google form to collect user data, google form is a software that develop by google to create survey, Q&A format with various type of questions and also provide free accessible answer form.

For the research method I separate into two research qualitative and quantitative for qualitative I choose survey due to the advantages, for quantitative the suitable for this is Interview.

To conduct the research methods for the survey first of all I create question for qualitative and create survey base on the question then I contact the mental expertise in local to ask for fill in the survey. After that I gather information of qualitative I also ask for interview some of them who I think that could provide me quality answers. After conduct the primary for the quantitative research I got data that are expert's point of view, for qualitative research I got the numerical of symptoms. After that I analyze and handle the data turn it into valuable data.

IV. Analyze the result of the primary research

1. Analyze research findings and the result

for the number of participants I would like to interview 5 people and ask 5 people to do survey

Interview result:

- Question 1:

what factors are important in diagnosis bipolar disorder?

5 responses

Diagnosing bipolar disorder involves assessing mood patterns, considering family history, and ruling out other conditions. A comprehensive psychiatric evaluation is essential for an accurate diagnosis.

Bipolar disorder diagnosis requires a thorough psychiatric evaluation, considering mood patterns, family history, and excluding other conditions, to ensure an accurate diagnosis.

Diagnosing bipolar disorder involves analyzing mood patterns, considering behavior, sleeping time, patient thinking in some events. A thorough psychiatric evaluation is crucial for accuracy.

In diagnosing bipolar disorder, key factors include observable behavior, sleep patterns, and to some extent, environmental factors.

When figuring out if someone has bipolar disorder, doctors look at a few key things. First off, they check for extreme mood swings

Description: Summarizing the responses, diagnosing bipolar disorder involves a comprehensive psychiatric evaluation that considers mood patterns, family history, and behavioral factors. Sleep patterns, patient thinking in specific events, and observable behavior are also crucial. The process aims to rule out other conditions and ensure an accurate diagnosis, with extreme mood swings being a key indicator.

- Question 2:

how bipolar disorder patient behavior on social media?

5 responses

Social media can reflect mood swings, from energetic posts during manic phases to withdrawal during depressive episodes. However, online behavior alone is not a definitive diagnostic tool. must gather more information

Social media behavior of bipolar disorder patients can provide insight into extreme mood swings, impulsive behavior, or unusual patterns.

Using social media as a diagnostic tool for bipolar disorder may offer insights into an individual's behavior, but it's important to note that it's not a definitive or reliable method

Social media behavior can indeed offer valuable insights. I've successfully diagnosed individuals based on their online activities, particularly through posts and direct communication. Patterns in digital interactions can sometimes provide early indications of mood swings and other elements associated with bipolar disorder.

People with bipolar disorder might act more energetic and impulsive on social media during manic phases, while being less active and more negative during depressive phases. Keep in mind, it varies from person to person. If you're worried about someone, suggest they talk to a professional.

Description: the behavior of bipolar disorder patients on social media can reflect mood swings, ranging from energetic posts during manic phases to withdrawal during depressive episodes. While social media can provide insights into extreme mood swings, impulsive behavior, or unusual patterns, it's crucial to emphasize that online behavior alone is not a definitive diagnostic tool for bipolar disorder. Some professionals find value in using social media as a supplementary source of information, but a comprehensive diagnosis requires gathering more information and consulting with a mental health professional.

- Question 3:

what is the condition to tell a person got bipolar disorder?

5 responses

Identification relies on observing mood fluctuations, changes in energy levels, and shifts in daily functioning. Consultation with a mental health professional is crucial for an accurate diagnosis

The conditions to suspect bipolar disorder in a person include noticeable mood swings, extreme highs (mania) and lows (depression), disrupted sleep patterns, and impulsive behavior. A professional evaluation is necessary for a conclusive diagnosis.

Observing significant mood swings between mania and depression is a key condition to consider when diagnosing bipolar disorder

One indicative condition is observing significant changes in a person's emotions over a period of about a week. Fluctuations in mood during this timeframe can be a key signal of potential bipolar disorder.

To spot bipolar disorder, look for extreme mood swings – times when someone is super high and energetic, followed by really low and down moments

Summarize: In identifying bipolar disorder, key conditions include observing mood fluctuations, changes in energy levels, disrupted sleep patterns, and shifts in daily functioning. Noticeable mood swings between extreme highs (mania) and lows (depression), as well as impulsive behavior, are indicative factors. A professional evaluation is crucial for an accurate diagnosis. Additionally, significant changes in a person's emotions over a week can be a key signal of potential bipolar disorder. Extreme mood swings, characterized by periods of high energy followed by low moments, are also a notable condition to consider.

- Question 4:

what factor that support diagnose bipolar disorder people when lack of information?

5 responses

Mood swings, activity level changes, sleep disruptions, rapid/slowed speech, distinct episode durations, and significant impact on daily life are key factors for diagnosing bipolar disorder when information is limited. Consultation with a mental health professional is essential for accurate diagnosis.

When there's a lack of information, factors supporting the diagnosis of bipolar disorder may include reports from family or close friends about noticeable mood fluctuations and changes in behavior.

Even with limited information, careful observation of mood patterns can support the diagnosis of bipolar disorder

In the absence of comprehensive information, observable and consistent patterns of extreme mood swings, energy levels, and changes in activity can be crucial factors supporting the diagnosis of bipolar disorder.

When there's not much info, things like ASMR can actually be a clue for bipolar disorder. People might turn to ASMR to cope with mood swings or sleep issues linked to the disorder. It's like a little hint that something might be up

Summarize: In cases of limited information, factors supporting the diagnosis of bipolar disorder include observable mood swings, changes in activity levels, sleep disruptions, rapid/slowed speech, distinct episode durations, and a significant impact on daily life. Reports from family or close friends about noticeable mood fluctuations and changes in behavior can provide valuable insights. Careful observation of consistent patterns in extreme mood swings, energy levels, and changes in activity is crucial for supporting the diagnosis. Additionally, unusual coping mechanisms, such as turning to ASMR, might serve as hints for mood swings or sleep issues linked to bipolar disorder when information is scarce. Nevertheless, consultation with a mental health professional remains essential for an accurate diagnosis.

▪ Question 5:

What the benefit of diagnose bipolar disorder in earlier?

5 responses

in earlier diagnose the impact of bipolar disorder is lower less harm for the patient also simply the cure process

Diagnosing bipolar disorder early allows for timely intervention and management. Benefits include preventing severe mood episodes, reducing the impact on daily functioning, and improving the overall quality of life for the individual.

Early diagnosis of bipolar disorder offers the advantage of timely intervention and management. This can mitigate the impact on daily life, allowing for the implementation of effective treatment strategies. Ultimately, early diagnosis improves the overall prognosis and enhances the quality of life for individuals with bipolar disorder.

Early diagnosis of bipolar disorder allows for timely intervention and treatment, improving long-term outcomes, preventing severe episodes, and enhancing overall quality of life

Early diagnosis also means preventing things from getting worse. It gives a head start in avoiding complications that can come with untreated bipolar disorder, like problems at work or in relationships.

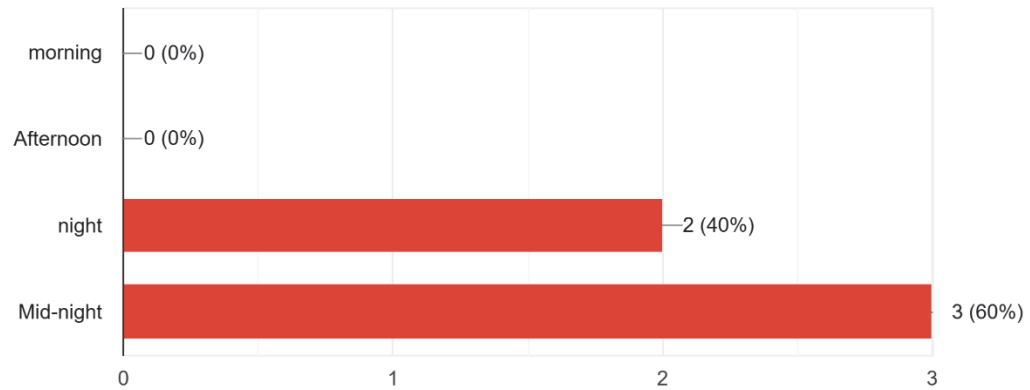
Summarize: In summary, early diagnosis of bipolar disorder brings several benefits, including lower impact and harm to the individual, simplification of the treatment process, timely intervention and management to prevent severe episodes, and ultimately, an improved quality of life. Additionally, early diagnosis helps in preventing complications associated with untreated bipolar disorder, offering a proactive approach to address potential challenges in work and relationships.

Qualitative result:

- Question 1

What time you usually use social media?

5 responses

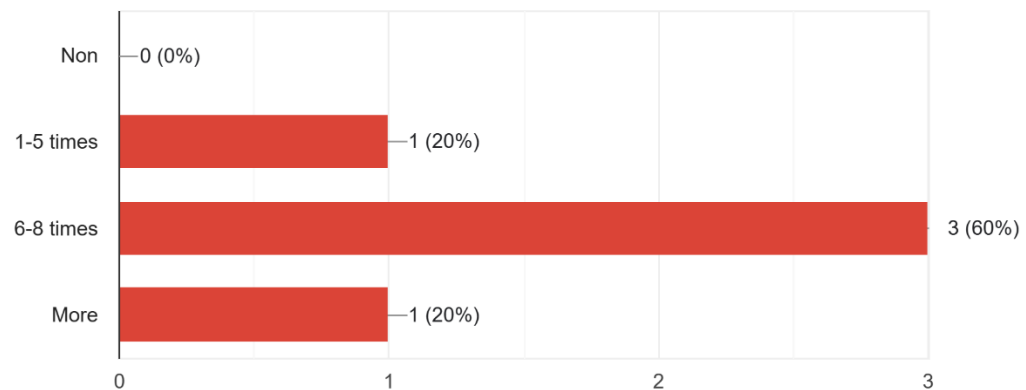


Summarize: The result of the question tell that a person with bipolar disorder mostly use phone at night and mid night.

▪ Question 2:

How often you have sleep-less this past 3 month?

5 responses

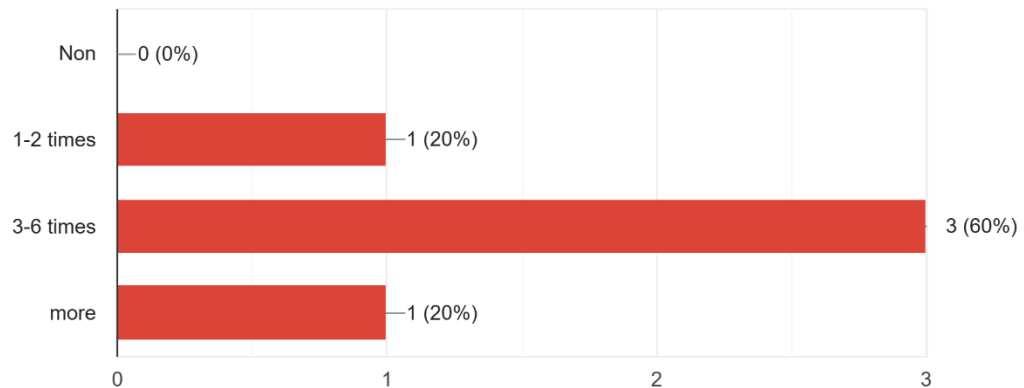


Summarize: in the result of the question tell that a person with bipolar disorder normally experience sleep-less about 6-8 times in 3 month

Question 3:

In last year or recently, Frequency of time you feeling that you don't want to do anything or find out that you are in hopeless situation or simply loss of interested to thing that you loved.?

5 responses

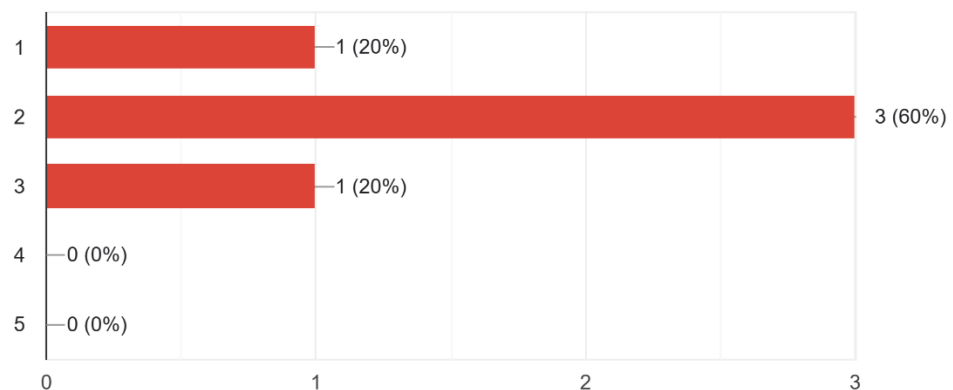


Summarize: for the result tell that the frequency of time that have mood down or depress in recent year about 3-6 times in average

▪ Question 4:

on the scale 5 (1 smallest) what is your graded at for ability to control your emotion?

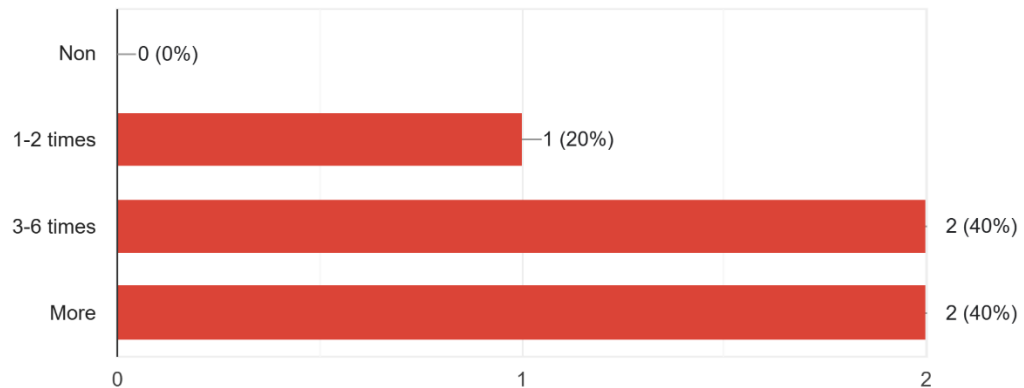
5 responses



For the self-emotion control they grade is it too high although they rate on them self most of patient is not so confident about control their emotion

▪ Question 5:

In last year or recently, are you take part in any risk activity or high excitement experience or feel that you want to do something excited or just feeling over energy? Non | 1-2 times | 3- 6 times | more
5 responses



Summarize: the result tell that patient got more than 3 times at average experience mania.

2. Communicate research outcomes in an appropriate manner for the intended audience.

According to the result of primary research I find out that most of interviewee said that possible to diagnose bipolar disorder base on tracking social media but the reliable is not as high as diagnose with expert they think so the system should improvement gather more information by giving them question to think about and answer.

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APPENDIX

1. Research proposal

Research Proposal Form

Student Name: Truong Duong Hong Phuoc

Student Number: GCC210321

Tutor: Tran Thi Kim Khanh

Date: 10/12/2023

Unit 13: Computing Research Project

Propose Title: diagnosis Bipolar disorder via tracking social media behavior

Section One: Title, objective, responsibilities

Research Question:

How to diagnose bipolar disorder for social network users

How to apply machine learning to diagnose bipolar disorder of social network users

how to track user activities in social networks and send them to big data databases

Objectives:

I want to learn:

- What is bipolar disorder
- Who are the social media users
- How people contact with social media
- How to diagnose bipolar disorder for social media user
- what bipolar disorder effect to people
- why people are using social media
- How does the utilization of social media reflect human psychology
- What are the effect of bipolar disorder on people
- How to tracking behavior social media user
- How to analyze behavior of social media users

Section Two: Reasons for choosing this research project

Reasons for choosing the project

- I am interested in human psychological issues, especially bipolar disorder
- I want to help people morale better
- Challenge myself in a field that is new and promises many discoveries
- Collecting data with large amounts of mental data, I think it will help a lot in research on psychology and human behavior
- Develop my research skills in the fields of Big data and machine learning.
- The Research has great potential in practice, especially in modern, stressful society

Section Three: Literature sources searched

The initial sources which could help me to answer those questions:

1. Martínez-Castaño, R., Pichel, J. C., & Losada, D. E. (2020). A big data platform for real time analysis of signs of depression in social media. *International Journal of Environmental Research and Public Health*, 17(13), 4752.
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Section Four: Activities and timescales

1: write proposal

title, objective, responsibilities

Reason for choosing this research project

activities and timescale

Collect material relating to the research question and objectives

research approach and methodologies

Proposal

2: Literature review

define review topics

Find references source

Reading paper and draw mind map

Write literature review

Literature review

3: Primary research

Define variable need to gather

prepare question

conduct primary research

synthesis answer and analyze the information

Primary result

4: Final report

complete draft of assignment

submit draft to tutor

Fix the draft and formatting the assignment

Complete the assignment

submit the assignment

Section Five: Research approach and methodologies

- Research process: Sequential
- Research classes: Quantitative and qualitative
- Research methods: survey, Interview

Comments and agreement from tutor

Comments (optional):

I confirm that the project is not work which has been or will be submitted for another qualification and is appropriate.

Agreed: (Name) (Date)

Comments and agreement from project proposal checker (if applicable)

Comments (optional):

I confirm that the project is appropriate.

Agreed: (Name) (Date)

2. Ethical form

Research Ethics Approval Form

All students conducting research activity that involves human participants or the use of data collected from human participants are required to gain ethical approval before commencing their research. Please answer all relevant questions and note that your form may be returned if incomplete.

For further support and guidance please see your respective Unit Tutor.

Before completing this form, we advise that you discuss your proposed research fully with your Unit Tutor. Please complete this form in good time before your research project is due to commence.

Section One: Basic details

Project title: diagnosis bipolar disorder via tracking social media behavior

Student name: Truong Duong Hong Phuoc

Student number: GCC210321

Programme: Computing.....

School: Greenwich

Intended research start date:

Intended research end date:

Section Two: Project summary

Please select all research methods that you plan to use as part of your project:

☒ Interviews

☒ Questionnaires

- Observations
- Use of personal records
- Data analysis
- Action research
- Focus groups
- Other (please specify):

Section Three: Participant

Please answer the following questions, giving full details where necessary.

Will your research involve human participants?

indeed

Who are the participants? Tick all that apply:

Children aged 12–16:

Young people aged 17–18: ☒

Adult: ☒

How will participants be recruited (identified and approached)?

I recruit them on online, I ask to pay them money after research complete

Describe the processes you will use to inform participants about what you are doing:

I explain for them the research process what are the target I aim to via Email.

How will you obtain consent from participants? Will this be written? How will it be made clear to participants that they may withdraw consent to participate at any time?

I also explain that they are volunteer money is small gift after helping us conduct research they could retreat any time and all the process are being recorded.

Studies involving questionnaires:

Will participants be given the option of omitting questions they do not wish to answer?

Yes:

No: ☒

If no, please explain why below and ensure that you cover any ethical issues arising from this:

Studies involving observation:

Confirm whether participants will be asked for their informed consent to be observed.

Yes: ☒

No:

Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?

Yes:

No: ☒

Will participants be given information about the findings of your study? (This could be a brief summary of your findings in general.)

Yes:

No: ☒

Section Four: Data storage and security

Confirm that all personal data will be stored and processed in compliance with the Data Protection Act (1998):

Yes: ☒

No:

Who will have access to the data and personal information?

Researchers will have authorize to access the data and personal information

During the research:

Where will the data be stored?

The data will be stored in mongo DB

Will mobile devices (such as USB storage and laptops) be used?

Yes:

No: ☒

If yes, please provide further details:

After the research:

Where will the data be stored?

The data being stored in mongo database

How long will the data and records be kept for and in what format?

The data being keep for forever but after research the data will be transfer into head research to keeping it.

Will data be kept for use by other researchers?

Yes:

No: ☒

If yes, please provide further details:

Section Five: Ethical issues

Are there any particular features of your proposed work which may raise ethical concerns? If so, please outline how you will deal with these:

No, I do not find out any features of my proposed work which may raise ethical concerns

It is important that you demonstrate your awareness of potential risks that may arise as a result of your research. Please consider/address all issues that may apply. Ethical concerns may include, but are not limited to the following:

- Informed consent.
- Potentially vulnerable participants.
- Sensitive topics.
- Risks to participants and/or researchers.
- Confidentiality/anonymity.
- Disclosures/limits to confidentiality.
- ☒ Data storage and security, both during and after the research (including transfer, sharing, encryption, protection).
- ☒ Reporting.
- ☒ Dissemination and use of your findings.

Section Six: Declaration

I have read, understood and will abide by Greenwich Research Ethics Policy:

Yes: No: ☒

I have discussed the ethical issues relating to my research with my Unit Tutor:

Yes: No: ☒

I confirm that to the best of my knowledge:

The above information is correct and that this is a full description of the ethics issues that may arise in the course of my research.

Name: Truong Duong Hong Phuoc

Date: 10/12/2023.....

Please submit your completed form to: Greenwich

3. Primary research questions

what factors are important in diagnosis bipolar disorder? *

Short-answer text

how bipolar disorder patient behavior on social media? *

Short-answer text

what is the condition to tell a person got bipolar disorder? *

Short-answer text

what factor that support diagnose bipolar disorder people when lack of information? *

Short-answer text

What the benefit of diagnose bipolar disorder in earlier? *

Short-answer text

Quantitative

What time you usually use social media? *

- ☐ morning
- ☐ Afternoon
- ☐ night
- ☐ Mid-night

How often you have sleep-less this past 3 month? *

- ☐ Non
- ☐ 1-5 times
- ☐ 6-8 times
- ☐ More

In last year or recently, Frequency of time you felling that you don't want to do anything or find out that you are in hopeless situation or simply loss of interested to thing that you loved.?

- ☐ Non
- ☐ 1-2 times
- ☐ 3-6 times
- ☐ more

on the scale 5 (1 smallest) what is your graded at for ability to control your emotion?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

In last year or recently, are you take part in any risk activity or high excitement experience or feel that you want to do something excited or just feeling over energy? *

Non | 1-2 times | 3- 6 times | more

- ☐ Non
- ☐ 1-2 times
- ☐ 3-6 times
- ☐ More

Index of comments

1.1 Strength:

- Produce a research proposal that clearly defines a good research question.
- You selected and examined the appropriate research methods and approaches.
- Conduct research using appropriate methods and apply proper analytical tools, analyse research findings and data for a computing research project.
- Research results have been presented after choosing the right target audience. Effectively communicate research outcomes to the target audience

Weakness:

- "Communicate research outcomes" were not really convincing because it did not provide the way to improve or optimize the initial hypotheses.

Recommendations:

- You should overcome the above weakness

1.2 6.1.2024

1.3 Pass

1.4 Tran Thi Kim Khanh