BUSA3021 Business Analytics Project, Session 2, 2024

Assessment Task	Group Project
Due date	Group report: Week 13 (Sun 3 Nov @ 11.55pm) Group presentation to the client: Week 13 class (Tue 29 Oct, 2-5pm); Depending on the number of groups, project presentations could be also organised in Week 12 (Tue 22 Oct, 2-5pm);
Weight (%)	45% (35% Group report and 10% Presentation)
Task description	Group report (one per group) and group presentation to the client
Submission Method	Group report submitted via iLearn; Group presentation delivered in class
Feedback mechanism(s)	Rubric for both group report and group presentation; The client may provide oral feedback in Week 13 during in-class presentations; They will provide additional written feedback, which will be communicated to the groups via iLearn.
Feedback available (anticipated date)	Two weeks after the submission date
Links to Unit Learning Outcomes	UL01, ULO2, ULO3, ULO4, ULO5

INTEGRITY MATTERS

Integrity matters – at home, in your workplace and here at University. As a highly valued member of the Macquarie University Community, you carry great responsibility to uphold the good name of our institution. Our reputation is your reputation and will stay with you for life when your degree opens amazing opportunities for you.

If you are ever unsure whether your actions fall within the guidelines of Academic Integrity, please don't hesitate to reach out. Contact the Academic Literacies Unit or your Tutor/Unit Convenor.

ASSESSMENT DESCRIPTION

Our purpose at MQBS is to provide inspiring and engaging business education and research that is useful to students throughout their careers and for solving society's biggest problems.

Professional purpose: The 'Why' of this assignment

This assignment gives you an opportunity to work on a real-life project for the client and present your work in a written and oral form to different audiences. The hands-on project will help you gain a valuable (and highly marketable) experience of designing and implementing a Data Visualisation (DV) project, which combines design thinking, data management (including data modelling and data quality), interactive visual data exploration, open data environments, data ethics, visual ethics and considerations of equity and diversity in DV. Your work will cover a complete project lifecycle, starting from data collection, implementation of an interactive visual data exploration environment, all the way to project delivery (including presentation) to the client. As you already know, communication and presentation skills are critical in any work setting. This project will help you to further improve these skills, even if you are already an experienced presenter. Finally, you will learn how to apply pattern thinking so you can recognise future opportunities to implement similar projects in *any* contexts, including organisational, cross-organisational, industry-wide or societal contexts.

Skills in focus for this assessment

Communication, Teamwork, Work-readiness, Design and Implementation of Visual Data Exploration Environment, Working with the client.

ASSESSMENT INSTRUCTIONS

Practical Project:

In this project you will design and implement a visual data exploration environment for the S2 2024 BUSA3021 client: Great Place to Work Australia. This interactive visual environment will enable the client and its stakeholders to visually explore Best Workplaces in Australia (2021 – 2023).

Project resources

Data Source:

Your main source of data for this project comes the publicly available data 'Best Workplaces in Australia' from 2021 – 2023 available on the Client's web site. You are welcome to use other available data from their web site. As you will discover, these data sets are not ready made and given to you. Instead you need to apply your own method for ethical data harvesting in order to create relevant data sets for this project.

Important: Even though the main data source is public, you need to ensure that we adhere to the ethical use of public data, which includes non-commercial use of data and an acknowledgement of the data source. This means that your written report needs to include the reference to this data source.

In addition to the main source of data, you are required to find and ethically harvest data from at least one more data source, which is relevant for the project. Irrelevant data

sources will not be considered. Unethical data sources and/or data harvested in an unethical way will result in the mark of Zero (O) for this assignment. Furthermore, any group engaged in these unethical data practices will not be given an opportunity to present to the client and may be reported to the MQ Academic misconduct committee.

Design thinking:

The following design thinking references provide the necessary foundations for the design-thinking part of your project:

- Personas in design thinking:

- https://en.wikipedia.org/wiki/Persona_(user_experience)
-
- http://www.servicedesigntools.org/tools/40
-
- http://www.slideshare.net/Frankichamaki/design-thinking-with-persona

Project specification

To design and implement a visual data exploration environment (VA application) for the client, you need to focus on decision-making needs of three different design personas, as specified below (in Task 1). Design personas are different types of users grouped together into the so-called "archetypes" (Godwin, 2009). Archetypes are typically built/designed after in-depth observations of work practices and interviews with potential users. Each resulting persona is designed to represent a fictional character whose profile sums up the features of a whole (existing) group of similar users, for example in a similar professional role (Godwin, 2009). Therefore, each persona represents a much more than a typical user. Consequently, by practicing designing thinking in this project, you will go well beyond a typical software design phase called 'elicitation of user requirements'.

Personas are often named (e.g. "Lecturer Olivera" – note the inverted commas) to emphasise *human-centred* design thinking. However, they do not represent a single (named) user but cumulative characteristics of a group of people (i.e. in a certain professional role) whose decision-making needs have been considered.

Your tasks:

Step 1: Design of personas

You are required to design three personas to represent three archetypes of stakeholders (decision-makers) who would benefit from visual exploration of data from the annual lists of Best Workplaces in Australia. Out of 3 personas, one persona is given (please see below) and the remaining 2 need to be selected and designed by your group.

When designing these personas consider the Client's needs, requirements and aspirations as well as the needs of different stakeholders, including their current and potential customers. Make sure that your designs are 'needs-driven' and 'opportunity-driven' rather than 'data-driven' (more information will be provided in class).

To create these personas, listen to the client's presentation in Week 4, ask questions and research the roles, work contexts and decision needs of the client and its stakeholders. Then, design three client personas and describe them using the template shown by Figure 1. To help you to get started with persona design, in BUSA3021 lectures we will design a practice persona "BUSA3021 Student Vijaya". This practice persona should not be included in your chosen personas.

For all three personas, you are required to state three non-trivial questions they will be able to answer by using your DV application. For example, a question such as "Visualise the Best Workplaces, which are located in Sydney" is considered to be trivial. Non-trivial questions have a potential to offer to the client something useful in the context of their work, interesting, insightful, creative and even unexpected. Non-trivial questions may include additional sources of publicly available data (e.g. from LinkedIn, companies' web sites) and combine them with your main data set.

Persona 1	"MQBS BA Graduate - Stephanie"
Role	Recent MQBS Graduate looking for a graduate position
Context of their work/role	Major in Business Analytics; Graduated in July 2024
Key activities/ decision-making needs and interests	While at MQ completed an internship in a major bank After graduation joined ACS and the MQBS Women in Data & Analytics Interested in purpose-driven companies Not aware of the 'Great Companies to Work For' web site Open to interstate work opportunities <add other relevant key activities and decision-making needs>
DV Questions	<three questions about the "Great Companies to Work for" particular persona would like answered through visual data exploration: Question 1: Question 2: Question 3:

Figure 1: An example of a design template

Step 2: Analyse and Harvest Data

In this step, you need to "harvest" data from your main data source and store the resulting data records in an Excel file. Instead of being given a ready-made data set in Excel, you need to figure out how to create it in the most effective way. The resulting Excel file needs to show metadata as well as the corresponding records of **all** companies featured in Best Workplaces 2021 – 2023 (otherwise your data will not be valid).

To create interesting interactive DVs you need to consider more than one year of reports. For example, harvesting data from 2021 may give you some interesting insights about best workplaces during COVID-19.

In addition to the main data source (i.e. the Client's web site), you are required to find and ethically harvest at least one more ethical data source, making sure it is relevant for the chosen personas.

Note that Steps 1 and 2 are often iterative rather than sequential. In other words, your data collection in Step 2, may inspire new possibilities of interesting questions in Step 1, leading to additional data being collected (Step 2).

Step 3: Design of a DV application (visual data exploration environment) to answer the stated questions

Using the Excel file from Step 3 import your data set (metadata and the actual records) into Tableau (or other DV software platform – please check with UC before selecting other platforms). Tableau is highly recommended due to the functionality it provides. However, you are welcome to use other DV software platforms that offer similar functionality, so you do not need to write programming code. Free Tableau licences are offered to all university students. Please visit their web site to register and download software.

After importing your data into the DV software platform, proceed to answer all questions for the three personas, as stated in your design templates (in Step 1).
Note that Step 3 may initiate another cycle of iterative design, prompting you to go back to Steps 1 and 2 in order to expand or refine them.

Step 4: Reflection-on-action
This important step requires you to "step-back" and consider your design in broader organisational and societal context, in order to recognise and prevent possible syntactic, semantic and pragmatic data quality issues, data ethics and visual ethics issues as well as recognise and prevent potential unintended data harm. Careful consideration of these issues is of the outmost importance to the client, to our university, and to your future professional practice in any context.

This step includes the following considerations:

- **Data quality**: Discuss your approach to handling data quality, including prevention of syntactic, semantic and/or pragmatic data quality issues. Advise the client about potential DQ issues they need to be aware of.
- **Data ethics:** Use the PAPA framework (covered in class) to identify and analyse any data-related ethical issues that need to be considered in your project. Even if you think that your use of data and implementation of the DV application do not pose any ethical risks, you are still required to demonstrate your analysis of ethical issues and inform the client about your findings.
- **Visual ethics:** Discuss your approach to handling any potential visual ethics issues in your project. Advise the client about any potential visual ethics issues that could arise during their own visual data exploration (e.g. use of time filters).
- **Application of "Do No Harm" principles and guidelines in data visualisation**: Use the provided "Do No Harm" resources (posted on iLearn) to identify different guidelines relevant to your project and discuss their application. Our university is committed to equity and diversity in all aspects of our work, so your project needs

to demonstrate our shared commitment by considering these recently published guidelines.

- **Impact** – consider potential performative impact of your visual data exploration environment, including unintended consequences.

Deliverables: Project files and Group report

Submission: The following **two files** need to be included in your group project submission (via iLearn):

- File 1: **one** zip file of the complete project, which needs to include the Excel data set and the executable DV project file in Tableau (or other DV platform – please check with UC first)
- File 2: Group report (one per group, with all group members' names and student ids listed on the cover page)

Presentation: A ppt file needs to be prepared for the final presentation in week 13. This file should not be submitted via iLearn. The client may ask you for a copy of your presentation.

Your group report should include the following components:

1. Introduction - a brief description of your project and its envisaged value for the client (e.g. **Why** would they use your DV application?)

2. Design templates for three personas (i.e. 3 tables) clearly showing the corresponding non-trivial questions (Step 1)

3. A sample of your resulting data set (i.e. the actual Excel records). Print screen a fraction of your Excel file showing metadata and a sample of record & paste it into your report. Full data set will be submitted in a separate Excel file.

4. Visual answers for all stated questions (Step 3) – please use print-screen to capture your resulting visualisations and provide them as Figures (one per questions).

For example:
4.1. Persona 1: MQBS BA Graduate - Stephanie
4.1.1. Question 1: <state the question>
Visual answer:
<provide print-screen of your answer>
Figure x: A visual answer showing …
4..1.2. Question 2: <state the question>
Visual answer:
<provide print-screen of your answer>
Figure y: A visual answer showing …
4..1.3. Question 3: <state the question>
Visual answer:
<provide print-screen of your answer>
Figure z: A visual answer showing …

4.2. Persona 2: <insert a client persona 2>
4.2.1. Question 1:
… and so on.

5. Analysis of data quality, data and visual ethics and unintended data harm (Step 4)

6. Conclusion & Future work: Conclude your project by providing **several recommendations** to the client about possible future use and management of your visual data exploration environment beyond this project and offer some ideas for further development and innovation (e.g. additional data sets they may consider).

7. References
Please remember to reference the source of your main data set and any other public data sets used in your project. If you are using any academic/industry literature, please make sure you reference it here, using a correct referencing style.

TIPS & FAQs (OPTIONAL)

- No detailed instruction for font type, size, line space or format. As a final-year University student and a BA professional-in-making, you are expected to deliver a professional piece of work that is clear, neat and well organised. Don't forget to include page numbers. Figures and tables should be always numbered and captioned, and you should refer to them at least once in the body of your writing. Using justified text is visually appealing.
- This is a PACE unit and the client may request your report and/or presentation. Make sure that both are of the professional standard as you will not have an opportunity for post-submission/post-presentation improvements. Make sure that you do not use the client's copyrighted images, even those available on their web site.
- Clarity of language, layout and general presentation is an assessable aspect of the assignment.
- Late submissions of group project report are allowed but will attract a late penalty, as per Unit Guide.
- Late presentations to the client are not possible due to their limited availability.

Personal message from UC

This assignment is our opportunity to offer something really valuable to our client. Projects of this nature have a potential to change work practices, introduce data-driven innovations,

offer different perspectives through data visualisation, facilitate organisational learning promoted by visual insights, and in this case, open new opportunities for more projects like this one.
Your exploration of the Best Workplaces in Australia, as featured on the client's web site, will also prompt you to engage with important, career-long reflection-in-action and reflection-on-action about the best workplaces for you – their main characteristics and values, where to find them and even how to create them. You will also start to reflect on what you value in a workplace, keeping in mind that this is likely to change at different stages of your career.

It is a real privilege to share this project experience with you. I believe in you and know that you will make all of us at MQ proud by doing your best in delivering high-quality project to the client.

So, let's get started!

USE OF RESOURCES AND TECHNOLOGIES INCLUDING GENERATIVE ARTIFICIAL INTELLIGENCE

Given the very practical nature of this assignment that is focused on designing a solution for the client, based on their needs, requirements and aspirations, for this assessment, students are not permitted to use GAITs, for any purpose, including summarising texts on the subject. Students may continue to use: spelling/grammar checkers, e.g., Microsoft spellcheck and Grammarly.
Engaging with GAITs for this assessment constitutes a breach of academic integrity and be reported as plagiarism.

Acknowledgement Statement by students:

I acknowledge that I have not used GAITs (e.g., ChatGPT) in drafting and proofreading this assignment

LATE SUBMISSION

A maximum penalty of five percentage points of the total possible marks will be applied per day to late submissions, for up to a maximum of seven calendar days. Tasks that have not been submitted within the maximum number of additional late days will receive a mark of zero, unless otherwise specified in the late penalties section of the Unit Guide. Late submission for a task will only be permitted when specified in the unit guide. This

provision does not apply to online exams or other assessment with a time-limit of less than 24 hours.

Where an application for Special Consideration is approved and the outcome is an extension to the due date of a task, submissions that are received after the new due date will be subject to late penalties that are calculated from the new due date. This only applies where the outcome is an extension to the due date – see the Special Consideration Policy for a schedule of all possible outcomes.