

CSC3007 Information Visualization

PROJECT OVERVIEW

This project is worth 45% of your final mark.

Objectives

- To gain experience designing a **moderately complex visualization**
- To gain experience working in a development team

1 INTRODUCTION

The class will be designing and implementing a **moderately complex visualization** in your project teams. The scope and topic of your project is of your choice, but it has to meet the following requirements.

Requirements:

- You are required to understand how to break down a visualization into its constituent parts – the **what** (data), the **why** (task) and **how** (the idiom), which we will cover in this course in detail. Using this framework, you will validate and defend your project proposal and implementation.
- The visualization project can span a spectrum from dashboard to data story, but it will at least be:
 - A hosted, working web-based project checked into Git repository that showcases at least **some** interaction (screenshots of Excel charts are not accepted).
 - All documentation and project proposals / plans to be added to the final project repository. This will cover critiques / validations (milestone 1) of two visualizations, and also your final project (milestone 2).
 - Some coding is required. This is not a pure design course. As it is a group (not solo) project, you're required to do a project that befits the group size.
 - A final presentation by the team that lays out what, why and how you are doing the visualization, a walkthrough of the results / insights via a live project demo, pitfalls, technologies used, and future work.

The project is broken into two milestones.

Milestone one requires the team to go through and critique / validate a visualization case study and present back to the class the problems in the visualization and how you would fix it. This gives you

a trial run of understanding what the instructors will be looking for when we evaluate the what (data) – why (task) – how (idiom) model.

Milestone two is the project proper. You can either choose one of the problems you chose in milestone one (i.e. fixing the problem) or, based on what you learnt in the process, pick a different project (to be vetted) to do.

2 TEAM GROUPINGS

You are expected to form your own groups by the first iteration – Team Formation (See Table 1). Each group should consist of **3 members only**. If you fail to form a team by the first iteration, you will be randomly assigned to a team. Once your team is formed, further changes to your team is only allowed upon approval by your instructor.

Once you have formed your group, informed your instructor of your team formation and the roles of each member. All group members are expected to present part of the final solution, and also partake in some aspects of the technical work (i.e. no pure design work).

3 DOCUMENTATION

For consistency across the entire application, documentation should follow the template provided on xSiTe. Your documentation should be readily understood by UX/UI designers and software engineers but may not be familiar with your particular project. In particular, your module's documentation should be understandable to your peers, who will be implementing other modules that interact with it.

4 SUBMISSION AND DELIVERABLES

The project is divided into a team formation phase followed by two milestones. Table 1 summarises the deliverables and deadline for each iteration, and Table 2 summarises the requirements for each deliverable.

Each module will be graded out of 100 marks, distributed amongst the iterations, as shown in Table 1.

TABLE 1 – PROJECT ITERATIONS AND DUE DATES (SUBJECT TO MINOR ALTERATIONS)

Iteration	Deliverable(s)	Weightage	Deadline
Team Formation	Submit team members and individual roles.	Not graded	Week 2 lab
Milestone 1 (M1)	<ul style="list-style-type: none">• Pick 2 visualizations to critique / validate based on data-task-idiom model and suggest improvements.• Presentations of critiques to peers + instructor (plus Q&A)• After feedback, either: implement suggestions to improve visualization or find a new project topic to submit the next week.	40%	Week 7/ 8 labs (after recess)
Milestone 2 (M2)	<ul style="list-style-type: none">• Project documentation<ul style="list-style-type: none">○ Powerpoint / word / web document (your choice). Could be the same content used for final presentations. To cover what(data)-why(task)-how(idiom), pitfalls encountered, technologies used, work done by team members, and future work (if any).• Final application<ul style="list-style-type: none">○ Working web-based prototype published from a Git repository.○ Link your presentation and project documentation in the repository.• Final Presentations<ul style="list-style-type: none">○ 10 to 15 minutes to present your visualisation and demonstrate your working prototype, and Q&A	60%	Week 12/13
TOTAL		100	

TABLE 2 – REQUIREMENTS FOR DELIVERABLES

Deliverable	<ul style="list-style-type: none"> Requirements
Critique / Validations of visualizations. Presentation by team (Milestone 1)	<ul style="list-style-type: none"> Powerpoint / web-based documentation of critiques / validation / suggested improvements of two visualizations Check this document into the final project repository
Project documentation (Milestone 2)	<ul style="list-style-type: none"> An explanation of the rationale of the design decisions made and general design principles applied. Check this document into the final project repository
Project documentation / proposal (A section in your project documentation)	<ul style="list-style-type: none"> A list of the tasks assigned (Project board) to each team member since the previous iteration. Include the current state of the task. Each team member should reflect on the state of the project in 1-2 paragraphs to describe his/her contributions, and the cause of any delays to tasks intended to be completed. A list of the tasks assigned to each team member for the next iteration
Final Application	<ul style="list-style-type: none"> Everything will be assessed through the final, published Git repository on GitHub. Besides checking in the final source code, you are expected to publish the final web project (either GitPages or setup your own webhooks) where everything is live, and the various presentations and documents are linked.

All submissions for this module (project and personal labs) will be checked into GitHub repositories. Everyone in your team is required to present the work they have done and discuss your team's module during the presentations on week 7/8 and 12/13.

Late submissions will receive a penalty of 15% per day, up to four days after the due date. Late submission of proposals will be penalised by reduction of the marks awarded. No submissions will be accepted more than four days after the due date.

5 ASSESSMENT CRITERIA

At the end of each iteration, each module will be assessed for

- completeness and consistency – does the submission meet all of the requirements listed in Table 2, and are the documentation, design, and implementation complete and consistent?
- design quality – does the design conform to the guidelines for good design given in the course materials?
- correctness – does the software function as intended?
- presentation – is the documentation readily understandable and formatted in a consistent manner?

The assessors will pay particular attention to the following. Make sure that your design:

- covers its **design purpose** and **primary functionality** of the project
- considers the “**Design Qualities**” and “**Visualisation idioms**”
 - Breakdown the visualization project based on what (data) – why (task) – how (idiom) model.
 - Design decisions, challenges faced, and implementations tried
 - Design principles applied
 - Documentation to illustrate your design concepts
 - Ability to translate your design concepts to actual implementation
 - Technology stack used
 - Future work (if any)

6 Notes On Plagiarism

The University's policy on copying does not allow you to copy software as well as your assessment solutions from another person. While this project requires you to work with software created by other students, presenting another person's work as your own is unacceptable, and it is the responsibility of all students that their assessment solutions are their own work. Where such plagiarism is detected, the assessments involved will receive **ZERO** mark.

If your application incorporates third-party libraries, these should be identified in your design document according to the licence under which you are using those libraries.