**STTHK3033 INFORMATION VISUALIZATION**

# Group Assignment 2 – User Task and Interaction Design in InfoVis (20%)

## Instructions:

This is a group assignment (max 3 students per group).  
  
You will develop an interactive data visualization prototype that emphasizes user interaction, task-based design, and usability. The aim is to enhance the user's ability to derive insights through well-thought-out design principles.

## Task Scope:

## Topic Selection

Choosing a real-world theme was decision-making benefits from interactive visual exploration, e.g.:

* COVID-19 response planning
* Urban traffic and mobility
* Public health trends
* Crime statistics
* Disaster relief & recovery
* Financial literacy dashboards
* Etc.

### User Task & Goal Definition

Identify at least three user tasks (e.g., comparison, filtering, time-series trend analysis, geographic zooming) and link them with:

• Low-level tasks (e.g., lookup, filtering)

• High-level tasks (e.g., correlation discovery, anomaly detection)

### Interactive Features

Implement interaction techniques such as:

* Brushing and linking
* Dynamic filtering
* Tooltips or hover actions
* Zoom and pan
* Animated transitions

### Design Principles Integration

Your visual design must demonstrate:

* Graphical integrity
* Avoidance of chartjunk
* Use of small multiples or consistent scales where applicable

### Prototype & Tools

Create a working prototype using any visualization tool or library:

* Python (Plotly Dash, Streamlit)
* JavaScript (D3.js, Observable)
* Tableau, Flourish, or Power BI (for non-coders)

## Submission Requirements:

* Prototype: Include a shareable link (e.g., GitHub, Tableau Public, or hosted demo)
* Presentation slides: Summarize task design, interaction features, user flows, and design choices
* Design Report (Max 6 pages):  
   - Introduction to topic and audience  
   - Task and goal analysis  
   - Justification of design choices (interaction, layout, color, etc.)  
   - Visual snapshots of key interactions  
   - Reflection on limitations and potential improvements
* Due Date: Upload to OL by **31 May 2025**

## Rubrics (20%)

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| --- | --- | --- | --- | --- | --- |
| **Criteria** | **Excellent (5)** | **Good (4)** | **Satisfactory (3)** | **Needs Improvement (2)** | **Poor (1)** |
| User Task Analysis | Clear, diverse tasks aligned with visualization design | Reasonable set of user tasks | Tasks described but not strongly tied to vis | Vague or mismatched task definition | Tasks missing |
| Interaction Design | Multiple rich interactive features implemented seamlessly | Interaction design supports user exploration well | Basic interactivity present | Limited interaction; unclear value | No interactivity |
| Design Principle Application | Visually clean; applies all design best practices | Mostly well-designed with minor lapses | Acceptable, with some design inconsistencies | Cluttered or inconsistent design | Poor visual organization |
| Report & Reflection | Structured, reflective, with deep insight and clarity | Clear, covers all required elements | Some gaps in explanation or organization | Lacks depth or structure | Incomplete or missing report |