CS5346: Information Visualization (S2AY18-19)

Assignment 5 (A5) : VizT (Viz Topic presentation & write-up)

GRADE: 10% Team grade Submit by **12 noon, Thursday 4 April**

I Overview

Choose a topic from the list of topics in section IV below. *Alternatively, you can suggest a topic you want to work on and seek lecturer's approval* ***by 28 March****.*

Update YOUR team number and TOPIC name in the google spreadsheet (https://goo.gl/NJd41k) by **28 Mar**. **Note:** *Upto 2 teams are allowed to choose a topic unless stated otherwise at the topic list*. The topics are managed based on a first come first serve fashion, so please check the spreadsheet link and make sure the topic you choose has not already been chosen by 2 other teams.

Your team will
(i) give a presentation(max 15 slides; max 15 mins) and
(ii) prepare a write-up(1000-2000 words(2-4 page single spaced) in Medium article style OR in IEEE paper (word)template https://www.ieee.org/conferences/publishing/templates.html) on the topic.

You can split the work among team members. It is expected that each member works on at least one of the above two components. The write-up and presentation should supplement each other. You can base your work on textbook chapters or find materials (e.g. papers, articles , videos) online.

The presentations will be held in **Week 11 & 12 during Lecture time** (i.e.4 April and 11 April. *Presentation order TBD*).

Important : *Class participation is critical. You will get 0 if you are absent without a valid reason on both the presentation days, and 50% of the marks your team gets if you are absent on one of the presentation days (even if you have contributed to preparing the presentation and write-up for the topic selected by your team). You will If you need to be absent from class, please seek approval of your instructor via e-mail cs5346.tutor@gmail.com in advance with the reason for your absence. Approval is not guaranteed. Absence for reasons of staying late at workplace or assessment load of other modules will not be approved.*

II Purpose

The purpose of this assignment is to give you an opportunity to acquire and enlarge capacity to inquire, discover, create, innovate, and challenge ideas, techniques, and knowledge in

information visualization; further develop knowledge of human visual system, visual perception, and attention and understand selected advanced topics in information visualization in depth; develop skills in presenting information and leading discussions on advanced topics. Please choose the topic carefully.

You will read extensively on selected topic, prepare a write-up and a presentation to lead a class discussion, to develop thoughtful ideas, questions, and curiosity among your peers to delve into the topic in depth.

III Submission format:

- Name your PPT in the format of **TeamNumber.ppt or pptx**.

- Name your PDF in the format of **TeamNumber.pdf**.

- A readme in the format **TeamNumber.txt**

-- The readme, a plain text file, should contain the student IDs of Team members. Here is the format to follow :

```
### Team information ###
Team number 20:
- A1234567X
- A1234568Y
- A1234569Z
- A1234567X
Presentation:
- A1234567X: 20%
- A1234568Y: 80%
Write up:
- A1234569Z: 50%
- A1234567X: 50%
Free Text:
type your message here
###
```

- Zip the three files and name it in the format of **TeamNumber.**

- Submit it at IVLE -> Files -> Student Submission -> Topic Presentation by **4 April 12noon, Thursday**. **Note:**

- *If you do not submit the above documents before 12 noon, 4 April, you will carry the risk of not allowed to present on the presentation day(4 Apr or 11 Apr) and your team will receive max 50% for your Assignment 5 based only on your write-up.*

- Due to lecture time constraint, the teaching staff will download all the presentation files directly from IVLE in advance to prevent unnecessary time wasting between presentations.

IV Topic list

Viz-Cyber
(e.g. Visual analytics for cybersecurity; Incident handling , Computer forensics; Data protection & privacy; Recording and reporting results of investigations; Social networking privacy and security)

Viz-Urban
(e.g. Urban data visualizations; Critically assess how data and visualization can be used to serve and better understand or organize urban processes, focusing on an explicitly "human-centric" perspective (i.e. decision support systems, co-creation or evaluation methods); or Visualization challenges in Urban Data Viz(Uncertainty visualization, Spatio-temporal visualization, Network visualization); or Visualization contexts in urban data viz(Visualizing plans, design, scenarios for future; disruptive technologies)

Viz-AI
(e.g. How visual narratives could bring new insight into the complexity of AI systems/applications; temporal trends of AI adoption across domains; AI-other topics/cross-domain topical visualizations)

Viz-Ed
(e.g. How visual narratives could bring new insight into the education, in teaching, learning and educational administration; in personalised and lifelong learning)

Viz-Health
(e.g. How visualization has or could bring new insight into improving health(e.g. physical; psychological; eating healthier etc; individual or community health; awareness or interventions; at home or at hospital)

Viz-Recommend
(e.g. Visualizing expert/expertise recommendations ; Visualizing content recommendations ; Visualizing product recommendations)

Viz- Map
(e.g. Cartographic Visualizations world visualizations; map projection techniques)

Viz - Collab
(e.g. Collaborative visual analytics ; Design considerations; barriers ; processes in designing and making sense of data in collaborative environments(e.g. workspaces)

Viz- Eval *Upto 3 teams are allowed to choose this topic.*
(e.g. Evaluation of Visualizations ; evaluation methods and metrics.)

Viz- Technique *Upto 3 teams are allowed to choose this topic.*
(e.g. Specific Visualization techniques ; doing in-depth study of a specific technique (e.g. Brushing or parallel coordinates) or exploring combination of techniques or exploring a specific algorithm (e.g. force-directed algorithm) or specific techniques in temporal or text or spatial visualizations.)

Viz-Story *Only 1 team is allowed to choose this topic*
(e.g. Storytelling in Visualization ; significance, effectiveness, challenges of developing viz stories)

Viz- large and small
(e.g. visualizations in large and/or small devices ; exploring interrelation of display size, information space and scale)

Viz-Color
(e.g. Expert color choices for visualizations; designing color palettes using Tableau; designing with luminance and contrast; role of color in information visualization)

Viz-Motion perception
(e.g. effectiveness of animation in visualizations; animated transitions in temporal visualizations.)

V Your presentation and write-up

Students often present or write about a topic, especially based on a textbook chapter or on a research paper(s), by talking through it section by section or page by page. Reading (or writing) out the definitions and pointing peers to the tables and figures is not useful because peers are perfectly capable of reading the chapter or paper themselves. Here are some suggestions to avoid above approach.

If you're presenting a topic:

Research and prepare for the topic ahead of time. Identify a few key articles or papers you find interesting, string together the ideas presented in those articles and papers and decide what you think of those ideas. Talk to your other team member(s) so that you can supplement each other's work.

Narrow your topic(select a key idea or a small cluster of related ideas) keeping your audience in mind. "Key ideas" may mean most novel, most central, most relevant, most clever, most important, and so on. Write down this idea, preferably in your own words, and a short justification for why this idea is the best one. Figure out how to get your audience as quickly as possible to the point where they can understand this idea. Explain things like how it came about, what benefit it had, what difference did it make, what alternative directions might have been pursued instead, and so on. Use examples and demos to convey the important points.

Finally, talk about the important points you learned from researching on the topic.

If you're doing the write-up:

Research and prepare for the topic ahead of time, identify a few key articles or papers you find interesting, string together the ideas presented in those articles and papers and zoom in to a narrow but interesting and important part of the topic. Talk to the team member(s) who are doing the presentation so that you can supplement each other's work.

Choose an appropriate title. Titles are usually short and to the point.

Develop an introduction. Make your introduction to the point.

Work on a body. The body of the write-up is made up of series of supporting paragraphs.

Draw a conclusion.

Many students try doing most of their research using Google. Depending on your topic, the Internet may simply not have good sources available. Go ahead and surf as you try to narrow your topic, but remember: you still need to cite whatever you find.

You can make specific reference to a particular source, and use a quote to introduce a point. But inject your own opinion, offer specific comments and not bumper-sticker slogans and sweeping generalizations. Back up your claims by quoting reputable sources. If you write "Recent research shows that…" or "Many scholars believe that…", you are making a claim. You will have to back it up with evidence. This means that the body of your write-up must include references to the specific article you got your outside information.

Write your title and introduction to match your conclusion, so it looks like the place you ended up was where you were intending to go all along. In **conclusion**, discuss about the important points you learned from your research on the topic.

You should avoid fluff. Make the write-up useful for your peers so that they get interested in finding more about the topic.

Before you submit, I recommend you sleep, wake up, then proof-read it again ☺

Your (max)15 minute presentation:

- The presentation should last less or *exactly* 15 minutes. YOU WILL BE ASKED TO STOP EXACTLY AT THE 15 MINUTE POINT.

- Your presentation should introduce the topic, explain its significance and discuss a few examples you have come across or show video or give demo.

- After your presentation, you may be asked a random question by a random audience about your chosen topic **You will be marked on:**

- your ability to communicate the significance of your chosen topic, and key examples you present

- your presentation style - poise, clarity, openness to discussion, timing

- your handling of questions and directing the enquirer in the direction of the answer. The perfection of your answers will not weigh much as your knowledge may not be deep enough to handle all kinds of questions.

Your write-up will be marked on:

- how well does it supplement the presentation. Both together should look like a cohesive piece on the topic with not substantial overlap.
- Your ability to write a piece about significance of your chosen topic, and key findings
- Its usefulness for your audience(your peers)

Here are some references for medium article writing

Tips and tricks for Medium writers
https://blog.medium.com/tips-and-tricks-for-medium-writers-1d79498101c3

https://medium.freecodecamp.org/how-to-write-medium-stories-people-will-actually-read-92e58a27c8d8