University of Windsor

COMP-8547 Advanced Computing Concepts
Summer 2022- Final Project

Deadlines:

- Presentation: Week#10 during class
- Upload source code/presentation: before midnight on the presentation day

Guidelines: This project will be submitted as a group of 3 to 5 students (recommended). However, group participants may be evaluated individually and may receive a different mark from the other group members.

Goals: The aim of the project is to apply the concepts learned in class in a real system such as a Web search engine. Students will obtain hands on experience in developing a real system using the data structures and algorithms studied and evaluating the system based on the methods for analysis, and the use of Java 8 and Eclipse.

Description: The project involves developing a Web search engine that uses concepts from three to five different concepts learned in class. Projects can be developed either individually or as a group, although group work is encouraged. In case of group work, an individual mark will be assigned to each group member. Students are encouraged to propose their own ideas on which features the Web search engine will include. Some examples are as follows:

- Finding patterns using regular expressions
- Translation of HTML to text
- Ranking web pages using sorting, heaps or other data structures
- Finding keywords using string matching, use of inverted index
- Analyzing frequencies using hash tables or search trees
- Using large dictionaries/datasets, sorting techniques, search trees, spellchecking keywords or HTML files, and many others

Some ideas have been discussed in class, while some others are given in the assignments (as optional work). Note that a GUI for your search engine is not required, even though you would like to implement it.

Specific tasks to do:

1. Describe the system:
    i Describe all the features of your Web search engine.
    ii How you have implemented and used the concepts discussed in class in your system.
2. Prepare a short presentation (20 minutes in total; 15-22 slides). If there is no time for in-person presenting record a video of the project presentation by all members.
3. All team members should present. Each person explains his/her contribution and work in this presentation. The presentation may also include a demonstration of the system.
4. Upload the presentation slides (or video if needed) and the source code (in Eclipse format) by the end of week 10. Marks will be deducted if the presentation file and source code are not uploaded by the due date.

Submission:

1. You must submit: (i) presentation slides (or video if there is no time for in-person presentation) and (ii) all source files used in your project, ideally, in Eclipse format.
2. You should upload all source code files to a cloud place (e.g., Dropbox, GitHub, uwin365, etc.) and the presentation video (if needed) to YouTube. The links to them should be uploaded to the Blackboard.

3. In order to obtain a mark, all students who participate in the project must submit the links to the Blackboard. In the presentation, include the name of participants along with his or her role
4. The presentation must provide a clear description of your project and the features, concepts used and the other items as requested. Marks will be deducted if explanations or descriptions are missing.
5. Any submission after the deadline will receive a penalty of 10% for the first 24 hrs, and so on, for up to three days. After three days, no mark will be achieved.
6. Unlimited resubmissions are allowed. But keep in mind that we will consider the last submission. That means that if you resubmit after the deadline, a penalty will be applied, even if you submitted an earlier version in time.

Example 1:

- YouTube Link: https://youtu.be/HAx3EEkyg_Y
- GitHub: https://github.com/Yicheng-Lu/Simple-Search-Engine

Example 2 :

- YouTube Link: https://www.youtube.com/watch?v=sr5RxzdHxaM
- Web Search Engine Project GitHub Link: https://uwin365-my.sharepoint.com/:u:/g/personal/shah5p_uwindsor_ca/EaqssjtNRJJDq5RmpWHDZT4BHIASNOsTR02gW0NsgWsfKg?e=TE5Q5a

Example 3:

- YouTube link: https://youtu.be/quhkR9hBPR8
- Source code: https://github.com/HalehMD/COMP-8547-Search-Engine