**Instruction: Completed homework should be typed (e.g., using LaTeX or word document) or hand-written clearly and scanned and uploaded into Moodle. You can discuss about how to use certain tools for data collection and analysis, but no collaboration is permitted to solve the problems.**

1. The US Department of Health and Human Services had launched a [Privacy Policy Snapshot Challenge](http://web.archive.org/web/20171001111420/https:/challenge.gov/challenge/privacy-policy-snapshot-challenge/) to develop an online tool that will create **usable** privacy notices for consumer health technology. Your task is to design a usable privacy notice template for health apps.

Using the [draft model privacy notice content](https://www.healthit.gov/sites/default/files/2016_model_privacy_notice.pdf) requirements (table at the beginning on page 2), develop a mockup of a privacy notice for a mobile health app designed to run on a smart phone (**remember this is draft notice content and you can customize contents, e.g., the type of data required, based on the specific app functionality you envision to provide**). You may choose an existing health app and remodel its real privacy notice in a **consumer-friendly** format. Your mockup may be hand drawn, drawn using PowerPoint or your favorite drawing tools, or designed using a rapid-prototyping tool (e.g. Wireframe). If the privacy notice takes up multiple screens or includes interactive features (like expansion upon clicking a button), show all the screens, pop-ups, etc.

1. Write a paragraph explaining the rationale behind your major design decisions. [10 points]
2. Write a paragraph explaining where/when in the course of selecting, downloading, installing, or using the app users will have the opportunity to see this privacy notice. Why do you recommend making the notice available in this way? [10 points]
3. Include a mockup/prototype design in your submission. [10 points]
4. Read the [FTC’s six step COPPA compliance plan](https://www.ftc.gov/tips-advice/business-center/guidance/childrens-online-privacy-protection-rule-six-step-compliance#step2) and create a compressed compliance checklist for mobile applications targeted towards children. Then go to Google play store and search for children related apps (example: [Family category](https://play.google.com/store/apps/category/FAMILY?hl=en_US): under the age 9).
5. Provide the composed compliance checklist (with proper **reference**). [10 points]
6. Select any **3** apps from Google play store. Then compare the privacy policies with your created checklist for compliance issues. Construct a **table** for each app listing the various privacy policy segments (like sentences or paragraphs) that address your checklist items. [20 points]

**Table format example**

|  |  |
| --- | --- |
| Policy segment | Checkpoint |
| An operator of a Web site or online service shall retain personal information collected online from a child for only as long as is reasonably necessary to fulfill the purpose for which the information was collected. | Data retention policy |

1. Rate the apps in terms of grade A, B, C and D depending on how **compliant** they are with your checklist. And specify the **rubric** for such ratings (i.e., reasons for providing such grading). [10 points]
2. Construct a simple word-vector matching (you can use python [wordnet](https://pythonprogramming.net/wordnet-nltk-tutorial/)) algorithm to prototype the policy compliance system. So, you would extract **key words** from **each checkpoint** (from part (a)) and create a bag of words (including synonyms or similar words) and then **mark/identify sentences or segments** related to that checkpoint inside the policy (this would reduce the manual task of reading the full policy). Evaluate how **accurate** your prototype is in correctly finding all the relevant segments in the privacy policies of the **three selected** apps in question (b), compared to your manual analysis. **Remember your uploaded code should list/print the privacy policy segments that match your checklist items**. Similar output as part (b) but using the automated approach. [20 points]

**Table format example**

|  |  |
| --- | --- |
| Policy segment | Checkpoint |
| An operator of a Web site or online service shall retain personal information collected online from a child for only as long as is reasonably necessary to fulfill the purpose for which the information was collected. | Data retention policy |

1. Using the same rubric as defined in part (c), compare the grading of the apps based on both approaches? Which approach performed better and why? [10 points]

**Report on PDF**

|  |  |  |
| --- | --- | --- |
| Policy/App | Grade using manual approach | Grade using automated approach |
| App1 |  |  |
| App2 |  |  |
| App3 |  |  |

**Submission:**

You have to submit three files:

1. Merge all the written parts into a single pdf file named <your unity id>\_HW5.**pdf**.

2. Rename the program file you used for as <your unity id>\_HW5\_QX.extension (e.g., .c/.cpp/.java/.py for question X).

3. Add a README file regarding how to run your code.

Zip all files into <your unity id>\_HW5.zip and submit the zip file on Moodle.