

Name: _____

USC ID: _____

INF 529 Final Exam

Spring 2018

Instructions:

Show all work. This exam is open book and open note. You may use electronic devices to consult materials stored on the devices, but you may not use them to access material through the net, or for communication in any manner. Electronic devices must be placed in “airplane mode” with wifi and other communications capabilities disabled. You have **120 minutes** to complete the exam.

Please prepare your answers on separate sheets of paper. You may write your answers on the sheet of paper with the question (front and back). If you need more space, please attach a separate sheet of paper to the page with the particular question. **Do NOT extend your answer on the back of the sheet for a different question, and do NOT use the same extra sheet of paper to answer more than one question.** The exam will be split apart for grading by different people, and if part of your answer for one question appears on a page given to a different grade because the sheet contains parts of the answer to more than one question, then you will NOT receive credit for that part of the answer not seen by the grader. In particular, **each numbered questions must appear on separate pieces of paper so that the exam can be split for grading.**

Be sure to include your **name on each page.**

There are **100 points** in all and **3 questions.**

	Q1	Q2	Q3		Total Score
Score					

1) **The GDPR Changes Everything** (40 points)

On May 25th, 2018 Europe's GDPR becomes enforceable. The implementation of the GDPR will have significant impacts on privacy for EU Citizen's, and in many cases for non-EU citizen's alike. One of the significant provisions of the GDPR is personal information of EU citizen's may not be processed except with a legal basis for processing the data, which must constitute at least one of:

- The data subject has given consent to the processing of personal data for one or more specific purposes, and the data subject has not exercised their right to withdraw their consent.
- Processing is necessary for the performance of a contract to which the data subject is party or to take steps at the request of the data subject prior to entering into a contract.
- Processing is necessary for compliance with a legal obligation to which the controller is subject.
- Processing is necessary to protect the vital interests of the data subject or of another natural person.
- Processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.
- Processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party.

a) Explain how this requirement for a legal basis for processing covered data is different from most existing privacy rules that are presently implemented. (15 points)

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b) How do you think the wording of this requirement will impact the use of user information that is “authorized” by the terms of an EULA or website privacy policy? (10 points)

c) How would these rules have been violated by the conduct that appears to have occurred with the use of Facebook data by Cambridge Analytica? Assume that some of the data pertained to EU Citizen’s, and that Cambridge Analytica was based in the EU. (15 points – answer on back if page)

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2) Security, Privacy and Trust (35 points)

Mark Zuckerberg accurately described the problem with Cambridge Analytica's use of Facebook user data as a breach of trust. Our privacy is critically dependent on the trustworthiness of the devices and software we use, of the organizations to which we entrust our data, and the systems and organizations with which those organization interact.

Unfortunately, it is very difficult to demonstrate one's worthiness of trust – it is much simpler to provide reasons that a system, company, or device should not be trusted. Accordingly, in this question I am asking you to discuss reasons that we should not have confidence in the ability of the following devices or entities to protect our privacy and security interests. (I am not asking for examples of past violations of our privacy, just reasons that we might question the likelihood that the device or entity can protect our privacy in the future). For each of the following devices or entities, discuss possible reasons that we might doubt our security and privacy if we use the device or entity.

a) Cell phones and mobile devices from Apple, Samsung, or Huawei?

b) Anti-virus and security software from Kaspersky labs, a security firm based in Russia, or if you are a user in Russia or China, software from Symantec or McAfee which are based in the U.S.

c) Cloud storage services provided by US Based companies, especially if you are located outside the U.S.

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d) Social media services like Facebook, LinkedIn, or Snapchat.

e) Apps loaded on your device from the Google app store or iStore.

f) IoT devices including security cameras and home assistants.

g) OS or other software provided by companies like Microsoft, Adobe, and Oracle (e.g. Java).

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3) Improving Privacy (25 points)

- a) As the provider of a service or the developer of an application, discuss some of the steps you can take to increase the confidence of your users that you cannot and will not divulge or mis-use their sensitive information. (10 points)

- b) As the user of a service or application, discuss some of the steps YOU can take to protect the personal information and improve your security when the services described above are used. (15 points – answer on back of page)