

1.4

- By knowing her habits and shopping patterns, targeted advertisements would be too simple of an application. By knowing her shopping and travel patterns, you could possibly figure out where she possibly lives. Unwanted mail advertisements and, if the designers are cartoonishly evil, possible robberies or selling of locational data. There is also the possibility of her regular shops stocking recommended items to entice Karen to buy more from them, like a physical counterpart to targeted advertisements. Although convenient, the fact that her location is constantly tracked by a gps can also allow malicious designers and developers to tell when she is and when, allowing her movements to be tracked, which is incredibly dangerous information. Allowing Errand Whiz to have so much access to so much of her information, Karen opens the door to lots of dangerous information that allows her to be manipulated both in the digital space and the real material world. This is also assuming that there are no bad actors that attempt to steal her information from Errand Whiz to use for criminal activity, such as identity theft, robbery, kidnapping, etc.

1.5

- The ethical failings of Errand Wiz are most prominent in their willingness to sell user information to a different company. The most noticeable error would be if they sold all information to facebook. If things like groceries and other purchases are being sold that is mostly okay, however if the locational data is also being transferred to facebook that is a pretty massive breach of privacy and trust from Errand Wiz. Errand Wiz has all the power here to maintain heavy security on this information and therefore any of that information being sold purely for the benefit of facebook and Errand Wiz and to the detriment of the user is a large breach of ethical privacy. Another issue that can be noted on the failings of Errand Wiz is that they are sending the information to a separate server every time Karen is using the app meaning that there is not a large amount of security around the location of her work or house or other private areas where a malicious hacker could use the information in any number of unethical ways. The developers of Errand Wiz are being entrusted with a certain level of privacy by the user and simply the act of recommending the users to send all of their data to facebook is already an ethical breach. The most important breach would be if for all of these issues the user is not aware. For example if Karen shopped at starbucks and then started seeing coffee ads on her facebook without knowing why this would be a huge breach of privacy.

1.6

- The people behind Errand Whiz could potentially negotiate a new contract with Facebook to provide only anonymized data, thus increasing user privacy. Moreover, they could cancel their contract with Facebook entirely, instead finding an alternative way to monetize their app while preserving the trust that their users vest in them. Also, they could re-design their app to maintain sensitive information (like location, shopping habits, and otherwise) on the device itself instead of their servers. The people behind Errand Whiz *do* have an ethical obligation to prevent these harms - they have the means and

the understanding to comprehend that opaque privacy policies harm their users. Furthermore, the data they are set on monetizing can cause real harm should it be obtained by threat actors seeking to exploit it (whether by phishing, stalking, or otherwise). They have an obligation to secure this data as tightly as possible, limiting transport and storage of it from their users.

3.1

- First, the “self” would be a stakeholder (i.e. the new grad software developer). They have an obligation to their future reputation (and goals) of being an excellent software developer - as well as an ethical one. There may be severe career ramifications if their contribution becomes publicly known as others may/will find the product distasteful. Next, the team and company developing the product are stakeholders. To remain in business, they are obligated to employ workers to develop the product. But, they also have an obligation to be - as the article put it - good “corporate citizens.” Fulfilling this contract may act against their own self-interest (i.e. stake) if other companies or the public cease to do business with them. Next, the foreign government buying the product is a stakeholder. They have an obligation to their citizens to keep them safe and preserve societal order. With that said, using such a product would constitute excessive surveillance overreach. Nonetheless, they have a stake in this product being “successful.” Finally, the citizens of the surveillance-heavy foreign country are a stakeholder. They have a stake in how heavily and effectively the product will be used to suppress them.

[3.2] What do you think is your ethical obligation in this situation? What do you think an excellent software engineer does in this situation? Are they the same thing, or different? Please explain your answer

- The ethical obligation in this scenario is to defend the basic human rights of people within that country. Once citizens figured out how they could be monitored like this, they would no longer trust any communication platforms. Not only is this an invasion of privacy, but this would allow that government to convict more innocent people. Citizens would be more prone to being wrongly placed in labor camps and would not be able to discuss the problems of their nation. Completing this task would help a government hurt the people, not protect them. An excellent software engineer would believe the same thing. While they may want to deliver high quality and reliable software, an excellent engineer considers the broader risks and consequences of that software on society and stakeholders. The consequences that could result from this software being made would outweigh any contractual obligations one would have with their employers. Ethical obligation and being an excellent software engineer are not the same thing. Ethical obligation does not consider the project constraints such as time or cost. They are a set of standards that decide what is right and what is wrong. An excellent software engineer would consider professionalism and efficient solutions among the ethics of the task.