Explore - Impact of Computing Innovations: Sample Response A: High Score

Note: Students must acknowledge (i.e., through citation, through attribution, by reference, and/or through acknowledgment in bibliographic entry) the source or author of any and all information or evidence taken from the work of someone else. This includes any images, video, or music that might be incorporated into a computational artifact, and the use of program code written by another person. Taking effect beginning in the 2017-18 academic year, a student who fails to acknowledge the source or author of any and all information or evidence taken from the work of someone else will receive a score of 0 on that particular component of the performance assessment.

For information about the points this response earned, please see the **Explore Commentary**.

1. Computational Artifact

Your computational artifact must provide an illustration, representation, or explanation of the computing innovation's intended purpose, its function, or its effect. The computational artifact must not simply repeat the information supplied in the written responses and should be primarily nontextual.

Submit a video, audio, or PDF file. Use computing tools and techniques to create one original computational artifact (a visualization, a graphic, a video, a program, or an audio recording). **Acceptable multimedia file types include .mp3, .mp4, .wmv, .avi, .mov, .wav, .aif, or .pdf format. PDFs must not exceed three pages. Video or audio files must not exceed 1 minute in length and must not exceed 30MB in size.**

The Effect of E-Commerce on the Consumer

Before the E-commerce innovation

After the E-commerce innovation

2. Written Responses

Submit one PDF file in which you respond directly to each of the prompts below. **Clearly label your responses 2a–2e in order.** Your responses must provide evidence of the extensive knowledge you have developed about your chosen computing innovation and its impact(s). Write your responses so they would be understandable to someone who is not familiar with the computing innovation. Include citations, as applicable, within your written responses. **Your response to prompts 2a–2d combined must not exceed 700 words.** The references required in 2e are not included in the final word count.

2a. Provide information on your computing innovation and computational artifact.

- Name the computing innovation that is represented by your computational artifact.
- Describe the computing innovation's intended purpose and function.
- Describe how your computational artifact illustrates, represents, or explains the computing innovation's intended purpose, its function, or its effect.

(Approximately 100 words)

Sample response to 2a:
The computing innovation being represented is Electronic Commerce or E-commerce. Ecommerce is any and all economic activity that occurs online (6). This can include banking, shopping, renting, and selling (6). The purpose of e-commerce is all about convenience. As the world today puts more devices in a user's hands, e-commerce puts the store into that hand. It saves people from driving and waiting in lines, and instead allows them to purchase and complete all of their financial needs with a tap of the finger (2).

2b. Describe your development process, explicitly identifying the computing tools and techniques you used to create your artifact. Your description must be detailed enough so that a person unfamiliar with those tools and techniques will understand your process.
(Approximately 100 words)

Sample response to 2b:
This artifact is revealing the effects of the innovation of Electronic Commerce. To best reveal this effect, a before and after picture was compiled. To do this, fireworks was used to create the images. The main e-commerce facilities affected were found on the internet and imported into the image. The main issues that were present (time, money and energy) were found in image forms and compiled into the "Before" image. These pictures were cropped and resized to scale and laid on the image. The vector tool connected the problems in the "Before" image and in the "After" image, it connected the solution and revealed how E-commerce not only solved the issues in the "Before" image, but expanded the commercial system.

Computing Innovation

2c. Explain at least one beneficial effect and at least one harmful effect the computing innovation has had, or has the potential to have, on society, economy, or culture.
(Approximately 250 words)

Sample response to 2c:

As Electronic Commerce has grown and developed, it has open many opportunities to businesses to expand and reach more customers, but even with this positive growth, there has been some harmful effects on society and the economy.

Businesses have been able to expand infinitely over the internet because of e-commerce. With the creation of e-commerce came convenience. As the smartphone popularity grew along with more and more individuals getting access to the internet, the world of shopping and working on finances was right at the tip of a finger (5). The problems were that it would take time, money, and energy to visit these places, send in a letter, or call (3). With the smartphone or the computer, you would not have to worry about either of the three main problems (5). Even with that, stores are able to grow through the E-commerce. Stores have been able to gain advertising and create more revenue through solving these three problems (5).

With this mass expansion, it has caused some issues. The first is the transition of customers into the household. It has become a social problem that people are going out to stores less because they are able to do most of their activities inside their home (5). Shopping being one of them. Since there is a huge transition of shoppers to online sales, storefronts have been going out of business leaving many empty stores across the United States (5). This has led to unemployment and individuals being laid off for a computer who can do the work of many workers (5). There has been a big theft problem with E-commerce. As most individuals become comfortable with imputing their information online with credit cards and private information, sites are created to pose as shopping websites, but they steal your information (1). This is not just intentional, but retailers like Target have experienced issues with thieves hacking into these stores and stealing credit card information, stealing thousands of dollars form individuals (1).

2d. Using specific details, describe:

- the data your innovation uses;
- how the innovation consumes (as input), produces (as output), and/or transforms data; and
- at least one data storage concern, data privacy concern, or data security concern directly related to the computing innovation.

(Approximately 250 words)

Sample response to 2d:

The data this innovation uses is personal information (credit cards, names, pin numbers) that is translated into binary. This data is traded between companies (2). When the credit card information is put into a website that store gets your information and then it is sent to their financial system to be tracked (4). Investments are another form of e-commerce where your funds can be transferred between different companies and banks (4).

E-commerce consumed data such as your credit card information, bank account information and personal information to get access to your money in an electronic way (4). The money is not virtual but the almost "check" from your account is sent around online until it reaches the final recipient of the purchase or money transfer (4).

This in turn cases some data privacy issues. It has had more problems recently than ever before with individuals private information being stolen through the E-commerce system. Malicious individuals will create

their own money transfer systems and convince people into believing that their money is going to a good cause or a certain "deal" at a store and they are actually giving the money to these other individuals (5). Also, in the transfer of the information packets along their route, the packets can be stolen and the credit card information can be decrypted and stolen for another individual's usage (5).

References

2e. Provide a list of at least three online or print sources used to create your computational artifact and/or support your responses to the prompts provided in this performance task.

- At least two of the sources must have been created after the end of the previous academic year.
- For each online source, include the permanent URL. Identify the author, title, source, the date you retrieved the source, and, if possible, the date the reference was written or posted.
- For each print source, include the author, title of excerpt/article and magazine or book, page number(s), publisher, and date of publication.
- If you include an interview source, include the name of the person you interviewed, the date on which the interview occurred, and the person's position in the field.
- Include citations for the sources you used, and number each source accordingly.
- Each source must be relevant, credible, and easily accessed.

Sample response to 2e:

1 Ackerman, Mark S., and Donald T. Davis, Jr. "Security and Privacy in E-Commerce." *Electronic Commerce Management for Business Activities and Global Enterprises Competitive Advantages* (n.d.): 366-402. Web. 1 Feb. 2016.

2 "ARTICLES." *How Exactly Does Ecommerce Work.* Eqiunox, n.d. Web. 09 Feb. 2016. <**http://www.equinox.ie/articles/ecommerce/how-exactly-does-ecommerc-work.html**>.

3 Li, Peixian. "Issues of Security and Privacy in Electronic Commerce." *Computer Science Virginia.* N.p., n.d. Web. 1 Feb. 2016. <**www.cs.virginia.edu/~pl9a/resume/ECommerce.doc**>.

4 Olkowski, David J., Jr. "Information Security Issues in E-Commerce." *SANS.* SANS Institute, 26 Mar. 2001. Web. 1 Feb. 2016.

5 Silviu Vlad Mirescu, Titu Maiorescu University, Bucharest, Romania. *THE PREMISES AND THE EVOLUTION OF ELECTRONIC COMMERCE* (n.d.): n. pag. Scienctific Papers. Journal. Web. 1 Feb. 2016. <**http://www.scientificpapers.org/wpcontent/files/1121_The_premises_and_the_evolution_of_electronic_commerce.pdf**>.

6 "What Is E-Commerce?" *WiseGEEK.* N.p., n.d. Web. 09 Feb. 2016.