Explore – Impact of Computing Innovations
Written Response Submission Template

Please see Assessment Overview and Performance Task Directions for Student for the task directions and recommended word counts. **Your responses to prompts 2a-2d combined must not exceed 700 words.**

Computational Artifact

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 intended purpose and function.
- Describe how your computational artifact illustrates, represents or explains the computing innovation intended purpose, its function or its effect.

  (Must not exceed 100 words.)

2a)

My computing innovation are smart guns. Smart guns are firearms that have a password security. The password can be a finger scanner or RFID. This layer of security prevents from people other than the owner from being able to actual fire the weapon. My computational artifact illustrates smart guns by showing two securities, finger scanning and a wireless key. It shows the processes to unlock the firearm.

Link to Computer Artifact:
https://docs.google.com/presentation/d/1PfxKrZmLSA17MdacCQHL76T9-2T5-fhlJJTp2MnwVBQ/edit#slide=id.g55f4c4a93c_0_6

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. *(Must not exceed 100 words.)*

2b)

I created my artifact in google docs. It was about smart guns. I found pictures off the internet and made captions underneath with arrows to illustrate the process in order to unlock one of these firearms. I did so by opening a google presentation and copying and pasting images.

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. *(Must not exceed 250 words.)*

2c)

1. One beneficial effect it has on our society is that it will prevent disastrous cases of firearms being easily used by thieves or unauthorized people. "It just has to do with making a safer gun that's not going to get a kid shot or a suicidal teen at the wrong time or a thief who's going to shoot a police officer," said Stilp, to a crowd of 150 or so police officers, inventors, investors and the media (Kcur). These firearms have the potential to change the culture of guns to become safer.

2. One harmful effect is that the technology is expensive. The new model, IP1, uses RFID to unlock the weapon. However, the "IP1 costs $1,399. The watch is sold separately for another $399. Considering a Glock handgun costs $579 at your local gun store, this high cost is hard to justify" (National Interest). This makes the firearms too expensive in order to be considered a law. Too many people have guns and modifying them to have this technology will cost way too much money.

3. The computer innovation needs a lot of testing before it should be commercially sold. However, if the future of guns becomes incredibly safe then cases of misfires or stolen guns will become a part of the past. This will affect media because they will potential stories that will boost their ratings.

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.

(Must not exceed 250 words)

2d)

Smart guns use finger scanners and RFIDs. Finger scanners scan your finger by using an optical sensor to create an image of the ridges of the owner's fingers. The scan is then compared to the stored finger scan of the user to make sure it matches.

RFIDs or radio-frequency identifications use tokens that store a password. These RFID tags have a circuit with an antenna to transfer data to the gun. The gun is installed with a RFID reader that converts the radio waves produced by the tags into data which can be read by a computer system within the RFID reader. The data is then checked to make sure it matches to password. If the password is correct, the computer system will release the lock on the trigger for accessibility. RFIDs are smarter than finger scans because "RFID technology is impervious to rain and mud and can be used while wearing gloves" (Smart Tech). This means they perform better in harsher weather.

A security concern is being granted access to use the weapon in a short enough time. The difference between life and death can inevitably be decided upon one second. The lag time between scanning your finger or identifying the token is a loss of precious time that can alter a grave situation. These securities should be quick and easy to use for owners.

References

2e) Provide a list of at least three (3) online or print sources used to create your computational artifact and/or support your responses through in-text citation to the prompts provided in this performance task.

- At least two (2) of the sources must have been created after the end of the previous academic year.

- For each online source, include the complete and permanent URL. Identify 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 numbers(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 in-text citations for sources used.
- Each source is relevant and easy to access.

Website Citations:

1. March 22, 2019 (National Interest): https://nationalinterest.org/blog/buzz/looks-can-be-deceiving-smart-gun-really-bad-idea-48777
2. March 7, 2019 (Kcur): https://www.kcur.org/post/next-generation-gun-technology-inventors-betting-police-1#stream/0
3. Updated Daily: https://smarttechfoundation.org/gun-safety-technologies-2/

Image Citations:

4. "Free Image on Pixabay - Wireless, Signals, Internet." *Wireless Signals Internet - Free Vector Graphic on Pixabay*, pixabay.com/vectors/wireless-signals-internet-310568/.
5. "German Retiree Shot Dead at His Home in Watamu, Kenya." *Mkenya Ujerumani*, mkenyaujerumani.de/2014/05/03/german-retiree-shot-dead-in-watamu-kenya/.
6. "A New Generation of Entrepreneurs Thinks It Can Revive the Smart Gun." *The Trace*, 21 Jan. 2019, www.thetrace.org/2019/01/a-new-generation-of-entrepreneurs-thinks-it-can-revive-the-smart-gun/.
7. "Shopping by Finger Touch, ID Fingerprint Scan Access Icon. Touch Screen Motion Background - Storyblocks Video." *Motion Background - Storyblocks Video*,

www.videoblocks.com/video/shopping-by-finger-touch-id-fingerprint-scan-access-icon-touch-screen-nxuk4ly.