**Lesson 2 – Every Bit of the Internet**

**\*\*Instructions:** Please change the text color of your responses to red text. Please organize the endings to each page.

**ACTIVITY 2.2.5 – Analyzing Data and Computing Innovations: Explore Task 2**

STEP 1: For each data type, provide an example of specific data and a data collection device for this data.

| **Data Type** | **Example(s)** | **Data Collection Device** |
| --- | --- | --- |
| Integers | Numbers on a calculator | Calculator |
| Numbers | Temperature | Thermometer |
| Booleans | Pass/fail for a class | Online LMS |
| Text | Text messages | Social media platform |
| Image | Image attachments in social media | Social media platform |
| Video | Videos on social media | Social media platform |
| Audio | Music | Microphone |
| Signals | Radar signals | Radar sensor |
| Date/ Time | unix time | Clock |

STEP 2: Consider the scenario of having to type a paper for a class.

Draw, label, and explain the scenario of having to type a paper for a class. Compare your chart with another student's.

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STEP 3: Brainstorm at least one example of the data used in each of the computing innovations listed below. Be sure to indicate the data type and whether it is input or output.

| **Computing Innovation** | **Data Used, Data Type** | **Input or Output** |
| --- | --- | --- |
| Global Positioning System | Coordinates, | input and output |
| Google Glass | Audio, vision | input (sensors), output (visual display) |
| Twitter | Text, images, video | Input |
| Facial-Recognition Software | Video/images | Input |
| Virtual Reality | Video output, controller input | Input and Output |
| Video Conference Software | Video, audio, text | Input and Output |
| 3D Printing | 3D model file | Output |
| Crowdfunding | Money | Input |
| Self-Driving Cars | Video, audio, motion | input and output |

Visit the website [aboutmyinfo.org (Links to an external site.)](http://aboutmyinfo.org). Examine the section “How unique are you?”

STEP 4:

1. What data is being collected here?

| Dates of birth, genders, and zip codes are being collected. |
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1. How is it being collected from you?

| Through willing input on an online form. |
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1. Why might you be easily identifiable by this information? (HINT: Estimate the number of people in your zip code and the number of unique combinations of birth date and gender. See the About page of the website for more information.)

| There are around 300 million people in the US and around 30,000 ZIP codes, so that leaves around 10,000 people per zip code. There are 365 \* 100 \* 2 = 73,000 combinations for birth date and gender. This means that most people will be uniquely identified by this information. |
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STEP 5:

Input a birthday (does not have to be yours), gender, and zip code, and click submit.

1. What concerns do you have about sharing your data on this website? Are your concerns about privacy or security?

| I have privacy concerns with sharing my data to this website, as it likely also logs my IP address, which will give an approximate location and can determine all future web activity from this IP address to be from me. I do not have security concerns with this website, as it is run by Harvard University and likely is secure. |
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1. Record your output.

| January 1st, 1975 - Male - 90747  Easily identifiable by birthdate, birth year, and age range |
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STEP 6:

Examine the privacy policy of your favorite social media site.

1. What data does your selected social media site collect from you? Is this a privacy or security concern?

| Discord collects IP addresses, device IDs, and activities done on the platform. It also uses cookies to collect data about settings, account information, and notification settings. It also collects information from other social media websites if they are connected to the Discord account. Additionally, Discord collects data for personalized advertising. |
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1. What data is required and what data can you opt out of? Is this a privacy or security concern?

| The IP address, device ID, and activities are required, but cookies and connections to other social media platforms are optional, as cookies can be cleared or not accepted and social media platform connections are optional. Additionally, advertising data can be opted out of, but there is no standard for how to opt-out and it may still collect information even when opting out. This is not a privacy or security concern, as IP addresses and device IDs are not inherently malicious, and can only be used to gain an approximate location of a user. |
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1. How does your selected social media site use the data it collects? Is this a privacy or security concern?

| It uses the data to identify users, provide customer service, and use it for marketing, which can be a small privacy concern since identifying users can be a privacy concern. However, the information provided is not enough to fully identify a user, as in California, under the CCPA, an IP address is not enough to legally establish someone as the person doing an action on the internet. Even then, an IP address can only give an approximate geolocation without contacting the address’ ISP. |
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1. Is your data stored permanently, or can it be deleted from your selected social media site? Is this a privacy or security concern?

| Emails can be deleted from the mailing lists, but other data is kept permanently. This is a privacy concern, as this data could be used against the person in the future if any non-compliant activity is found, even years after the said action.. |
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1. How have social media platforms affected our privacy?

| Social media platforms have greatly decreased the amount of privacy in the world, as they sell their service in exchange for personal information that is then sold for marketing and advertising purposes. Although some social media platforms do not follow this model, the vast majority do, which greatly decreases the amount of privacy a person has. |
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Conclusion:

Create an input, process, output, storage (IPOS) chart that describes the flow of data through a computing innovation of your choosing.

| TI-30Xa scientific calculator: |
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