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**"Take Home" Examination - ISC 405 DUE BY MIDNIGHT APRIL 8th BY EMAIL**

Electronic copy due by midnight, April 8th. I suggest that you limit your response for each question to seven hundred words. Be sure to cite your sources! AND READ THE QUESTIONS CAREFULLY!

1. What is classification? Why is classification important for the Digital Humanities? And please be specific in your answer!
   1. Classification defied in the classes lecture notes (Lecture Five page 2) as “the grouping together of objects into classes. A class, is a collection of objects which share some property.” I was dissatisfied with this definition due to the fact that it uses the word “*class*” to define the word “*class*ification.” You see my problem here? On Google, classification is defined as “the action or process of classifying something according to shared qualities or characteristics.” I do appreciate this definition more but according to Bloom’s Taxonomy, recalling facts and basic concepts doesn’t mean I truly understand what the word means. In my own words, Classification can be synonymous to Categorization; to classify something means to analyze it, name it, and categorize it into a specific category to better understand, in human words, the object being classified. This also steps into how we as humans organize our thoughts and understandings of the world around us.
      1. For example, classifying Blue Jays and Ostriches as birds while lions and humans as mammals. I actively grouped together objects, Blue Jays, Ostriches, Lions and Humans, into classes, Birds and Mammals.

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| --- | --- |
| Bird | Mammal |
| Blue Jay, Ostrich | Lions, Humans |

* 1. To properly answer the second part of this question I thought it would be useful to define Digital Humanities. According to Duke University Libraries, the term “Digital Humanities” has been around for quite some time, yet it has been hard to reach an overall agreement on the precise definition. It cited a few sources that provide a definition, one of them being, “Digital Humanities” by Anne Burdick et. al. with defining Digital Humanities as “The phrase Digital Humanities… describes not just a collective singular but also the humanities in the plural, able to address and engage disparate subject matters across media, language, location, and history. But, however heterogeneous, the Digital Humanities is unified by its emphasis on making, connecting, interpreting, and collaborating.” After reading this, my overall understanding on the importance of classification in Digital Humanities is that classification, or what it’s synonymous to which I mentioned previously, due to the fact that the human language is very limited at explaining things to others. For people to have a better understanding on the topic or object they might be discussing, classification will be needed.
     1. For example, the English language has a few words used to define events relating to COVID-19, while the German language has recently created 1,200 new words relating to the pandemic. You can deduct that the German language is a more detailed language than English. This attention to detail can help reduce miscommunication and misunderstandings when communicating with another person in that language. However, there may be some miscommunication when translating a situation from German to English. Classifying the pandemic as its own subclass, with 1,200 new words in that subclass.

1. What is "embodied cognition"? How can the study of this subject contribute to the Digital Humanities? Please be specific!
   1. Embodied Cognition is a theory that, in a broad sense, connects a being’s physical body to the world/environment around it. Personally, when relating one term to another, it helps me if I split up those words and define them individually before defining them as a whole. Cognition is the process of understanding and or obtaining knowledge through senses. What you touch, taste, smell, feel, see, and hear. All of those senses experience something very different, and those experiences make up cognition. How the world, brain, and body communicate with each other is essentially Cognition. Embodiment, according to Oxford Languages, is the representation or expression of something in a tangible or visible form. Connecting these two definitions, guided me to my definition of Embodied Cognition. I believe that Embodied Cognition is important in Digital Humanities because it correlates to the Humanities part of Digital Humanities, the *human* in *human*ities. I find it interesting that Embodied Cognition describes the interaction between Cognition, the obtaining of knowledge through the senses, and Embodiment, the physical representation of something. And how this correlate to how Digital Humanities describes the interaction between the digital world, the web and technology, and the humanities, the literature, history and philosophy. Embodied Cognition is a necessary topic when discussing Digital Humanities because the world around us is becoming more digital, we are practically cyborgs with our great dependency on technology. We, our minds and bodies, are shaped by the world around us, possibly connecting with Nature vs. Nurture theory.
2. What is "data modeling"? Why is this important for the Digital Humanities? In addition, describe how databases may be used in the Digital Humanities.
   1. Data Modeling is the process of making sure data inside of a database is represented accurately, for example all of the books in Penfield Library. In the database the important parts would be the Name of the book, the Author, how many times it was rented out, the year it was published, the publishing company, if it is a hard or soft cover, what genre of book it is and other descriptive factors of the sort. Data Modeling would be more hard data, not to be confused with representing that data which would go under the term Data Visualization which I will talk about in the next question. If Digital Humanities if the study of Humanities and how that has stepped into the Digital world, online with the World Wide Web, then creating databases would be very important. Databases that are for libraries, academic resources or even historical date to name a few would need to be represented in a way that can help the viewer better understand what is being represented in a quick, easy and efficient way.
3. What is data visualization? Why is the study of visualization important for the Digital Humanities? Please give salient examples.
   1. Data Visualization is essentially a process of creating a visual representation of data possibly connecting, comparing or contrasting, two or more things together. Data Visualization is important to Digital Humanities because it would help create visual representations, the visual and humanities part, of something that needs to be represented like a database such as a database of all the books in Penfield Library, the data and digital part. This is where Infographics would come into play. For example, having visually representing the database I discussed above, the most rented out book in Penfield Library, could be represented with the top 50 books to be rented out, all books are represented by a circle, the more times it’s been rented out, the larger the circle. All the circles would be different sizes and in no particular order besides the larger ones in the center with the smaller ones towards the edges of the representation. For this to be done efficiently, there would need to be a database of all the books in the library, author and book title along with the number of times it was rented out. The circles could also be different colors but that may make it hard to differentiate each circle. The circles being labeled would be simple.
      1. *Example:*
4. What are GIS and "spatial humanities"? Why is the study of these important for the Digital Humanities?
   1. GIS stands for Geographic Information System. It is a technological process that helps people visualize and interpret geographical data. Geographical data that helps them make important decisions on topics such as “Where is there a high demand for a hospital?” This data is obtained by documenting what has, is and will happen in a specific location. For example, if a small town has consistently had a diner be built then go out of business within a few months, it is probably smart to not build another diner in that location due to the towns past history of diners closing down. According to Indiana University- Purdue University Indianapolis (IUPUI), Spatial Humanities “relies upon powerful geospatial technologies and methods to explore new questions about the relationship of space to human behavior and social, economic, political, and cultural development.” GIS and Spatial Humanities are important for Digital Humanities because they go hand in hand with combining the digital world to the physical one. Obtaining data and information digitally has become an everyday task for humans, everything known to man can be found though the World Wide Web. The only way we can improve as a species is to adapt with the ever-evolving technology and adapting new ways of thought into our education is the first step.
      1. https://polis.iupui.edu/about/spatial-humanities/

***FINAL THOUGHTS:***

Although this isn’t a question, I believe that all of these terms you asked us to define are very important when talking about knowledge, education, evolution and humanity. Of course, these four terms that I just started are very broad but once broken down I believe it makes sense. Digital Humanities is a very important field of study that can be and *is* seen as an umbrella term for more fields of study. GIS, Spatial Humanities, Data Visualization and Modeling along with terms such as Embodied Cognition and Classification would all go under the great umbrella of Digital Humanities. After explaining each term, I noticed that most of these fields of studies or definitions were things people used every day, I just wasn’t aware that there was a word for it. The importance of putting data together in a way that is easily understood, then creating visuals that can pull people into that data, all starts to seem like a step-by-step process people use to explain knowledge. For example, if you are teaching something new to a class, let’s say a new species of bug, you classify it with easy-to-understand terminology. Sometimes these Classifications can be represented as data that can be put in a database, like the scientific name for the bug along with the approximate size, color, weight, difference between male and female and life expectancy. After creating a database that is easy to understand with hundreds of other related bugs in that database, it may be hard to read or quickly glace at the database and come up with conclusions to what the database represents. This is where Data Visualization comes into play, creating a small infographic or visual representation of the data, perhaps their migration patterns in comparison to other bugs in the similar region. Finally, this is where GIS and Spatial Humanities comes in. Knowing the geographic location of the specific yearly migration of these bugs can help with which crops to plant, how building are built and safety precautions needed if the bug is known to have previously caused a lot of damage to the nearby surroundings. It seems that I am talking about Locus and the soon to be arriving Cicadas. As you can see, all these terms you had us define are easily put in a step-by-step process on obtaining *knowledge* on a certain topic, how that knowledge can be implemented into our *education*, how that can help with our *evolution* of technology that can further improve *humanity*. I hope this all makes sense, I just got really passionate about this little end bit once I realized that it could be taken as a step-by-step process in data analytics and so much more.