STUDENT

0001-DCF

TENTAMEN

TIA315 Teknologi

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ⅰ HT24 reexam: Welcome to examination!

This examination consists of open questions, sometimes referred to as 'essay questions'. It includes **7 questions**, each rewarded with a maximum of 3 points. The examination is limited to **2 hours.** To pass it you need **13 points** (60%)

The grading will focus on the overall capability to explain and apply ideas. It will assess whether (1) answers are logically coherent, whether (2) they are grounded in readings, lectures, and discussions, and, when applicable, that (3) answers engage the key concepts of the course.

Advice:

Please, read the questions carefully! Each question normally consists of multiple requests, such as: "**Define**... and **explain**... **illustrate** ... with an example..."

If you feel unsure about how to respond or don't remember exactly what papers or lectures said, trust your instincts and stay focused on the question. Explain in your own words, to the best of your abilities. Do *not* start to broadly talk about related things, to show you know other things.

It could be worth noting that longer answers are not necessarily better answers, since long texts increase the risk of ending up with inconsistencies.

1 HT24 reexam, Question 1

In actor-network theory, the principle of *generalized symmetry* proposes that humans and material artifacts should be viewed equally regarding their capacity to act, i.e., in terms of agency.

Describe, in your own terms, how this principle is useful when analyzing how socio-technical systems—systems that include both human and technological elements—behave and evolve.

Skriv in ditt svar här

> If we see humans and material artifacts as equals in their capacity to act and exert influence in the ecosystem, we can achieve better understanding about behaviors in the society.
>
> Actor-network theory highlights that both human and artifacts can shape the ecosystem. If we are aware of that symmetry we can ensure to make better decisions and reframe the reality to achieve goals.
>
> If we can realize that the implementation of a new technology in a firm can influence the environment and improve the results in terms of efficiency and productivity, but at the same time it could make that the workers need to be reeducated to use the technology or some can lost their jobs, and if we are aware about the implications to introduce this technology we can analize and understand better how this changes could affect and influence the behaviours of the society.

Ord: 146

Besvarad.

HT24 reexam, Question 2

Jacob has been learning about operand and operant resources. He understands that an operand resource is something that is acted upon to achieve a goal. This aligns well with his view of technologies as tools. However, he's unsure about the concept of *operant resources*.

Explain to Jacob what an operant resource is, and how it is different from an operand.

Skriv in ditt svar här

Operant resource acts as a trigger. It initiates action. Operant resources are active and generative. Usually humans have been considered as operant resources because they act and make decisions upon operand resources for example raw materials as wood, metal or plastics. These operand resources are pasive and act as enablers.

Now we can see some technologies as operant resources because they have agency for example smart home devices like thermostat and security cameras because they can make desicions for theirself, influence the environment and trigger actions that achieve goals.

Ord: 89

Besvarad.

HT24 reexam, Question 3

Daniel struggles with the concept of *affordances*. He understands that affordances emphasize *meanings* over the inherent attributes of artifacts. His confusion stems from the fact that affordances are defined in *relation* to an observer or user. To him, if an affordance is something relative, it seems pointless.

What did Daniel miss about affordances? Explain to him why an affordance, although being defined in relation to an observer, can be useful to explain general aspects of material artifacts.

Skriv in ditt svar här

Affordances are action posibilities about how users percieve and use artifacts. They are defined in relation to an user due to designers need to think that all users are different and have diverse backgrounds, abilities and capabilities, then designers need to develop technologies that tailored with users and can be intuitive and user-friendly.

Thanks to Von Neumman we have two important affordances: Reprogrammability and Reproducibility.

Reprogrammability is the capacity to update the technology and reproducibility is when you can create copies without any aditional marginal cost.

But we can also think in affordances that are more general as: diversity to offer more possibilities to users, malleability to adapt constantly to changes and make improvements, transparency to be clear and secure to users and scalability. These are important because you need to take in account them if you want to remain competitive in the market. The best example is a Tesla Car. The firm always design thinking about these affordances, they can be updated through theirs life, they can reproduce their operative system, and they use scalability in their markets.

Ord: 179

Besvarad.

4 HT24 reexam, Question 4

Olivia understands that *reproducibility* refers to the ability to create copies of a digital artifact without any additional marginal cost. However, she's unsure about the consequences of this. The lecture she's attending suggests that reproducibility leads to more diverse markets, including a wider range of niche products and services.

Explain to Olivia why the reproducibility of digital technology tends to produce markets with greater diversity.

Skriv in ditt svar här

We need to think in a editorial that produces books. The editorial can be constrained to produce books that can sale easily and generate profits. But you have a niche that is unattendant because produce their books can be very expensive. On the other hand we have this Amazon artifact that is called Kindle. So we have the oportunity to produce one book and reproduce infinite number of copies without any additional marginal cost. That enables that you can reach greater diverse markets including niche products and services

Ord: 88

Besvarad.

5 HT24 reexam, Question 5

According to Jonathan Zittrain, *generativity* is found in "a technology's overall capacity to produce unprompted change driven by large, varied and uncoordinated audiences". He also proposes that such generative capacity derives from four aspects of the technology: capacity for leverage; adaptability; ease of mastery; and accessibility.

Explain, in your own terns, how these four aspects "produce unprompted [spontaneous] change driven by large, varied and uncoordinated audiences".

Skriv in ditt svar här

Generative is the capacity of a technology to produce unprompted changes.

Capacity of leverage: is the capacity to use a technology for diverse uses. For Example Internet, you can use for education, recreation, communication, business and so on.

Adaptability: is the capacity to change and improve constantly. For example Smartphones and their updates

Ease of mastery: is the capacity of a technology to be easy to use, intuitive. The user do not need to study for use the technology. For example Microsoft Word because is very intuitive

Accesibility: Is the possibility to access to a technology. As more people access more generative the technology is. Example Samrtphones

All these capacities produce unprompted change driven by large, varied and uncoordinated audiences because they evolve aspects as emergence to adapt continuously to changes , reframe to see and create another realities and reprogrammability to improve the technology.

Ord: 145

Besvarad.

6 HT24 reexam, Question 6

Emma is trying to understand how the concept of *boundary objects* can be useful in design. She has read that a boundary object is something general that different people can recognize and use in various contexts, but it can still have different meanings in each of them. This helps maintain a common identity, align different interests, and enable knowledge sharing between environments, while also supporting local needs and specialized designs. To fully grasp the concept, Emma needs an example.

Choose an example of a boundary object that is relevant to design. Use this example to explain to Emma how boundary objects can be *plastic* enough to adapt to local needs and constraints while still being *robust* enough to maintain a common identity across different sites.

Skriv in ditt svar här

Boundary objects are bridges that enable interaction between different social actors. One simple example is a futboll ball. It does not matter if people speak the same language of if they have different social conditions the ball create a bridge that enables interact. In the digital world we have these boundary objects to enable the relationship between owners ans third-party developers.

I can say to Emma the example to Google maps. It is plastic to permit other platforms to interact within their ecosystem, for example Booking because after you have booked your hotel you can use Google maps to find the localization. But is robust enough to mantain its identity and its policies between different sites. You as user always know that is supported by Google company.

Ord: 127

Besvarad.

7 HT24 reexam, Question 7

Explain the basic idea behind *ontological reversal* and reflect on the consequences of ontological reversal for the design of digital systems.

Skriv in ditt svar här

Ontological reversal occurs when we shift and perceive the digital technologies more real than the physical things. For example banking services. All my bank is in my phone, I can do everything in the bank platform, I do not need to go to the bank office for do my transactions. My digital bank is more real than the physical offices. Other example is medical healt services through virtual appointment with the doctors. After Covid I can not book directly appointment with my doctor, I need first to receive a videocall and then the doctor decide if I need to go to the physical instalations. Then I used platforms like Kry, because they allows me to attend my illnes through the phone and that is the reality in my medical services.

Ord: 130

Besvarad.