

Exam with SOLUTION

„Introduction to Digital Work“

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Test exam

Part 1: Drivers of change in digital work (15 Points)

A (7 points) Indicate whether the following statements are true or false. (*You receive points for correct answers and deductions for incorrect ones.*)

Statement 1 In digital work, research findings generally apply across different types of organizations.

☐ True

☒ False

Statement 2 Cal Newport suggests that graduates looking for a job should always follow their passion.

☐ True

☒ False

Statement 3 The *war for talent* allows highly qualified graduates to demand more flexible work arrangements, including remote work.

☒ True

☐ False

Statement 4 Based on the hierarchy of evidence, data from an experiment should be considered as high-quality evidence, and data from an expert panel should be considered low-quality evidence.

☒ True

☐ False

Statement 5 The *New Work* paradigm assumes that workers have limited autonomy when reacting to the transformation of their work environments.

☐ True

☒ False

Statement 6 Taylorism is a contemporary approach, which involves flat hierarchies.

☐ True

☒ False

Statement 7 Raj Chetty's data suggest that upward mobility is declining in the US.

☒ True

☐ False

B (8 points) We considered different stages in the evolution of organizations, including the industrial and the digital revolution. Briefly summarize how these key stages affect the nature of work.

- Industrial revolution and Taylorism: Organization of work in large industrial organizations, relying on scientific management (i.e., separation of working and managing, use of the scientific method to manage work, matching of workers and jobs based on skills, monitoring of performance)
- Digital revolution: Technologies like the Internet, e-commerce, and digital platforms change how people work (shift towards differentiation and services)
- Knowledge economy: Many professions involve knowledge work or innovation, creating the need for highly qualified employees (war for talent)

Part 2: Digital work individually (20 Points)

A (5 points) Summarize the key categories of skills of the DigComp framework.

- Information and data literacy
- Communication and collaboration
- Digital content creation
- Safety
- Problem solving

B (5 points) State the five core processes of Getting-Things-Done.

- Collect
- Process
- Organize
- Review
- Do

C (10 points) Your colleagues at work are skeptical about Getting-Things-Done because it has not been tested scientifically. You agree with them, but you also remember that this method aligns with established principles from cognitive research. Select two principles and explain how they are implemented in Getting-Things-Done.

- Externalizing memory: All information is entered into "the system"
- Stigmergic action: All information is recorded in actionable form (next to dos)
- Situated action: The selection of tasks (*Do* phase) considers context (e.g., in action lists for the office, for calls, for admin tasks)
- Adapting is more important than planning: Focus on guidelines for selecting tasks to work on (instead of putting everything in the calendar)
- Bottom-up organizing: The process involves regularly revisiting and updating priorities (at different horizons)
- Feedback: Tasks and projects are tracked explicitly, which can visualize progress and facilitate motivation

Part 3: Digital work in teams (30 Points)

A (6 points) In the case of Gitlab, we focused on a remote-first organization. Briefly summarize three of Gitlab's main principles for managing remote teams.

- Handbook-first for transparent documentation
- Asynchronous communication
- Directly responsible individuals (DRI)
- Explicit codification of company culture and values

B (8 points) Your new colleague sends you a message informing you that he prefers to do all communication via Zoom. First, select and briefly outline a key benefit of using video conferences for communication. Afterward, highlight a situation in which e-mails could be preferred. Connect your position to prior theory.

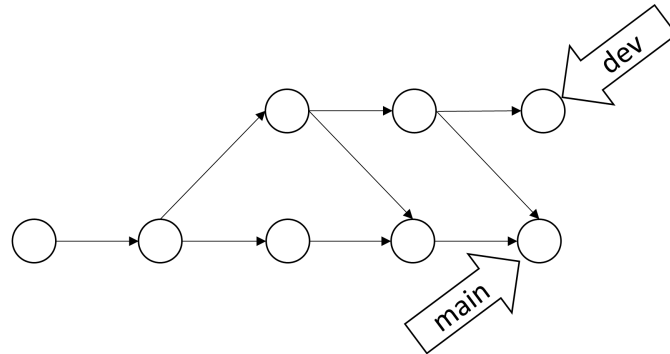
- Example benefits: Rich communication channel with immediate feedback, allowing participants to perceive reactions, emotions, and context. It is possible to ask for clarification and to develop shared ideas. Video conferences can help to build personal connection and trust, prevent personal conflict, and help to constructively resolve task-related conflicts.
- Example situations: In highly distributed settings involving different time zones, email is more flexible. In other settings, it may be helpful to select words carefully (rehearsability) or to have the possibility of looking up information afterwards. As a form of asynchronous communication, e-mail can be particularly useful when information needs to be conveyed.
- Prior theory: Media synchronicity theory (theory of situational awareness, media richness theory).

C (6 points) Your team works with git. In your repository, you have completed the following operations. Which changes are in the commit? Which changes are staged? Which changes are unstaged?

```
# modify README.md, src/utils.py, docs/setup.rst
git add .
git restore --staged README.md
# modify README.md and docs/setup.rst
git restore README.md
git commit
```

- Unstaged: docs/setup.rst
- Staged: None
- Committed: src/utils.py, docs/setup.rst

E (6 points) Create the following git graph by using the short commands of the *learn-gitbranching* tutorial (git commit, git checkout -b).



Solution:

```
git commit
git branch dev
git commit
git checkout dev
git commit
git checkout main
git merge dev
git checkout dev
git commit
git checkout main
git merge dev
git checkout dev
git commit
```

F (4 points) Describe two challenges in Open-Source projects and potential measures to overcome them.

Challenges:

- Conflicts and coordination problems in the absence of hierarchical control
- Inefficient self-selection
- Failure to establish inclusive and diverse communities
- Conflicting values and goals among participants

Solutions:

- Licenses to provide a legal framework and communicate community values
- Code of conduct to define rules of conduct
- Governance structures (authority to make decisions, leadership by example, responsibility for community development)
- Supporting technology (often provided by the Git hoster)

Part 4: Digital work in crowds (15 Points)

A (8 points) Describe four possible ways in which digital entrepreneurs could use digital platforms, and provide an example for each one.

- Crowdfunding to acquire capital, example: Kickstarter
- Innovation contests to design marketing slogans and materials, example: 99designs
- Micro-task work to label data for machine-learning, example: Amazon Mechanical Turk
- Knowledge work service platforms to develop or extend mobile applications, example: Upwork
- Social networks to market the product, example: Facebook
- Platforms to sell the product or service, example: Apple App-store

B (7 points) You are part of a fair-work campaign aimed at informing digital entrepreneurs about the potential challenges of working on platforms. Based on the work of Cutolo and Kenney (2021), draft a short summary of two significant challenges and two possible responses.

Challenges:

- Separation from customers
- Dependence on ratings and algorithmic management
- Entry of the platform owner (as a competitor offering similar products or services)
- Changes in terms of participation by the platform owner
- Restriction of platform access and delisting

Responses:

- Multihoming
- Income diversification
- Collective action
- Government action

Part 5: Future of work (10 Points)

A (6 points) Give three skills that are unlikely to be replaced by artificial intelligence and provide an illustrative example for each one.

- Communication
- Contextual awareness
- Emotional competence
- Teaching
- Connections
- Ethical decision making

B (4 points) Indicate whether the following statements are true or false. (*You receive points for correct answers and deductions for incorrect ones.*)

Statement 1 Deontological approaches, such as Kant's categorical imperative, do not involve consideration of the potential consequences that a decision could have in a given situation.

☒ True

☐ False

Statement 2 Decisions based on utilitarian ethics could accept severe suffering of individuals when many others benefit.

☒ True

☐ False

Statement 3 Economic considerations related to the benefits and costs (potential harms) of workplace technology are rooted in Deontological ethics.

☐ True

☒ False

Statement 4 Jeremy Bentham's Panopticon is an utilitarian attempt to organize and justify surveillance.

☒ True

☐ False