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Enhancing Performance or Hijacking Attention? A Workshop on the Use of AI in Workplace Environments

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Abstract

In today's workplaces, digital distractions and frequent task-switching significantly impact productivity and well-being. With the integration of AI tools and Large Language Models (LLMs), we face new challenges in managing attention between human cognition and AI-assisted workflows. This workshop will explore the dual nature of AI tools, examining their potential to enhance productivity and mitigate the risks of "metacognitive laziness" and digital distraction. Through collaborative design activities and discussions, participants will examine strategies for developing attention management that support mindful task-switching between human and AI-driven work. We will focus on designing workplaces that leverage AI capabilities while preserving deep work and cognitive well-being. The workshop aims to generate practical insights for creating sustainable work practices in an AI-augmented workplace.

CCS Concepts

• **Human-centered computing → Interaction design theory, concepts and paradigms**; **Interaction design process and methods**.

Keywords

Multitasking, Worker Wellbeing, Digital Distractions, Cognitive Overload, Productivity Frameworks

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1 Introduction and Motivation

Modern-day workers are frequently interrupted by digital distractions that arise from both external (e.g., notifications, task-switching requests, apps) and internal sources (e.g. positive or negative feelings about task progress [2]). Previous research has shown that these interruptions increase cognitive load, slow down task resumption, and increase error rates [5, 16, 20], overall disrupting workers' focus and productivity.

Cognitive effects of multitasking and interruptions are well documented [3, 6, 12, 19], but real-world applications in the workplace remain under-developed. Previous work has looked at predicting focus and interruptibility based on physiological sensors [4, 21, 23] and indicating availability using physical artifacts in the office [22]. Other self-selected support tools include Time Blocking software [15], such as the Pomodoro Technique [7], or the Eisenhower Matrix [13], which focus on balancing deep-focused work and multitasking. Gloria Mark, in her 2023 book Attention Span, argued that the average attention span has decreased to about 47 seconds on a task [11], largely due to digital distractions. This initiates discourse on how emerging AI technologies might further impact our attention spans and productivity methods. A more recent study by Talypova et al. [17] has revealed that humans hardly spent more than six minutes focused on their primary goal before derailing into an off-task activity, with many more granular task switches in between.

With AI systems becoming increasingly integrated into workplace tasks, from email drafting to project reports, their impact on cognitive processes demands careful consideration. While tools like ChatGPT and Copilot promise enhanced productivity [18], they may foster technology dependence and "metacognitive laziness" [8], while increasing technostress [1]. This raises critical questions about their influence on deep work and meaningful engagement: How can we design AI tools that support focused work rather than encouraging shallow thinking? How can we facilitate mindful task-switching between human and AI-driven workflows while preserving worker autonomy and well-being?

Attention management systems (AMS) aim to sense and manage users' attentional states. While research has explored interruptibility sensing [24], interruption timing [9, 10], and interface design for task resumption [14], the integration of GenAI tools presents new challenges. Although these tools promise increased efficiency,

they can become distractions themselves, potentially compromising task quality and worker well-being. We believe that an AI-driven adaptive, user-centered approach has the potential to balance productivity, cognitive focus, and well-being. Rather than imposing rigid focus sessions or constantly blocking distractions, AI systems should adopt a flexible, personalized approach that aligns with an individual worker's work patterns and needs. The system could automatically adjust task priorities, reschedule non-essential notifications, or suggest short, restorative breaks [17]. Instead of simply suppressing interruptions, AI could intelligently prioritize them, ensuring that urgent notifications reach the user at appropriate moments. Consequently, we would like to discuss these questions and solutions in the form of a workshop at CHIWORK 2025.

2 Workshop Goals and Themes

This workshop aims to explore the intersection of AI, digital distractions, and productivity in modern workplaces. We will discuss the impact of and how AI systems can be designed to reduce interruptions, enhance deep work, and promote well-being, while also considering the risks of technostress, shallow work, and over-reliance on automation.

In this workshop, we call for participants to share their thoughts, current and future work related to the following themes:

- **AI a mediator for distraction**: tools, like Pomodoro or focus modes in writing application are often static and require explicit use. A context-aware AI agent, however, could anticipate user intention and state and dynamically suggest or even initiate a distraction-free environment. Can AI-driven attention management systems intelligently prioritize tasks and filter workplace distractions? How can AI dynamically adjust focus strategies based on a worker's current cognitive state? And how can workplace AI tools be designed to support meaningful, focused work rather than encouraging rapid context switching?
- **AI as a potential distraction**: tools like ChatGPT or CoPilot seem like a double-edged sword for attention management. On the one hand, they can boost productivity, on the other hand they tempt workers to abstain from deep work and turn to the AI for help and further elaboration. How can AI-driven systems help workers minimize distractions while maintaining flexibility? Do AI tools like ChatGPT and Copilot enhance deep work or reinforce a "shallow work" mindset? What role does AI play in reducing cognitive overload versus contributing to task-switching fatigue?
- **Design for productivity and well-being**: Several tools are available to help workers mitigate the negative effects of multi-tasking and distractions. But what keeps them from being effectively integrated into modern workflows? A key challenge is the misalignment between tool design and real-world work habits. How can tools support frequent context switching? And while such switches have been shown to affect worker satisfaction and well-being, how can we mitigate their negative effects?

3 Workshop Activities

This workshop will be conducted on-site planned for half a day. We plan to use virtual collaboration platforms (e.g., Miro, Slack). The structure is as follows:

- **Opening Session (60 minutes):** The organizers will introduce themselves as well as the main themes, objectives, and schedule of the workshop in the form of a presentation. Then, all workshop participants introduce themselves briefly. Attendees can give brief overviews of their research or relevant experiences.
- **Breakout Group Discussions (40 minutes):** The attendees will be divided into two groups to discuss the two sides of the coin: AI as a distraction and AI as a performance-aiding tool. Participants will brainstorm on their past and current interactions with AI with a focus on task switching, task achievement, and their interaction techniques with AI. Further, participants will reflect on deep vs. shallow work and their productivity and distracted levels when working with AI.
- **Exploring Future Use of AI Tools (20 minutes):** Both groups will be given a prompt that asks them to project themselves into the future and imagine an intelligent, AI-enabled workplace. Each group will analyze the future from their assigned perspective—either AI as a distraction or AI as a performance-aiding tool—discussing the key challenges and opportunities that arise from their viewpoint.
- **Design Sprint (30 minutes):** Building on the previous discussion, each group will identify the most pressing challenges related to their perspective on AI in the workplace. They will then develop design guidelines aimed at mitigating AI's drawbacks (for the distraction-focused group) or maximizing its benefits (for the productivity-focused group), ensuring a balanced and effective integration of AI into future workflows.
- **Report Back and Feedback (60 minutes):** Each group will present their brainstorming results and get a chance to see the big picture, where the two perspectives merge and further explore the open challenges and next steps.
- **Closing Remarks (30 minutes):** Summary of key findings, next steps, and opportunities for continued collaboration.

4 Workshop Outcomes

This workshop aims to generate actionable insights on the role of AI in workplace distractions, balancing productivity and well-being. The following outcomes are expected: 1) **Forming a research community**: By bringing together researchers and practitioners from fields such as HCI, workplace productivity, cognitive psychology, and AI, we aim to foster discussions and collaborations on AI-driven attention management; 2) **Practical design guidelines for AI in the workplace**: We will compile a set of design principles for AI-driven productivity tools, emphasizing adaptive, user-centered approaches to attention management. These insights will be shared with researchers, designers, and industry professionals. 3) **Sharing insights**: We will summarize key takeaways from the workshop, including identified challenges, research questions, and strategies, and make these insights publicly available through

an online repository or a short position paper to guide future work in the field.

5   Call for Participation

We invite researchers and students interested in the use of AI tools in the workplace, worker well-being, and attention management in multitasking environments to participate in our workshop. The workshop will explore the intersection of productivity and well-being in AI-enabled work settings, offering opportunities to engage in discussions, collaborative design activities, and knowledge sharing. We will release the call for participation before February 27th, 2025. We will set-up our own website to provide detailed information and updates. Those interested in participating should submit a short statement of interest (up to 1000 words) summarizing their experience, research, or relevant projects. Applications should be submitted through the provided submission portal. Reviewers will assess the relevance of the submission to the workshop themes, the author's perspective, the approach taken, and the perspective on the themes. Materials and accepted submissions should be accessible to participants at least 1 week before the workshop day. At least one author from each accepted submission must attend the workshop and register for at least one day of the CHIWORK conference.

6   Organizers

Ambika Shahu is a PhD student and Univ.-Ass. at TU Wien's Artifact-Based Computing & User Research lab, focuses on enhancing user experiences with proactive digital systems through psychological frameworks. She combines qualitative and quantitative methods to assess user perceptions and the impact of technologies like VR and AR in vocational training, emphasising autonomy and proficiency. **Dinara Talypova** is a PhD student at Intelligent User Interfaces at IT:U Interdisciplinary Transformation University, Linz. Her research interests cover the topics of human attention and multitasking in the era of the ubiquitous digital world. She is interested in how intelligent technology can empower individuals and enhance human capabilities rather than just optimizing its own performance. **Alice Vitali** is a PhD student at Delft University of Technology, in the Industrial Design Engineering Faculty. Through her research she aims to explore the intersection of reading and HCI, with a focus on intelligent and immersive reading interfaces. **Charlotte Kobiella** is a PhD student at the Center for Digital Technology and Management (CDTM) and LMU Munich's Human-Centered Ubiquitous Media group. Her research examines cognitive augmentation in the era of GenAI. She currently focuses on how users adapt to and make sense of AI assistants beyond just productivity metrics. **Tilman Dingler** is an Associate Professor at Delft University of Technology. In his research, he investigates cognition-aware systems, i.e., systems that sense, moderate, and adapt to users' cognitive states. Tilman designs and builds technologies that support users' information-processing capabilities. **Philipp Wintersberger** is a Professor at IT:U Interdisciplinary Transformation University, Linz. His research addresses human-machine cooperation in safety-critical AI-driven systems. He is a member of the ACM AutomotiveUI steering committee and has contributed to HCI conferences in various roles in the past.

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