WebMoti-Employ: Real-Time Interview Support for Neurodiverse Job Seekers

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ABSTRACT

Virtual interviews can create barriers for neurodiverse job seekers when performance depends on timing, social expectations, and unclear interaction cues. WebMoti-Employ is a real-time virtual interview support system that provides low-load feedback during mock virtual job interviews through AI-generated hints, gaze-based emoticon feedback, timer feedback, and filler-word feedback. This research reports preliminary findings from a study with 14 neurodiverse job seekers who completed a virtual mock interview using the system. Results indicated good perceived usability on the System Usability Scale (M = 71.61, SD = 16.66) and low overall workload on NASA-TLX (M = 4.92, SD = 3.58), after reverse-scoring Performance. Participant feedback suggested that the system supported focus and response awareness, while also identifying issues regarding clarifying feedback meaning and reducing visual distraction. These findings may inform the design of virtual interview systems that can support neurodiverse job seekers during high-pressure hiring interactions.

CCS CONCEPTS

• Human-centered computing → Accessibility → Accessibility systems and tools. • Human-centered computing → Human computer interaction (HCI) → Empirical studies in HCI • Human-centered computing → Human computer interaction (HCI) → HCI design and evaluation methods → User studies • Computing methodologies → Artificial intelligence

KEYWORDS

Neurodiversity, Inclusive Design, Virtual Interviews, AI

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1 INTRODUCTION

Neurodiversity describes the variation in how people communicate, process information, regulate attention, and respond to social situations [3]. In hiring contexts, candidates may be assessed through fast verbal responses and implicit social expectations that do not always reflect job-relevant ability [4]. This can affect neurodiverse candidates when interview performance is interpreted through expected behaviours rather than through the skills required for the role [4].

Research on real-time feedback suggests that live cues can support users during performance tasks when the information is brief, limited, and easy to interpret [5]. Eye-tracking in interview settings suggests gaze data can help identify where users direct their visual attention during virtual interviews [6]. However, these areas do not fully address how a virtual interview system might provide low-load support during the interview itself [5].

WebMoti-Employ was developed to examine this design problem through development and evaluation of a virtual interview system that provides real-time feedback during an interview. The research questions are: (1) What impact does real-time interface feedback have on the interview performance of neurodiverse interviewees? and (2) How does WebMoti-Employ affect the perceived usability and usefulness of virtual interviews for neurodiverse job seekers? The paper reports preliminary findings from 14 neurodiverse users, focusing on usability, workload, and participant feedback following a mock interview using the system.

2 WEBMOTI-EMPLOY SYSTEM AND STUDY DESIGN

WebMoti-Employ uses a computer with an eye tracker and a custom-built video-call interface [Figure 1]. During the mock interview, the interface provides four forms of feedback: (A) emoticon feedback to indicate if gaze toward the interviewer is occurring, (B) a count-up timer indicating response length (in seconds), (C) two one-word AI-generated hints based on the interview question, and (D) feedback when repeated filler words are being used.

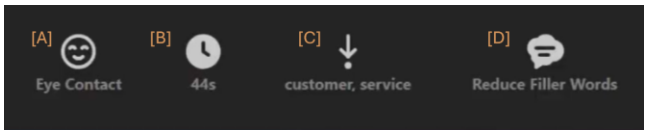

Figure 1: [A] Eye gaze feedback, [B] Count-up Timer, [C] AI hints, and [D] Filler-word feedback

This study was approved by TMU's REB. Fourteen neurodiverse participants were recruited. Participants completed a one-hour in-person session that included consent confirmation, pre-study questionnaire, system orientation, eye-tracking calibration, one 15-minute mock virtual interview, a post-study questionnaire, and a brief semi-structured interview. The mock interview used general interview questions and did not involve real hiring decisions. Participants selected either a helpdesk or government clerk interview scenario, and no job-specific knowledge was required.

Post-study measures included the System Usability Scale (SUS), which was used to assess perceived usability [1], and the NASA Task Load Index (NASA-TLX), which was used to assess perceived workload [2]. Open-ended responses and semi-structured interview feedback were used to contextualize participants' experience with the timer, AI hints, emoticon feedback, and filler-word feedback.

3 RESULTS AND DISCUSSION

Post-study SUS scores indicated "good" perceived usability (M = 71.61, SD = 16.66). NASA-TLX results showed an overall workload score of M = 4.92 (SD = 3.58), which falls within the low workload range used in this study. The Performance item was reverse-scored so that higher values consistently indicated greater workload across all NASA-TLX dimensions. After reverse-scoring, Mental Demand was the only dimension rated in the medium range (M = 7.85, SD = 6.58). Physical Demand (M = 2.00, SD = 2.89), Temporal Demand (M = 5.67, SD = 4.21), Performance (M = 4.14, SD = 4.29), Effort (M = 6.14, SD = 5.38), and Frustration (M = 6.25, SD = 6.15) all rated low range.

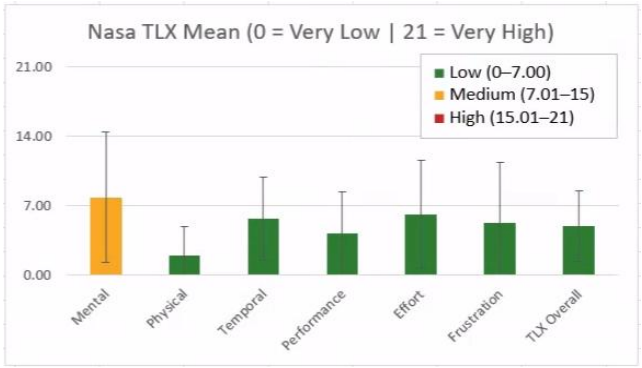

Figure 2: NASA-TLX Mean (Per Question & Overall)

Open-ended responses collected during the post study questionnaire helped contextualize these findings. Some participants described the system as direct and usable, including one who wrote that it was "easy to use, easy to comprehend and quick and effective" (P47515). Participant feedback suggested that some users experienced the system as supportive, with one participant stating that it "allowed me to remain focused" (P47518). The low Performance score suggests performance was not a major workload concern. Participants also identified issues to address with one participant reporting that "Too many icons popping up at the top" were "slightly distracting" (P34255), while another suggested that the timer would be clearer if expectations about response length were explained "The timer may have been more effective if I knew what the timing was relative to" (P52453). Overall, the preliminary findings suggest that WebMoti-Employ was perceived as usable and produced low workload, while future iterations should clarify feedback meaning and reduce visual competition during the interview.

4 CONCLUSION

WebMoti-Employ provides an initial prototype of a real-time interview support designed for neurodiverse job seekers. In this study, participants rated the system as usable and reported workload levels that were generally low; however, mental demand was the only workload in the medium range, suggesting that future versions should provide clearer system explanation and feedback meaning. These findings suggest that real-time feedback may support attention, pacing, and response awareness during virtual interviews when feedback is brief and clearly presented. Future work will refine how feedback is displayed and examine whether the system supports interview performance across a larger participant sample.

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