

Big Sistah

Quantifying the wellbeing of multilingual remote workers in real-time



Codice	2022EYX28N
Duration	24 months
Main ERC field	SH - Social Sciences and Humanities
ERC subfields	SH3_13 <i>Digital social research</i> SH3_12 <i>Communication and information, networks, media</i> SH3_08 <i>Social policies, welfare, work and employment</i>
Keywords	information society; remote working; multilingualism; wellbeing; work and organization psychology; data analysis techniques;

Brief description of the proposal

Big Sistah aims to create and combine indicators for real-time monitoring *remote workers' (RWs)* activities at their PCs to study their (1) profiles, (2) emerging working habits, (3) mental fatigue, stress, and motivation (through attentional changes), and (4) their impact on their efficiency (e.g., multitasking), efficacy (e.g., expertise levels), and productivity.

RWs' wellbeing has been mainly studied with competing survey methods and introspective indicators, yielding scattered, hardly comparable results. Work psychology, HCI, usability, writing process studies have developed some new indicators to study RWs, but current research efforts rarely triangulate data to reliably derive new knowledge—especially from the scope of the RWs' wellbeing.

Thus, the ongoing labor revolution towards remote working is mostly based on trial and error, often with mixed results. New consulting start-ups provide companies with guidance to switch to remote working, but they tend to focus on the control of the employees and their productivity, and they generally disregard the deep changes in the RW's ways and in work setups.

The landslide shift to remote working setups, due to the pandemic, crucially opens many unique opportunities. From a labor welfare perspective, it lets us study emerging behaviors in RWs common to many job profiles, from healthcare providers to white collar civil servants. RWs add human value (e.g., expert analysis and decision making) to intensive information-processing tasks through HCI, often in multilingual settings. In 2022, more than 50% of the world's population is using the Internet ca. 7 hours a day—so, not only for leisure—and they reach contents in other languages daily. Gist machine translation is now part of people's everyday lives.

Current tools to measure new indicators are often proprietary software, mainly for RWs' surveillance. Open-source prototypes are too generic, and combining them leads to clunky, unrealistic, and unreliable settings and results. Furthermore, social research inspired by situated cognition, like Big Sistah, demands non-invasive methods to access RWs' performance in their natural work environments and with full respect to their privacy.

A key contribution of our project is to develop the technology to seamlessly collect data at runtime, to empower the scientific community with an open-source, interdisciplinary research toolbox to collect and measure RW's data in real time. The software will be made available as an open platform, for many disciplines to use and enrich with further indicators, now with a common base. Big Sistah aims to become the standard to support labor guidelines and best practice recommendations to ensure that economical viability is not reached against citizens' welfare.

Basic BigSistah research workplan

Task 1: Developing modules for surveys and language and cognitive and work welfare tests to profile informants (5 months)

- 1.1. Choosing and implementing appropriate tests to profile multilingual workers' cognitive abilities (WM, attention, flexibility, task switching, etc) **(10 weeks)**
 - 1.2. Choosing and implementing appropriate tests to profile multilingual workers' language command **(4 weeks)**
 - 1.3. Testing 1.1, and 1.2 **(4 weeks)**
- buffer time **(2 weeks)**

Task 2: Developing informed consent protocols and documents to be implemented in Big Sistah (1 month)

Task 3: Testing the Big Sistah applications (6 months)

- 3.1. Testing BigCollect for oral communication **(3 weeks)**
 - 3.2. Testing BigCollect for written communication **(3 weeks)**
 - 3.3. Testing task replay/data collection in BigCollect for cued retrospection **(3 weeks)**
 - 3.4. Testing BigInspect for manual tagging/annotation **(3 weeks)**
 - 3.5. Testing BigInspect for alignment **(3 weeks)**
 - 3.6. Testing BigInspect for oral communication **(3 weeks)**
 - 3.7. Testing BigInspect for written communication **(3 weeks)**
- buffer time: **3 weeks**

Nota bene

1. Work to be done in presence at the Forli office (Italy).
2. English B2 is a must, Italian not required but very welcome. Other languages welcome as well.
3. Rough time estimates do not include weekly supervision and team meetings. Unless needed for other tasks, buffer time will be devoted to writing the documentation.