Investigating the impact of hotkey feedforward systems on memorization, retention and transfer

**Duration:** 6 months

**Teams:** Loki (Inria Lille - Nord Europe & CRISTAL) & HCI Sorbonne (Sorbonne University, CNRS, ISIR)

**Supervisors:** Sylvain Malacria (sylvain.malacria@inria.fr), Gilles Bailly (gilles.bailly@upmc.fr)

**Location:** Sorbonne Université (Paris) or Inria Lille - Nord Europe (Villeneuve d’Ascq)

The project consists in designing and running user experiments comparing the impact of hotkey feedforward systems on hotkey memorization, retention and transfer.

**Description**

Hotkeys, also called keyboard shortcuts or accelerators, offer a shortcut alternative to pointer-based selection of commands from toolbars and menus. Hotkeys allow a wide range of commands each to be selected with a single key combination. However, users have to memorize the key combination beforehand in order to be able to use it.

In order to alleviate this problems, various *feedforward* mechanisms [1,2,3] have been proposed in the literature so users can browse hotkeys using the keyboard and select them without having to memorize the corresponding key combination beforehand. However, this is unclear how these different mechanisms compare to each other and whether users tend to “over rely” on them at the cost of hotkey memorization.

**Objectives**

The candidate work will consist in:

- Studying related work on hotkey command selection and memorization.
- Develop an experimental platform implementing major hotkey feedforward mechanisms from the literature.
- Designing, implementing and conducting a user study investigating the performance of these various hotkey feedforward mechanisms in order to assess their impact on hotkey memorization, retention and transfer.

**Candidate**

A successful candidate must be MSc student in computer science or equivalent, and show a great interest in performing high quality research in Human-Computer Interaction. He or she must speak and write English fluently, and experience or strong interest in software development. Creativity, independence, team working and communication skills are valuable advantages.

**Environment**

This project is in collaboration with Gilles Bailly from the ISIR Laboratory. The internship can take place either in the Loki research group, based in the Inria — Lille Nord Europe research centre at Villeneuve d’Ascq, or in the HCI Group of the ISIR, based in the Université Pierre et Marie Curie in Paris. Regardless of its location, the internship will be co-supervised by both Sylvain Malacria and Gilles Bailly.
References