

Designing Collaborative Spreadsheets

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Keywords

HCI; CSCW; Document Analysis

Description

Online spreadsheets such as Google Spreadsheets are very popular for collaborative information collection. These systems give each user the same permissions on all the cells of the document (a *global* permission). However, imagine a use case where we collect course grades for students from professors: we want that every student can see only their own grades (and not the grades of the other students), and we want every professor modify only the grades of their own courses (and not the grades of other courses). That is: we want *local* permissions, where some users can read some cells and modify some cells, but not all cells.

The goal of this internship is to explore how to interact with a collaborative spreadsheet supporting these local permissions: e.g., some cells can be edited, some rows can only be viewed, some columns are masked, etc.

The student will design, implement, and evaluate novel interaction and visualization techniques to deal with different local permissions in collaborative spreadsheets. The mechanisms should scale from a dozen to hundreds of users (e.g., a same spreadsheet is used by students, professors and administrative persons).

The internship may last from 4 to 6 months and could serve as the foundation for a Phd thesis.

Required skills

- Basic knowledge about HCI
- Programming skills (e.g. Javascript)

Context

The intern can be hosted at Telecom Paris (Saclay) or Sorbonne Université (Paris).

References

[Perelman, G., Serrano, M., Bortolaso, C., Picard, C., Derras, M., Dubois, E. \(2019\). Combining Tablets with Smartphones for Data Analytics. In: Lamas, D., Loizides, F., Nacke, L., Petrie, H., Winckler, M., Zaphiris, P. \(eds\) Human-Computer Interaction – INTERACT 2019. INTERACT 2019. Lecture Notes in Computer Science\(\), vol 11749.](#)

[V. Cavez, C. Appert, E. Pietriga, Spreadsheets on Interactive Surfaces: Breaking through the Grid with the Pen, ACM Transactions on Computer-Human Interactions \(ToCHI\), 33 pages, 2023](#)