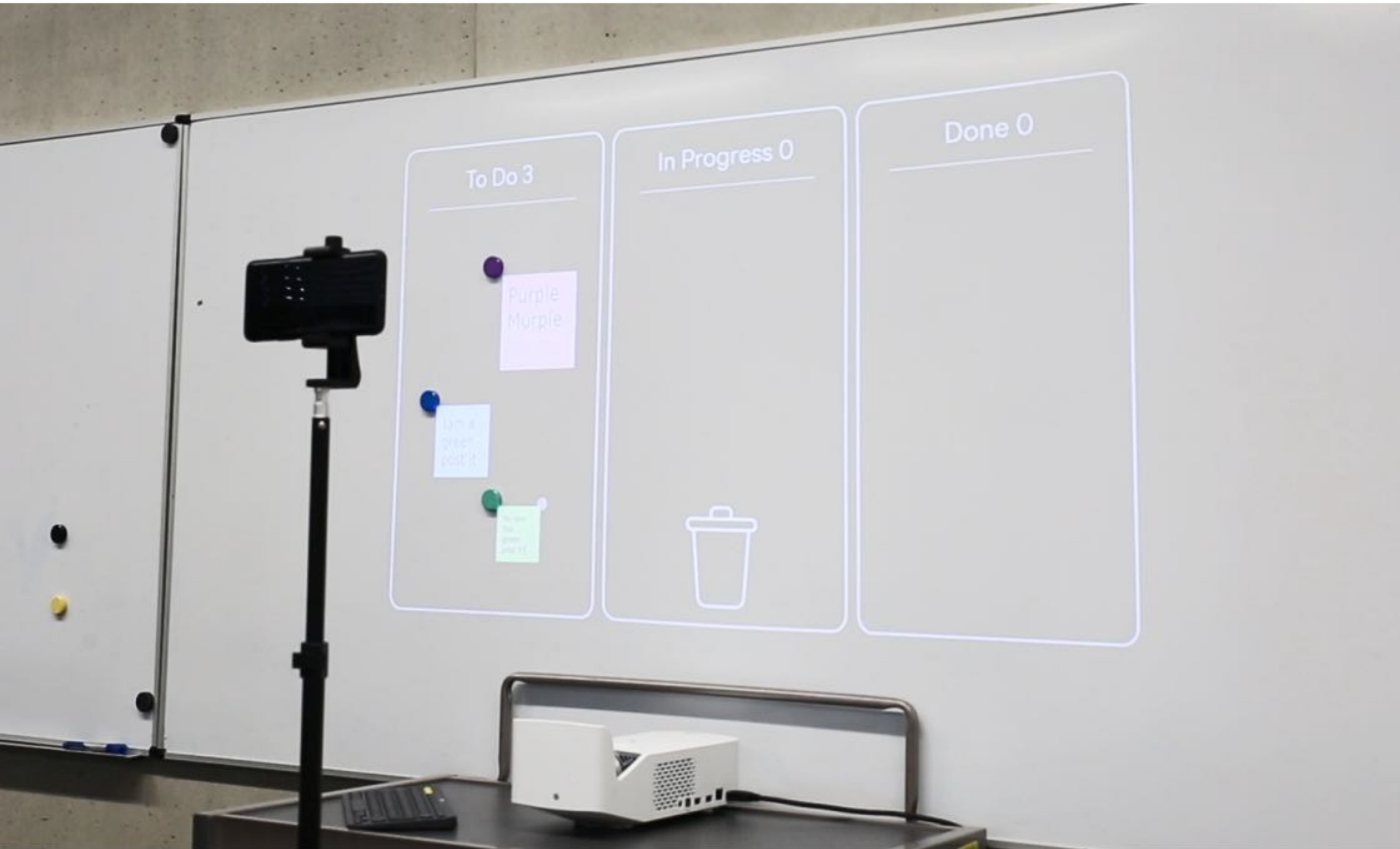


Tangible Kanban Board

Extending the possibilities
of a taskboard with digital tools

Winter Semester 21/22
Interaction Engineering | Prof. Dr. Michael Kipp
Augsburg University of Applied Sciences



Idea

To create a taskboard that is both a digital and tangible experience

color tracking

interactive notes

magnets as tangibles

projected canvas



Motivation



EXPLORE TANGIBLE POSSIBILITIES

How can we expand the possibilities of a regular task board?



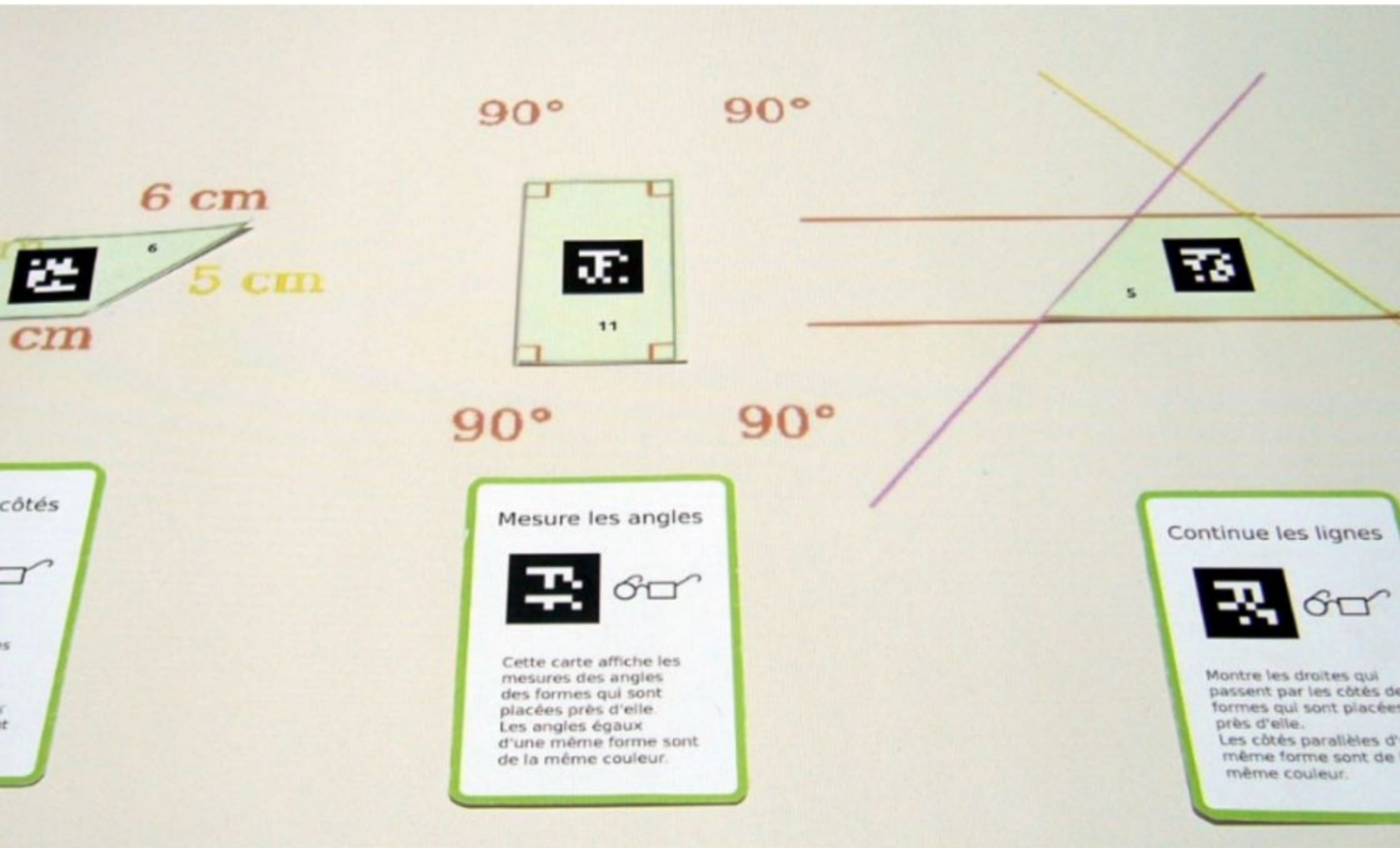
COMBINE ADVANTAGES

Digital format allows later processing (sending, storage, etc.)



RESOLVE PROBLEMS

Real board is not editable and gets crowded easily



Related Work

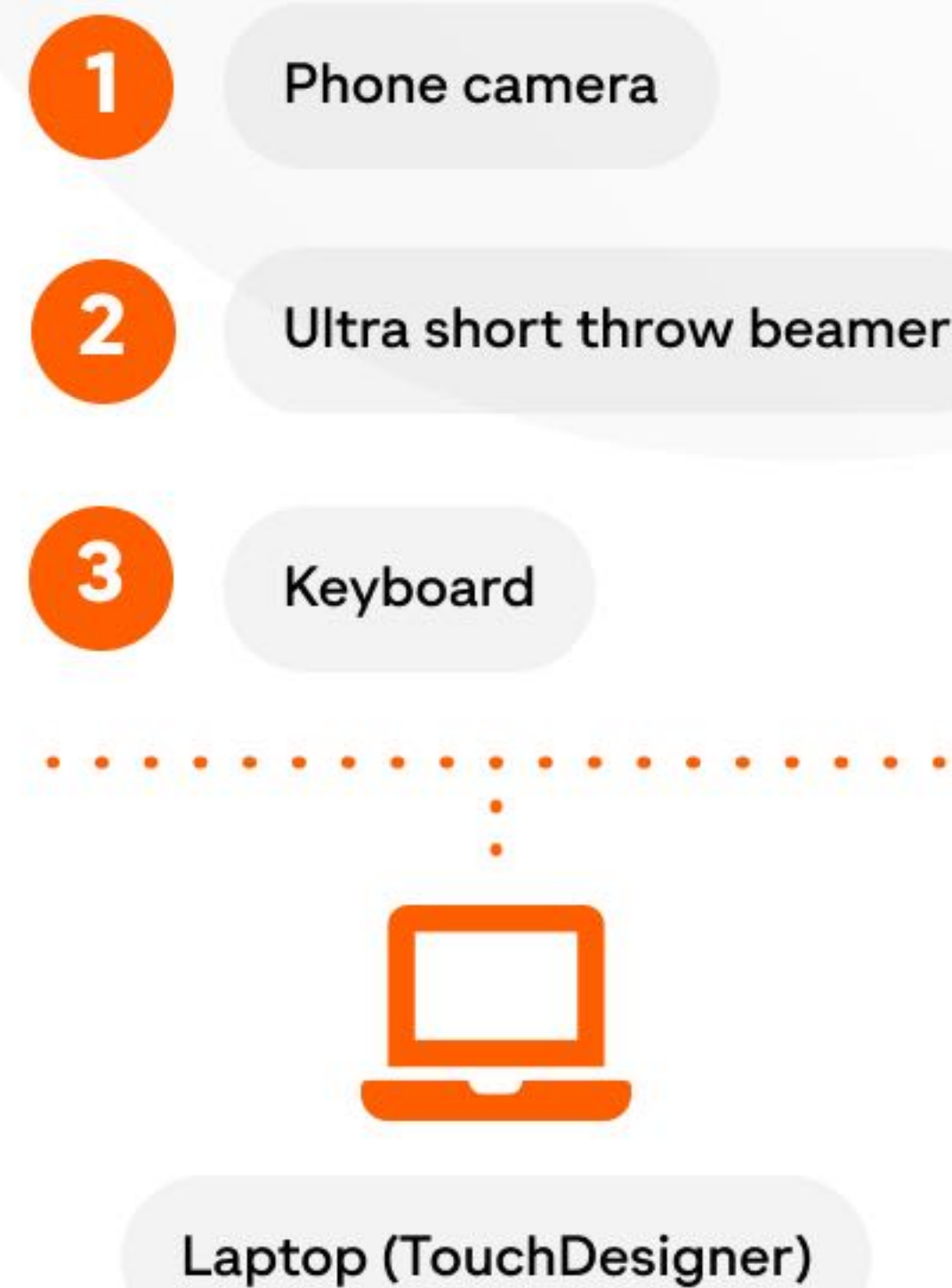
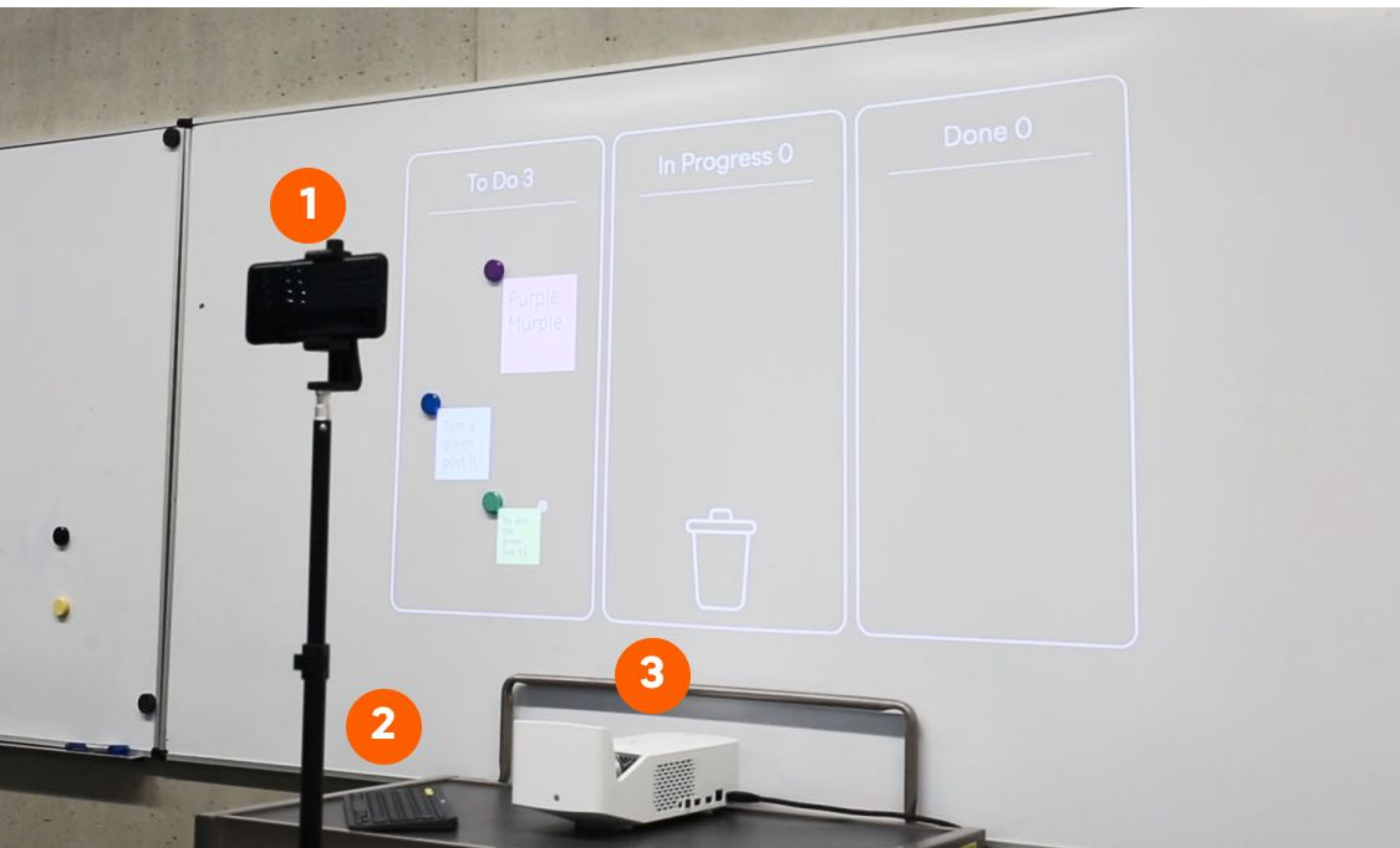
Tangible Paper
Interfaces: Interpreting
Pupils' Manipulations

2012

Bonnard, Jermann, Legge, Kaplan, Dillenbourg



Tangible Kanban Board





Functionality

SCALING



EDITING



ERASING

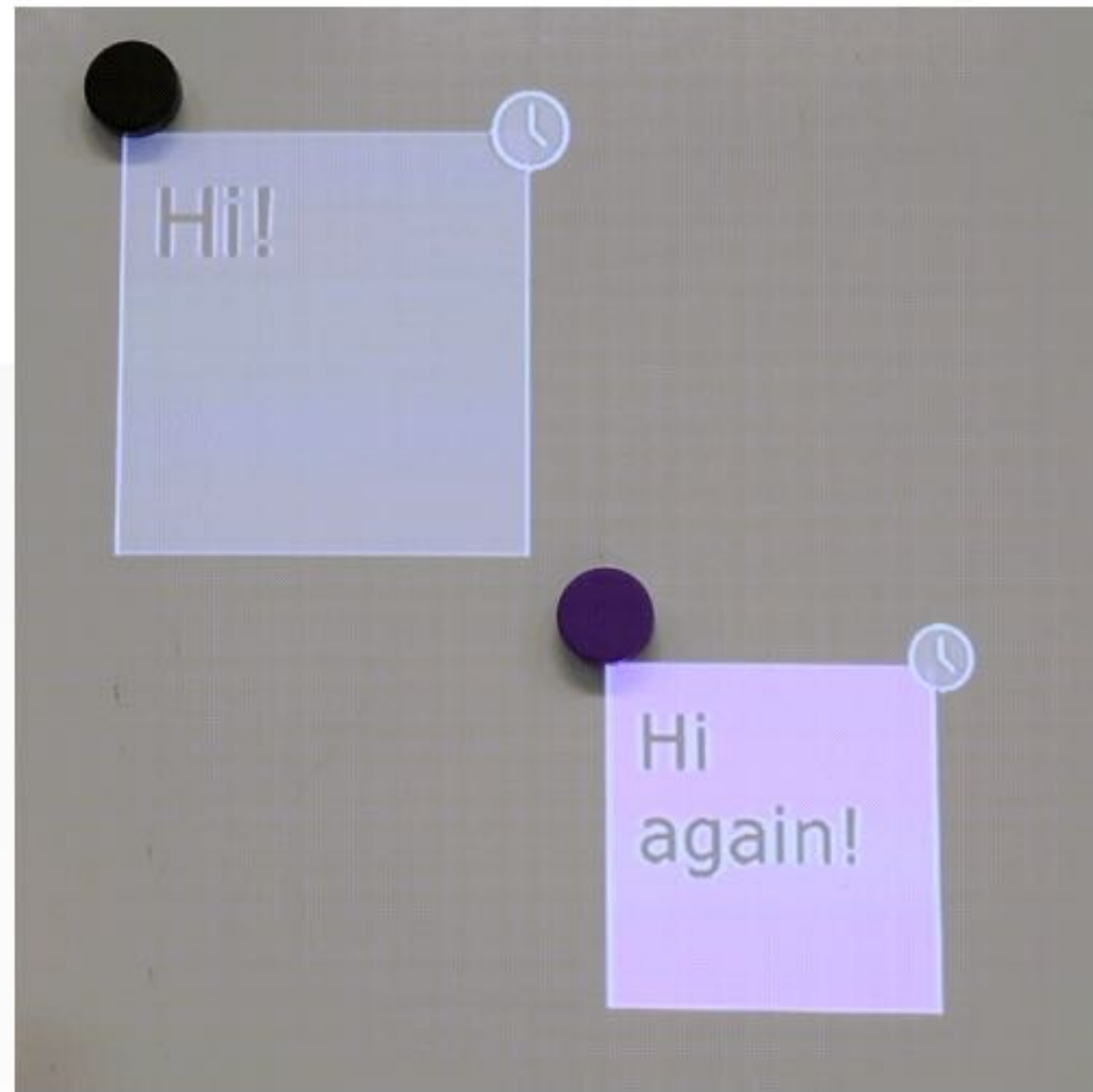




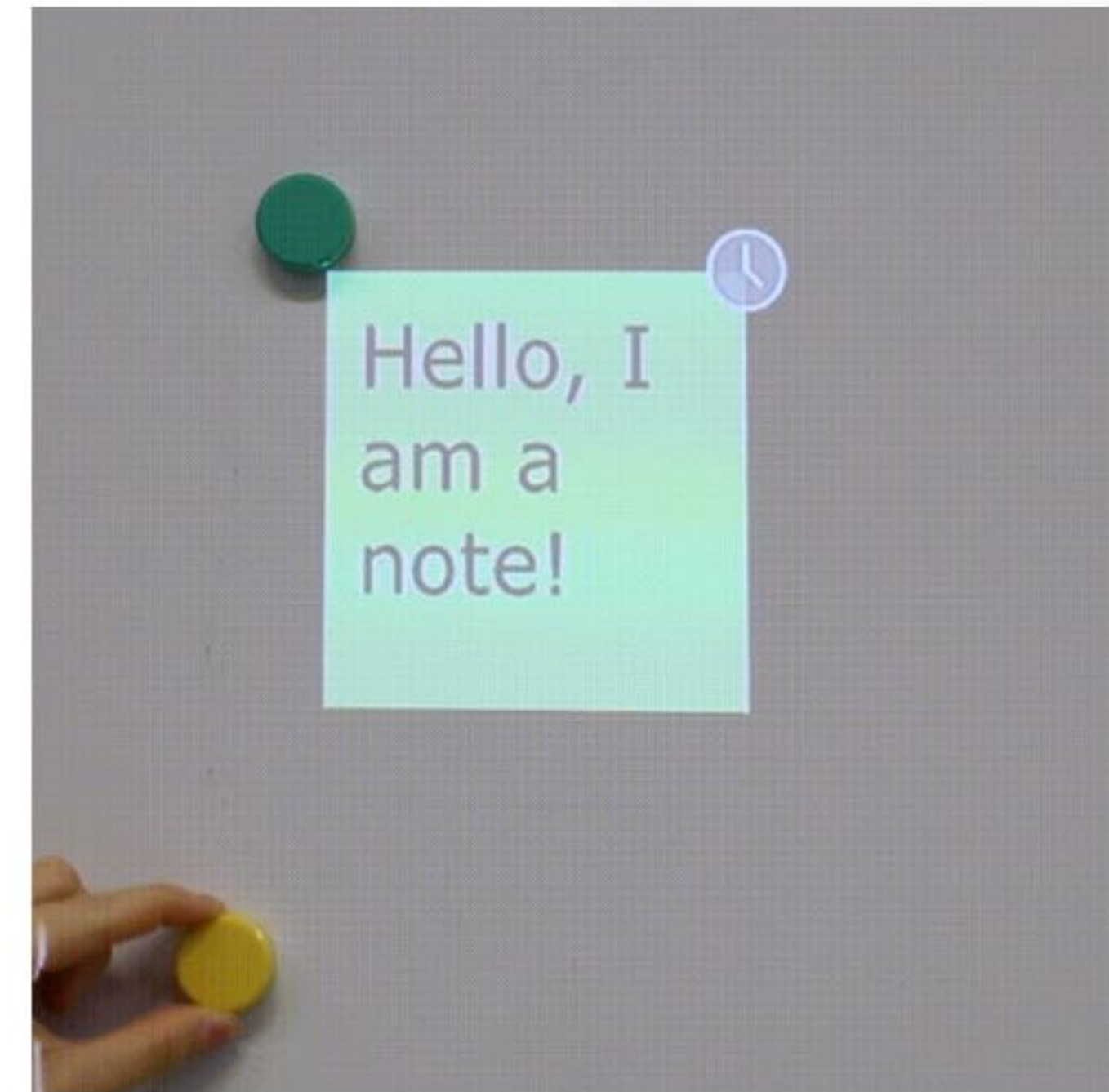
Comparing techniques: scaling



Moving the notes up and down



Scaling with an extra magnet

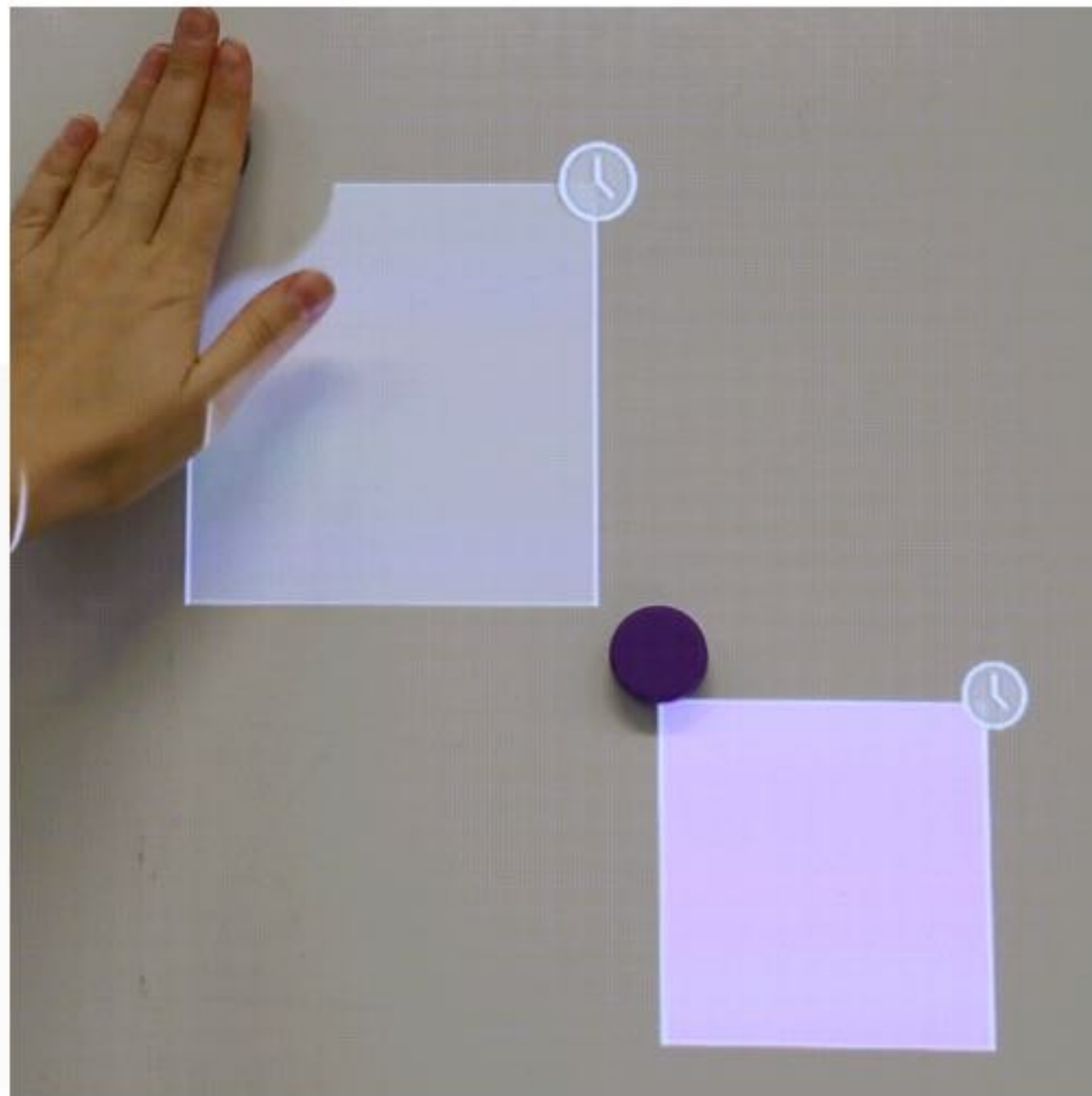




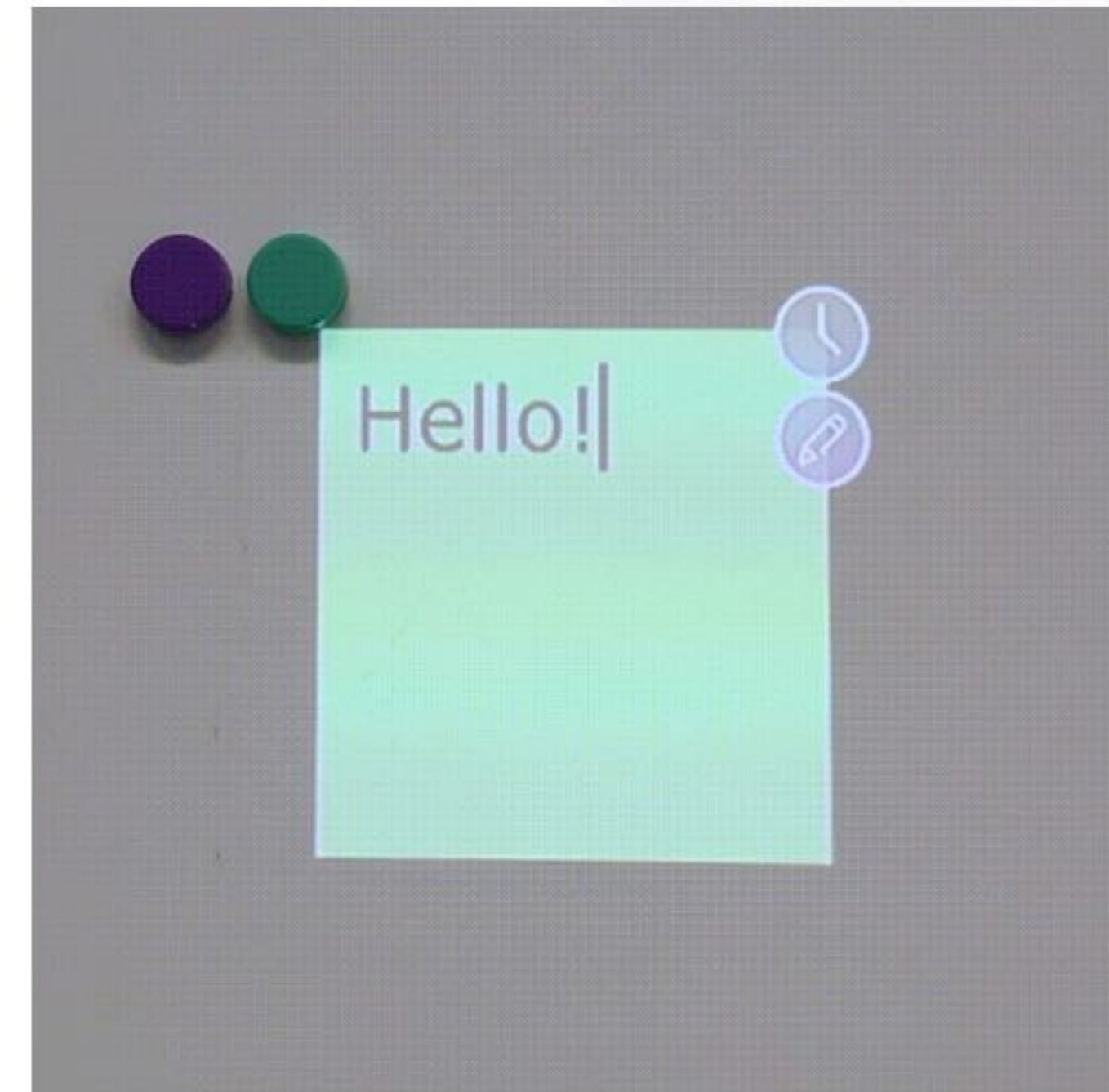
Comparing techniques: editing



Editing with a tap



Editing with an extra magnet

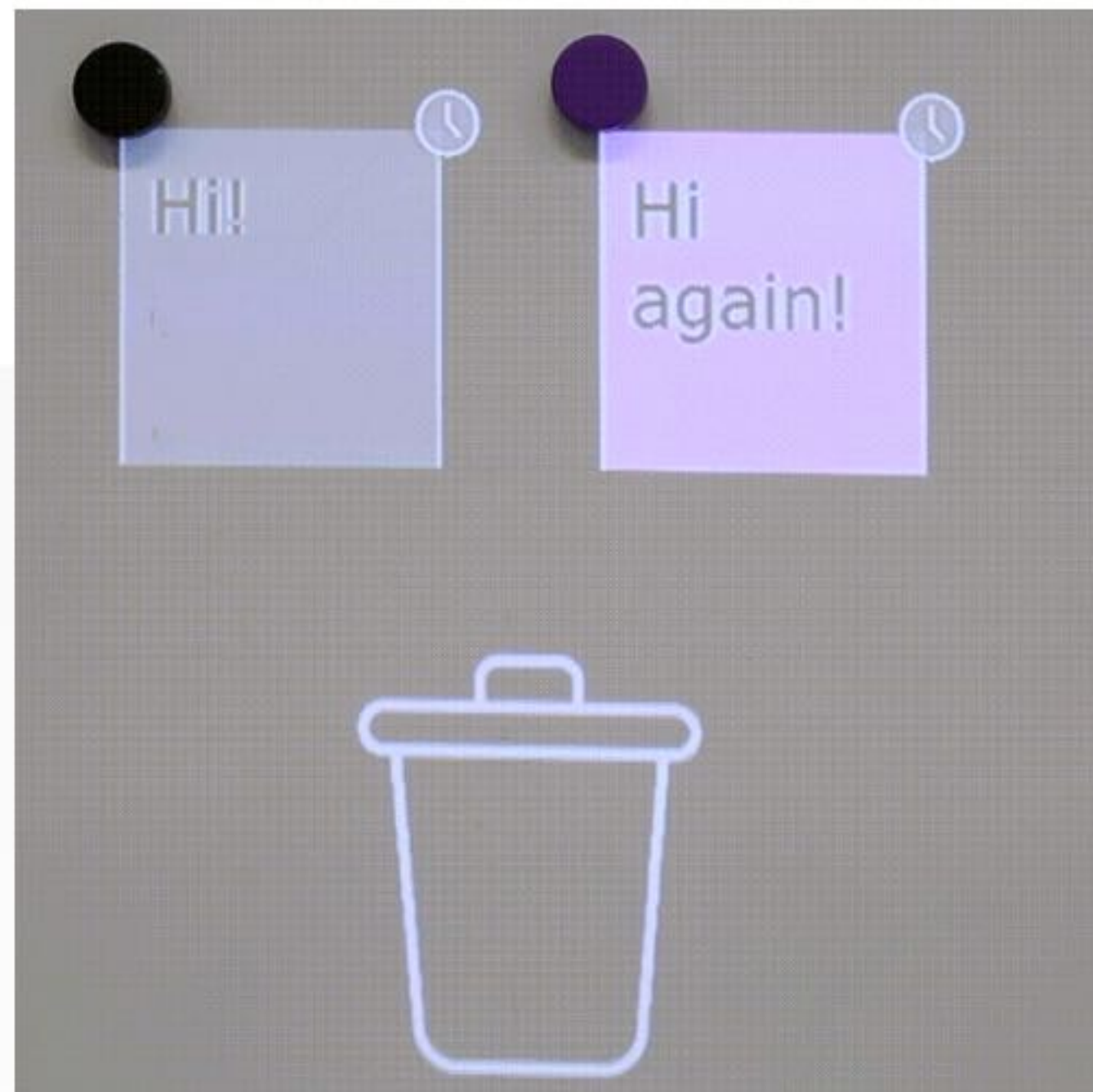




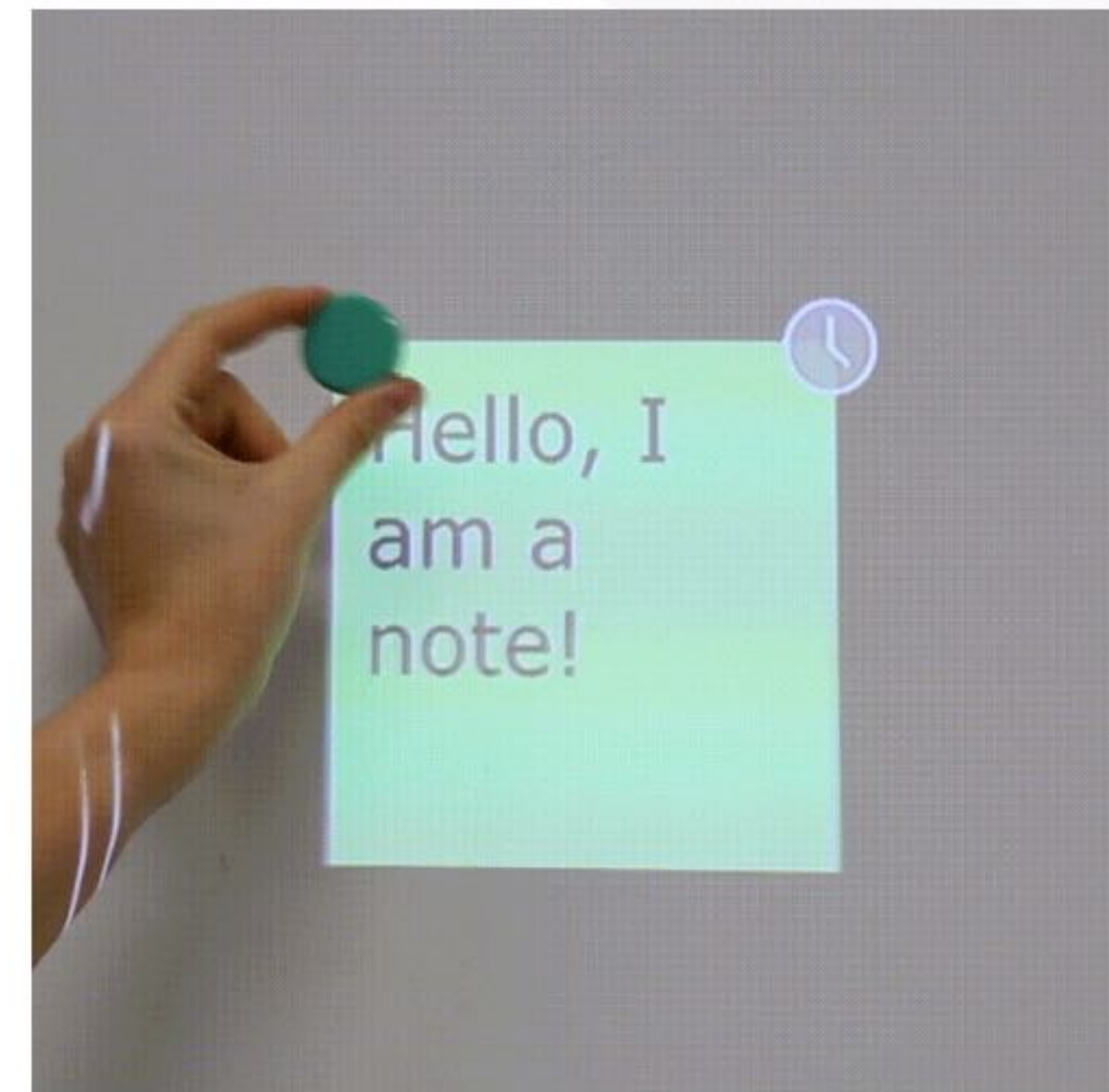
Comparing techniques: erasing



Erasing with a trashbin



Erasing with shaking the note





User study design



11
PARTICIPANTS

23-31
Age



~70%

No experience with
tangible interfaces
or Kanban boards



Survey

Preference in scaling

Preference in editing

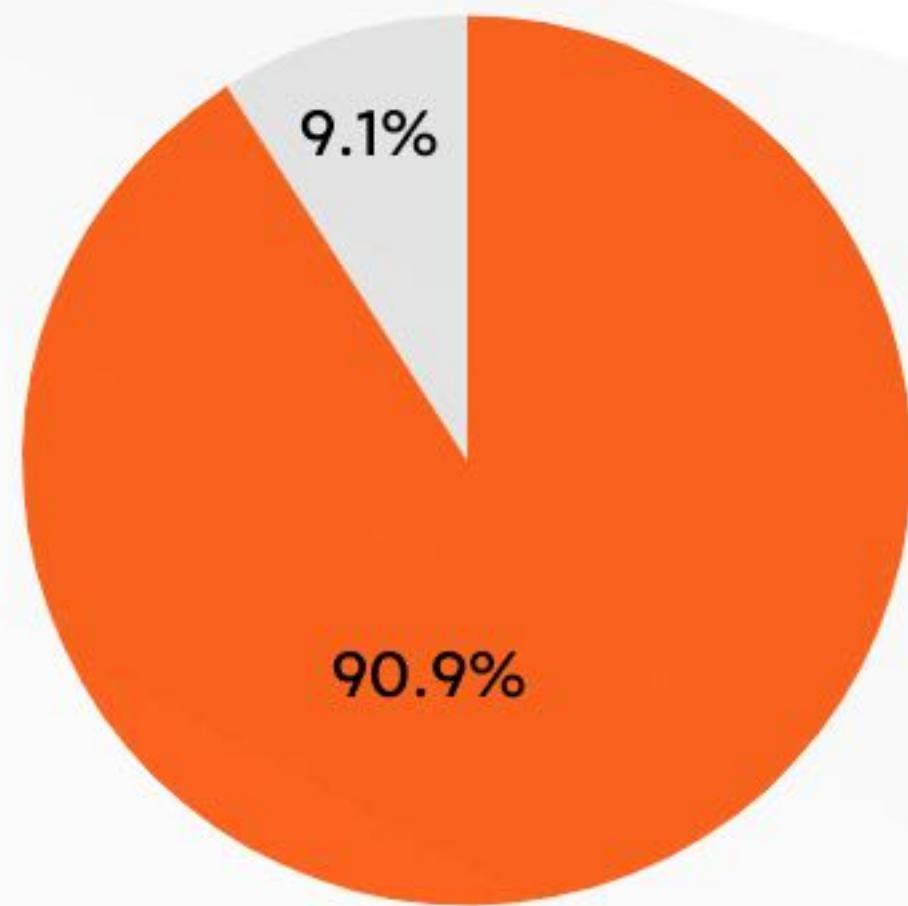
Preference in erasing

Overall satisfaction with the board

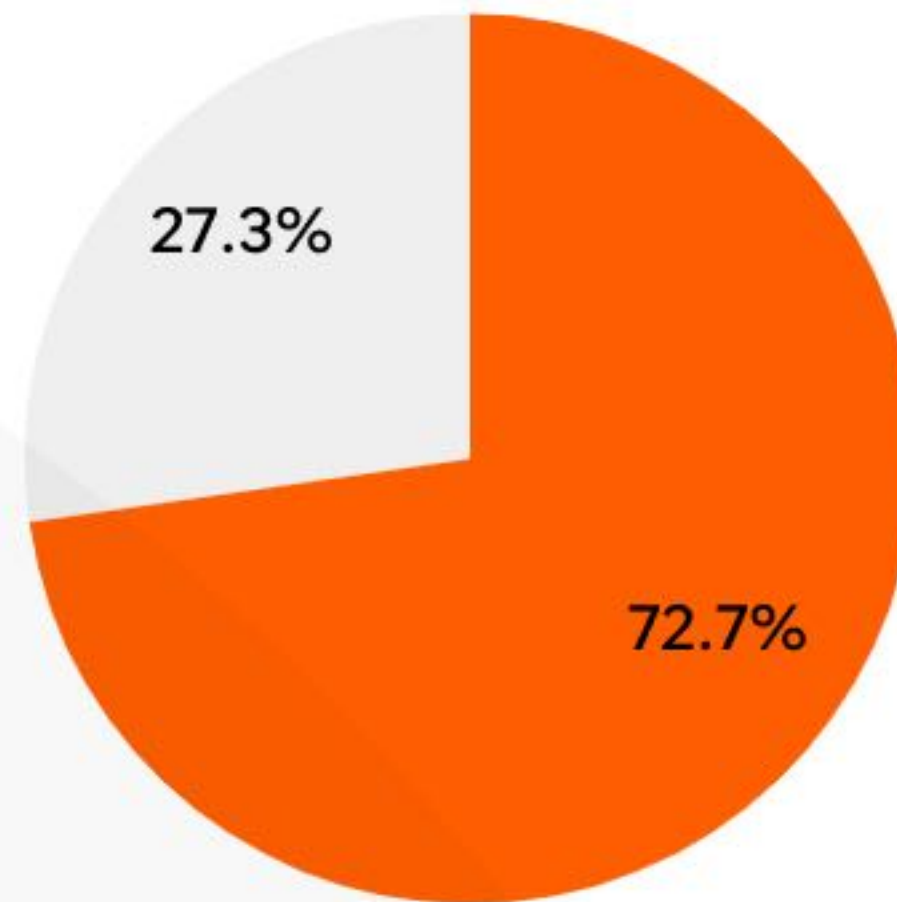


User study results

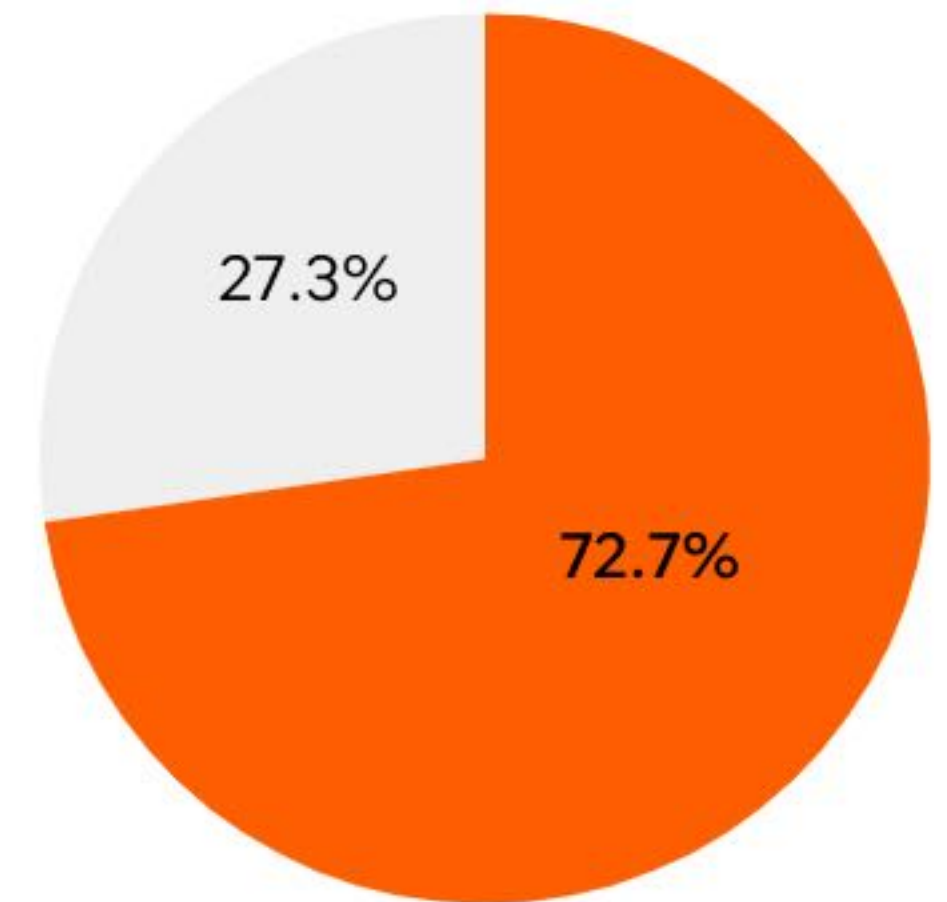
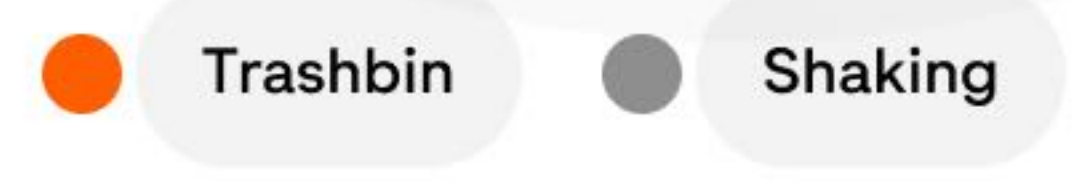
Scaling



Editing



Erasing





Conclusion

Users prefer less additional magnets

Deleting with a trashbin is conventional and intuitive

Shaking was unstable, which affected the choice

Most people would use the interactive board as an addition



Mean experience rating

fun

innovative

unconventional

fast



Furure Work

Try alternative techniques to color tracking

Explore alternatives to projection to avoid occlusion

Possible mirroring of the content to the web client



Thank you for your attention!
We will be happy to answer questions about our project!