

Towards Making Graphical User Interface Palettes Tangible

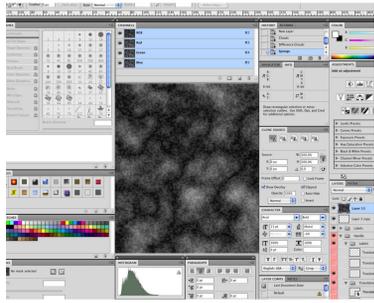
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ACM ITS
2010

Motivation

Today's graphics editing programs, such as Adobe Photoshop or GIMP, are often crammed with an enormous set of features that is typically organized in graphical user interface (GUI) tool palettes, i.e., separate windows which overlay all regular windows.

Due to the wide spectrum of available features – e.g., *layer handling, system control, selection management, zooming and panning, brush and color selection, slicing, transformation, etc.* – a variety of tool palettes need to be displayed on the screen simultaneously. Therefore, valuable display space is often cluttered with UI-elements. In order to cope with the limited display resources, users have to spend too much time with organizing and rearranging UI-palettes, instead of just focusing on their actual task at hand.



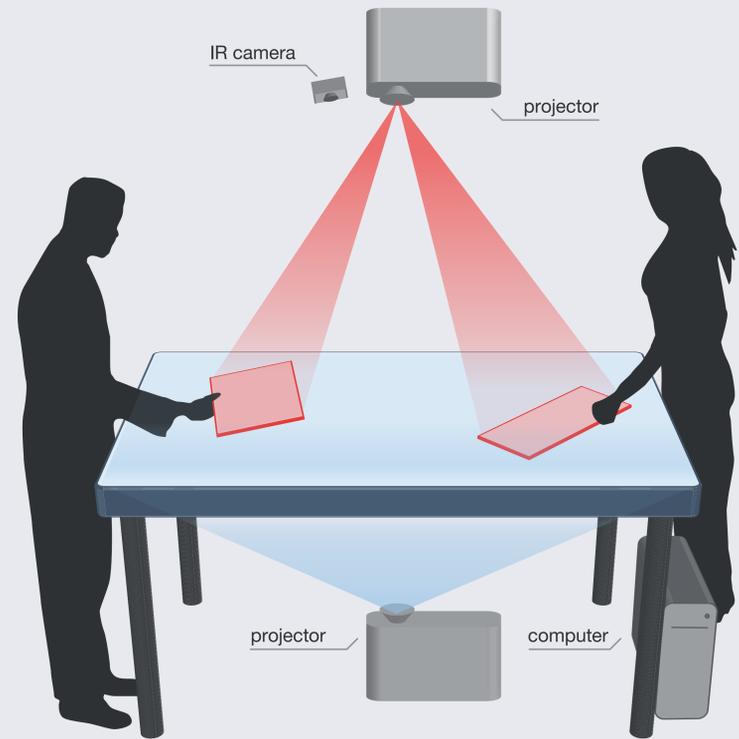
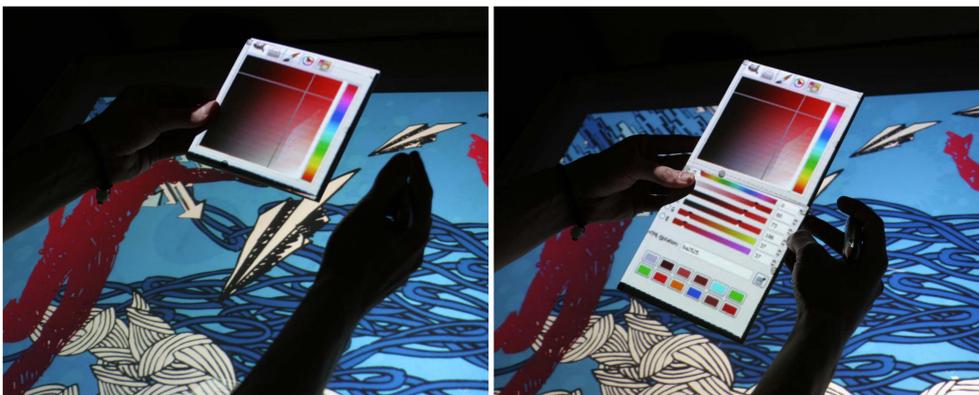
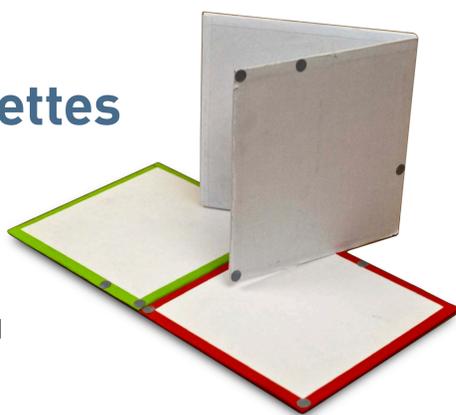
+ Tangible User Interface Palette

With **TANGIBLE USER INTERFACE PALETTES (TUIP)**, we extend the display space of a tabletop by additional paper-like displays. By allowing users to freely transfer arbitrary GUI elements between a tabletop and mobile displays, GUI and application content are physically separated.



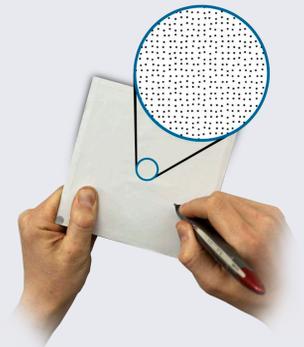
+ Foldable GUI palettes

Additional screen space is provided by allowing users to fold or unfold tangible palettes. This space can be used to display more GUI elements, e.g., a more sophisticated color selection tool, if required.



Technical Setup

We follow the technical approach of PaperLens that enables us to project arbitrary (distortion-corrected) image content onto paper-like mobile displays by using a ceiling-mounted projector and an optical infrared (IR) marker-based tracking. We enriched this technical setup with Anoto technology that allows us to use digital pens on both mobile lenses and the tabletop.



+ Tangible Browser

A collection of symbols, textures, icons, etc. can be explored by using the palette's physical position.



+ Tangible Local Views

Users can link a portion of the main image document (tabletop) to their own personal tangible user interface palette.

