
Canvas Presentations in the Wild

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Abstract

Most presentation software uses the slide deck metaphor to create visual presentation support. Recently, canvas presentation tools such as Fly or Prezi have instead begun to use a zoomable free-form canvas to arrange information. The effect of this change in format on the authoring process of presentations has been investigated previously in a formal lab study. We have now examined the evolving patterns of usage in publicly available canvas presentations and found that the benefits of this format that have been demonstrated in the lab setting also can be observed in real life presentations. This confirms the potential of canvas based tools to help authors improve the quality of their presentation visuals.

Keywords

Canvas presentations; ZUIs; authoring; study

ACM Classification Keywords

H.5.2 [Information Interfaces and Presentation (e.g., HCI)]: User Interfaces—Graphical User Interfaces (GUI)

Introduction

Slide-based visual presentation support, such as Microsoft's PowerPoint or Apple's Keynote, is prevalent when looking at talks in research, industry, education, government, and many other areas. But, this format has been criticized repeatedly for the limitations it imposes on authors and presenters [6,8].

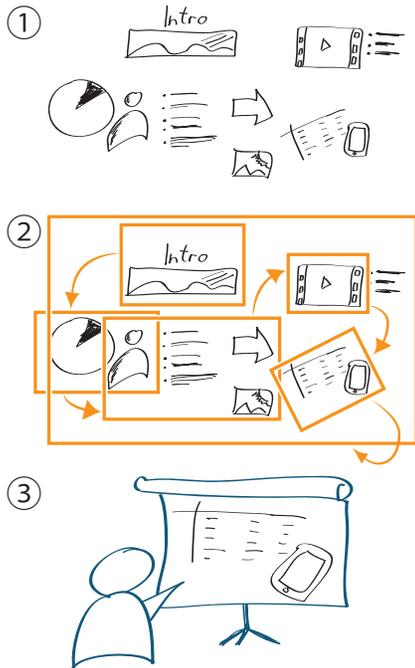


Figure 1. A workflow of authoring canvas presentations. (1) The author arranges content in a spatial way. (2) She adds a series of viewports over the canvas that form the presentation sequence. Varying zoom depths show different amounts of content at once. (3) A viewport during presentation delivery.

Among the attempts to mitigate the problems of slideware are *canvas presentations*, e.g., Prezi¹, which dismiss the slide metaphor in parts or entirely. Instead, presentation authors place either the slides [2] or their individual elements [4,5] on an infinite canvas. They then define viewports and transition paths across the canvas to create the presentation sequence. In this paper, we present the results of a case study [3], in which we investigated publicly available canvas presentations. Our goal was to analyze how authors use these new tools and handle their capabilities in creating presentation documents for their own demands.

Authoring a Canvas Presentation

While early zoomable user interfaces [1] were also used in talks occasionally, several tools have been designed specifically with presentation support in mind [2,4,5]. CounterPoint [2] broke new ground by allowing the author to position PowerPoint slides inside a zoomable user interface. These slides are placed at varying distances from a virtual camera, thus creating a spatial layout that in itself reflects the macrostructure of the talk. Overviews can be created easily by zooming out and presenting the slide arrangement as a whole to the audience. This model was also adopted by pptPlex².

Fly [5] and Prezi completely abandoned the slide metaphor, letting authors put content elements (text, figures, etc.) directly on a canvas (fig. 1). Thus, the contents are no longer bound to the slide frame, and do not need to be split into fixed-size chunks. A presentation is defined as a path across the planar canvas with path stops that show views of the canvas. In Prezi, viewports are associated with either a content or a frame element and can be rotated.

Two studies [5] examined the process of authoring canvas presentations with Fly compared to using the traditional slide deck format. They showed that the resulting Fly documents tended to be more diversified and better represented the structure of connected topics. In contrast to slides, where authors have to map their content to a linear sequence of equally-sized chunks, the canvas method makes it easier to present complex topics that have more than one logical dimension or are highly interconnected [2,5]. Authors also embraced the possibilities of the non-linear layout of information and expressed a clear preference for canvas layouts. We are validating these results by investigating how authors use these new canvas tools in everyday practice.

Study Method

We examined a pool of Prezi documents to see how authors use a canvas-based presentation format for real world tasks. With Prezi, documents that are created using a free account are publicly accessible on the 'Explore' section of the Prezi website¹, either read-only or even available for reuse by others. For this evaluation, we considered the most popular 73 of the 308 presentations listed on July 1, 2010. While this may not be representative for all canvas presentations, it helped us to concentrate on documents that were considered well-authored. We excluded documents that were either clearly not created as live presentation support, not finished, or served as instructions for Prezi, so that 50 presentations remained. These presentations were examined with regards to use of layout strategies, overviews, zooming, and rotations.

Study Findings

The first thing to note is that every document studied had a unique canvas layout; there were no recurring

¹ www.prezi.com

² www.officelabs.com/projects/pptPlex



Figure 2. Prezi canvases with decorative layouts. Top: viewports are embedded into a film strip. Bottom: a large photo of a desktop is used in the background.

designs as it is common with slide presentations. Nearly all authors utilized scaling and zooming to achieve varying viewport resolutions, like we expected from the Fly user study [5]. All presentation paths zoomed in on single or few elements to focus on the currently relevant information. Other common practices for focusing were to zoom in on details of large graphics, such as diagrams and screenshots, or on single words and phrases of larger texts for emphasis.

Layout Strategies

A recurring strategy are *decorative layouts*, which use a large background graphic with content elements placed at lower scales into the gaps of the graphic (fig. 2); the content is primarily arranged around the graphic shape. A distinction can be made between this layout and *structural layouts*, where the arrangement of the content elements reflects the macrostructure of the topic. Out of the examined documents, 36 had structural layouts and 14 had decorative layouts (fig. 3). For the documents with structural layouts, we identified three subtypes: *topic areas*, *development of an idea*, and *slide deck* layout.

The majority of the documents (29) organized content into *topic areas* (fig. 4), and the presentation paths explored these areas sequentially. Starting from an overview to preview the upcoming content, such a path drilled into one topic and then, after covering it completely, zoomed back out—either showing a repeated overview of the past topic for recapitulation or directly moving on to an overview of the next topic—and then drilled into the next topic. This kind of structure was often built recursively with topics that contained sub-topics, which were traversed in the same way.

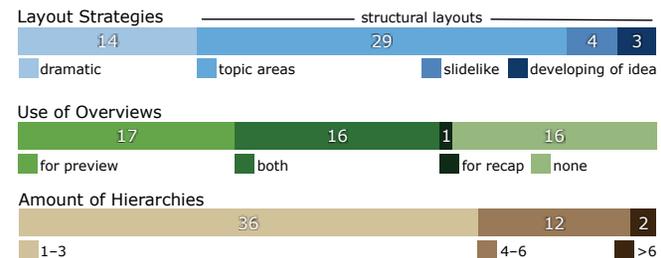


Figure 3. Distribution for layout strategies, amount of zoom levels, and use of overviews for the examined presentations.

Three documents had structures that *incrementally developed an idea* (fig. 5). Their presentation paths started by showing content on a detail scale. Then, they continuously zoomed out, incrementally revealing more content, ending with a view of the whole canvas. Accordingly, the content was scaled larger the later it occurred in the presentation sequence. Overviews were mainly used to recapitulate.

Four documents had structures similar to *slide decks*. All the content elements shared a small range of zoom levels and the paths traversed them sequentially while constantly remaining on the detail zoom levels with none or little overviews. Purpose of these presentations was to tell a story as opposed to inform about a topic.

Overviews

The majority of presentations (33) utilized overviews in their paths: 17 used overviews to preview and recapitulate content; 16 used overviews only to preview; one used overviews only to recapitulate (fig. 3).

Zooming

Because of the unlimited zooming capabilities of the Prezi canvas, there was no restriction on how deep the

