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Recommended Citation

Yang, Felix; Fang, Summer; and Zhou, Vagou, "WHAT YOU SEE IS WHAT YOU GET (WYSIWYG) STAGE EDITOR FOR USERS WHO SHARE APPLICATIONS", Technical Disclosure Commons, (December 02, 2022) https://www.tdcommons.org/dpubs_series/5544



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WHAT YOU SEE IS WHAT YOU GET (WYSIWYG) STAGE EDITOR FOR USERS WHO SHARE APPLICATIONS

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ABSTRACT

Techniques are provided herein for a What You See Is What You Get (WYSIWYG) stage editor for the presenter in a meeting. These techniques no longer require more than two people (one as a presenter to share content and another to take on the producer role as stage editor). These techniques also resolve infinity effects caused by screen-sharing (one display only).

DETAILED DESCRIPTION

One of the roles of a presenter is to set a comfortable and suitable visual layout for the audience. As shown in Figure 1 below, the presenter may want to synchronize a layout that contains both a video feed as well as a screen share. The presenter's stage view should be synchronized with all attendees.

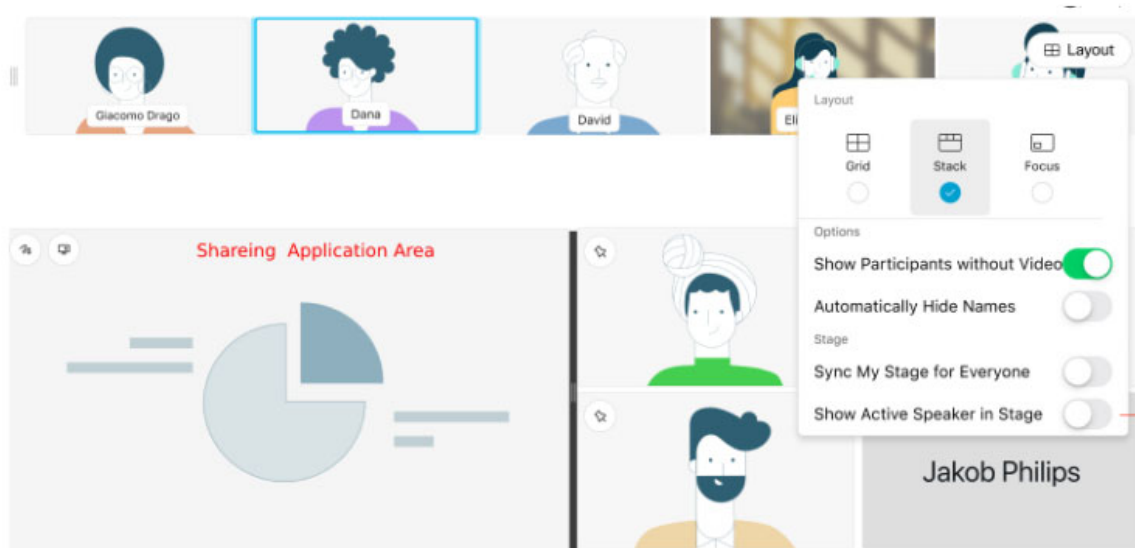


Figure 1: Stage View with Sharing Application Area

However, this may create a conflict when the presenters themselves are the ones that are sharing their screen, as the "Share" feature occupies the entire screen and thus the presenter is no longer able to know exactly what the attendee is seeing anymore. This proves to be especially troublesome when trying to use other features such as adding a logo, adding extra video feeds, or adding closed captions. Furthermore, as shown in Figure 2 below, the attendees may see a screen share infinity effect when the presenter is sharing their own screen.

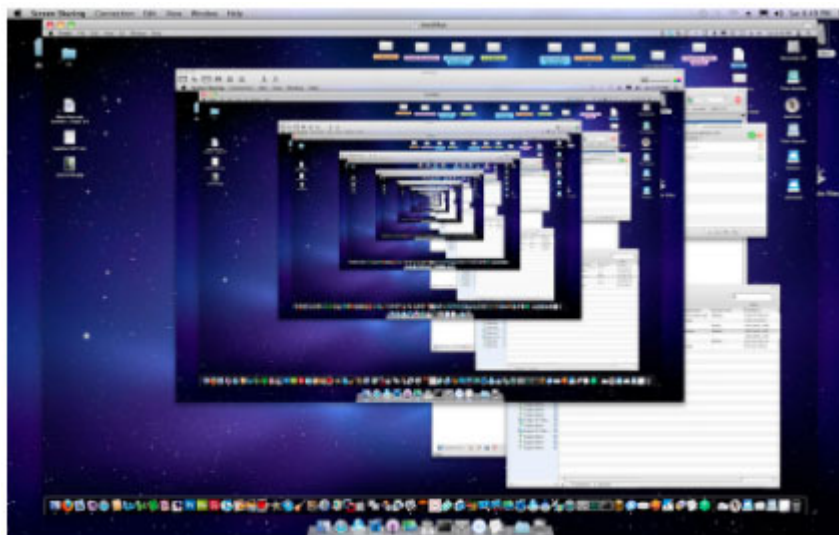


Figure 2: Screen Share Infinity Effect Sample

The techniques provided herein enable the presenter to easily edit the meeting stage view while they are sharing. An example method is described as follows:

1. The presenter's device installs a virtual display driver.
2. The presenter customizes the stage view with a sharing application area.
3. The presenter selects any application to share.
4. The sharing application shows the sharing application area on the stage view. This is illustrated in Figure 3 below.

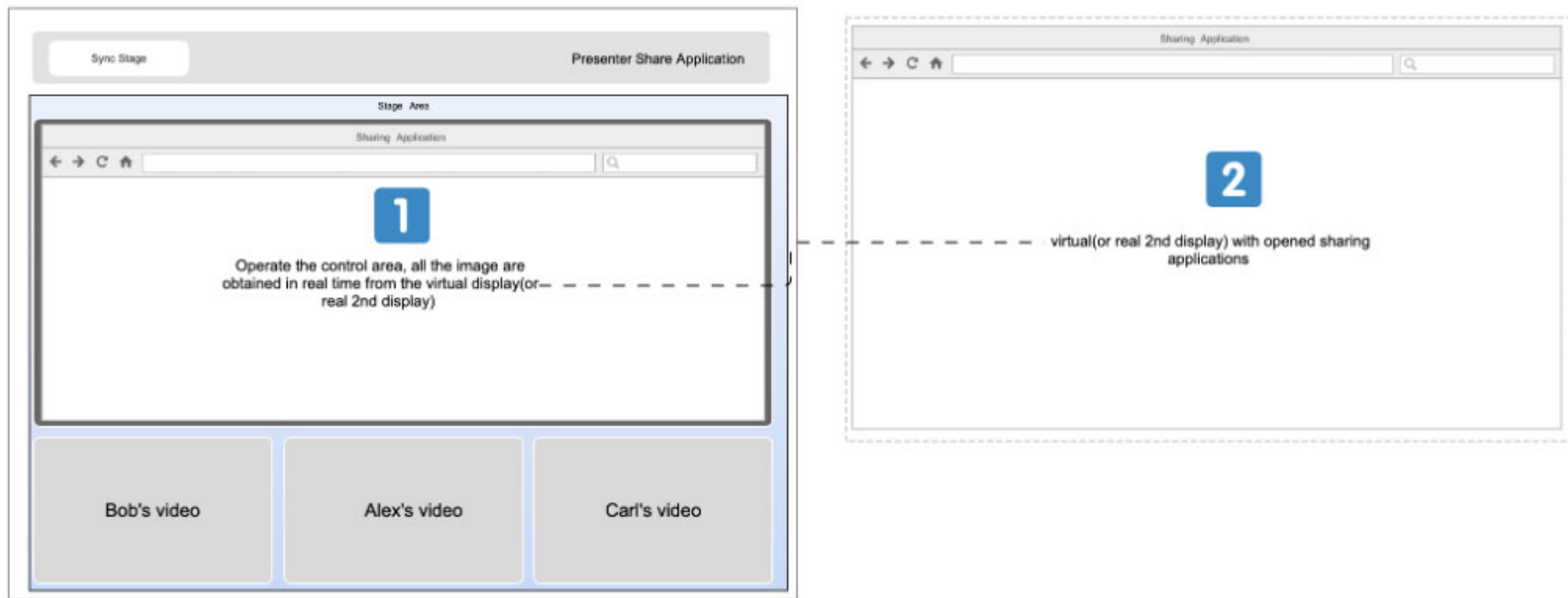


Figure 3

5. The presenter can control the application or type text in the sharing application area on the stage view.
6. Attendees can view the stage view that the same presenter working on.

Thus, as illustrated in Figure 4 below, both the presenter and the attendees see the same view.

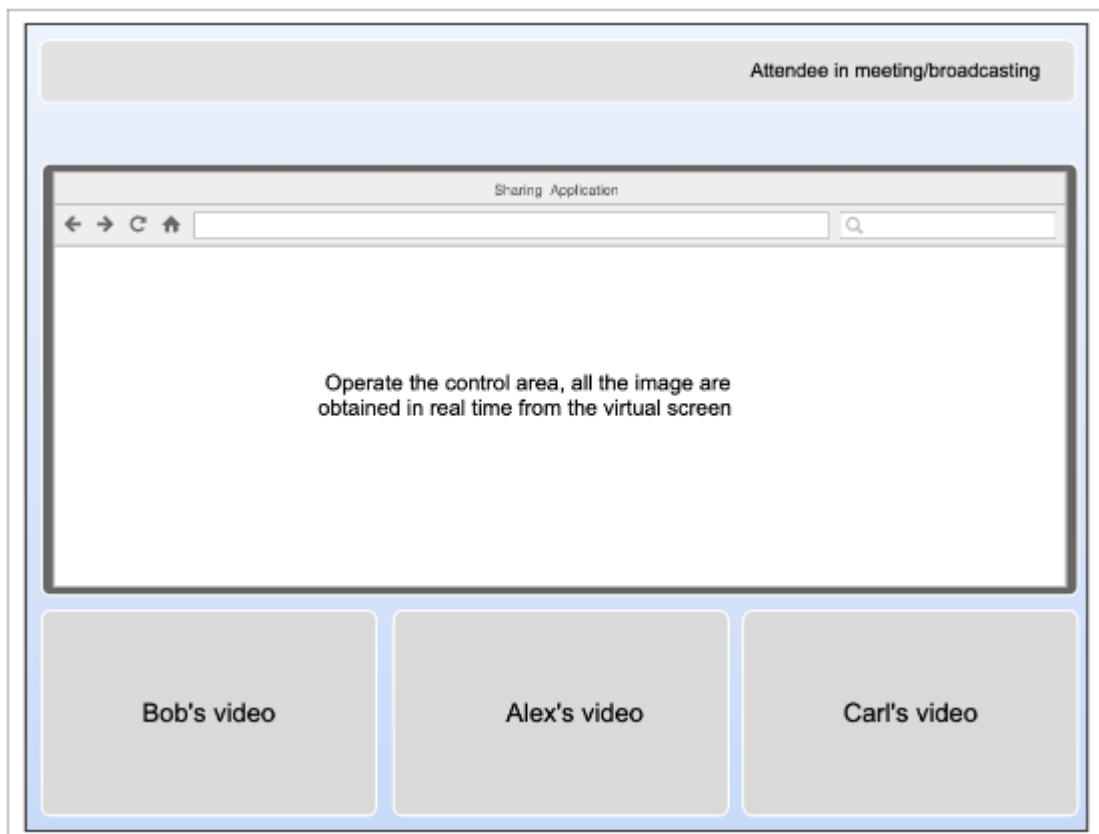


Figure 4

With continuing reference to Figures 3 and 4, an example use case is described as follows. In this example, an online meeting is in progress, and Alex is a meeting presenter who wants to add a stage view to make all users see the same content with the background/company's logo/video user's job title. Alex adds his video, Bob's video, Carl's video, and a sharing content area on the meeting stage (Figure 3). All meeting attendees now see the same stage as customized by Alex (Figure 4).

Alex's user experience is as follows:

1. Alex starts the online meeting on the device with an installed virtual display driver.
2. Alex selects an application to share.
3. The application moves to the virtual display (Figure 3, Area 2) but is not yet shown on the real display.
4. The meeting application tries to resize the application to fit into full-screen mode (Figure 1, Area 2).
5. Alex sees the application shown on the sharing application area on the stage view (Figure 1, Area 1).
6. Alex can control or input a message by operating on the sharing application area.
7. Alex knows that meeting attendees see the same view as him.

An explanation of how these techniques are implemented is described as follows with reference to Figure 5 below.

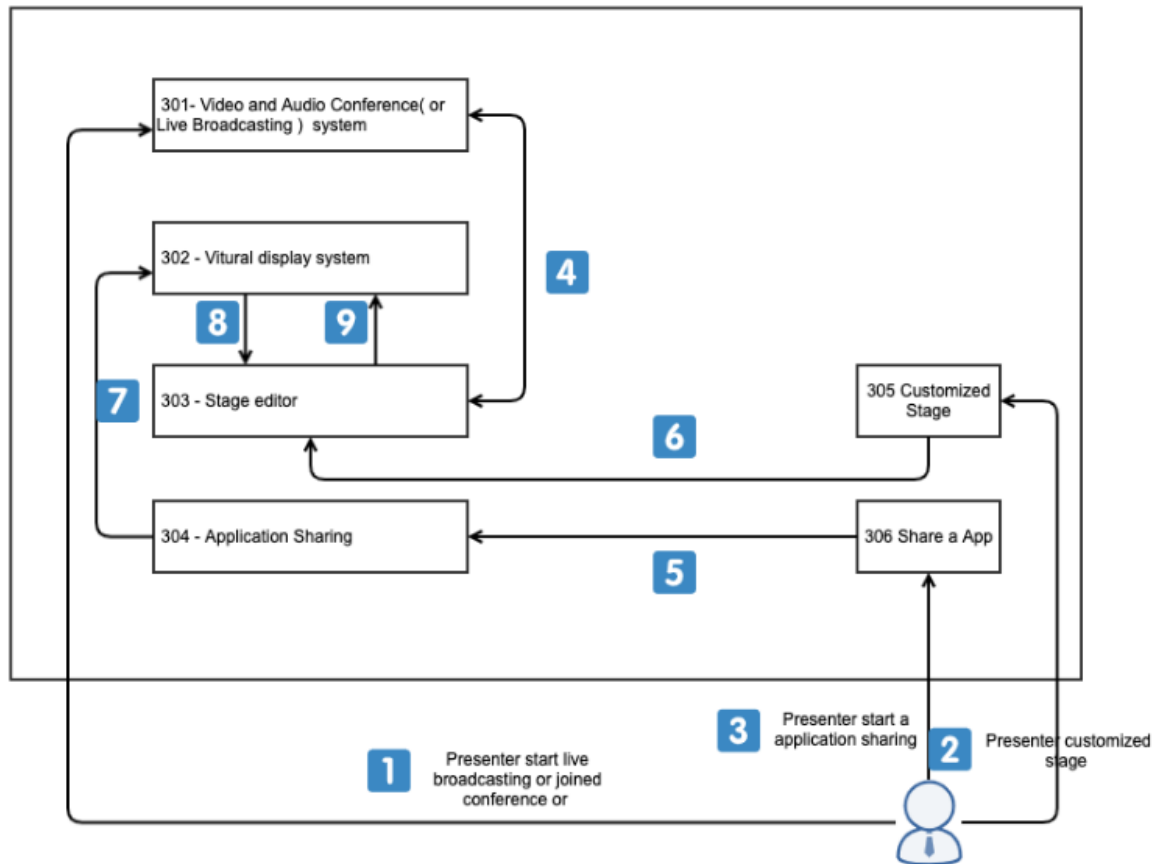


Figure 5

1. As illustrated in Figure 5, the live conference or broadcasting system is composed of several modules.
2. After starting a live broadcast or joining a conference (step 1 to 301) and customizing the stage (step 2 to 305), the user starts application sharing (step 3 to 306).
 - The video and audio conference (or live broadcasting system) 301 integrates with the virtual display system 302.
 - The stage editor (303) allows users to customize the stage view.
 - Application sharing support is provided to share applications with those attendees who are viewing (step 5).
 - The virtual display system 302 provides an extended display for the operation system. It can also be implemented as a hidden view only, but does not extend to the user's mouse and keyboard operation area.
3. Application Sharing 304 shares the application on the virtual display only (step 7 to 302).
4. Application Sharing 304 catches the virtual display system 302's screenshot and shows (step 8) the stage editor 303.
5. The user's input on the stage editor 302 is reflected in (step 9) the virtual display 302
6. Steps 3-5 may still be possible even if virtual display system 302 is replaced with a second real extended display.

Techniques described herein combine virtual screen and stage editing technology in live broadcasting or real-time conferences to manage the stage synchronously and share an application at the same time. Thus, the presenter's experience and productivity are significantly improved.

For a single user who has only a single display to edit live video/sharing stage work today, collaboration by multiple people or multiple screen devices is required. Furthermore, most sharing works only under mirror mode. By contrast, provided herein is an extended monitor mode for a single-display user. These techniques may be applied in real-time conference systems and live video broadcasting software, and may work with any suitable

endpoints. The techniques presented herein may also enable attendees to see the stage view defined by the presenter.

In summary, techniques are provided herein for a What You See Is What You Get (WYSIWYG) stage editor for the presenter in a meeting. These techniques no longer require more than two people (one as a presenter to share content and another to take on the producer role as stage editor). These techniques also resolve infinity effects caused by screen-sharing (one display only).