

[Storyboard]

Persistent Video

Quick Distraction, Idle Distraction, and Social Watching Scenarios

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The Gang Watches Comic Con

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Daniel and a bunch of other fans around the world are watching the live streaming Comic Con conference.



May



Elina



Lee



Daniel

The Quick Distraction

Multi-Tasking

Social Watching

Session Hopping



The Quick Distraction

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May is watching a live stream when a notification triggers them to focus on a different app temporarily. They want to keep the live stream in the “corner of their eye” such that they don’t miss a moment and can get back with ease.



What's this? (Click Away)

While watching an live conference in full screen, a message notification ding catches May's attention and she clicks on the message application.

- The PIP is automatic, May does not need to set it up before clicking away.
- However this PIP should be an option that can be turned off, either temporarily (just for this live session) or permanently (until turned back on in settings).
- This option to turn it off should be quickly accessible from the PIP interface itself.
- Open: what should the default size be?
 - Can people change their preferences for default size? where? in browser?
 - Can an app developer change the default size for their app?
- Open: are there tricks to make the PIP look higher resolution than it is to save processing when it's in the corner (in my peripheral vision)?



Keep it in the (Correct) Corner of My Eye

When she clicks away, the live conference animates into a small picture-in-picture in the corner of May's screen. May reads and responds to the message.

- Animations should follow user accessibility preferences for low/no motion.
- Speed of changing applications is priority over complex animation.
- Intent of animation is to visually explain where this picture in picture came from.
 - e.g. If she swiped left/right on desktops to change programs, the animation should show the PIP popping in from the left or right.
- The location of the PIP can correspond with the corner “closest” to where the source application is
 - e.g. If it's on the desktop to the left, then the PIP is in the left corner. If it's on the desktop to the right, then the PIP is in the right corner.



Persistent Captions

The captions from the conference continue to be shown in their original size and location even when the video is in picture-in-picture.

- If they had captions turned on in the original source video, then the PIP should show the captions on by default.
- Matching the original captions size and location means persistent audio (no hunting for where they went or squinting your eyes to see them on a tiny PIP UI).
- Can ASL translators be kept visible as a separate PIP from the source video? (if it's available as a separate feed versus built into the video stream)
- With multiple widgets, how might we remember the preferred placement for these when doing multiple back and forth quick distractions?
- Note: scenario assumes no disruption to audio feed.



Seamless Resume

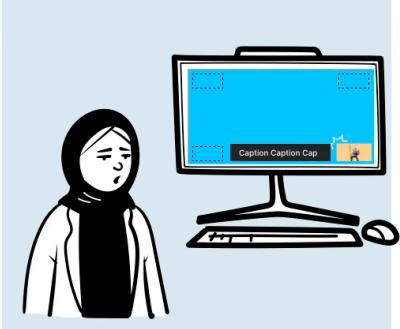
May double-clicks on the picture-in-picture to quickly get back to the normal viewing experience of the live conference.

- There may also be a UI button to return to the application, visible on hover and when doing a single click on the PIP UI.
- Keyboard commands / shortcut should also be available to return quickly to the PIP app.

Multi-Tasking

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Elina is easily distracted even while watching a live conference and ends up scrolling another app while also watching the stream.



Fidget Induced Picture-in-Picture

Elina switches over to a search engine tab to see the latest updates, which causes the live stream to go into the corner as a picture-in-picture.

- Same starting behavior as with The Quick Distraction to put it in the appropriate corner and show persistent captions.



A Little Bit Bigger

Elina resizes and moves the picture-in-picture box to cover up an annoying ad in her browser (Elina feels clever to be beating the advertisers this way).

- Resize controls appear when hovering over the edges of the PIP.
- Clicking and dragging the PIP moves it around.
- Alternatively, keyboard commands to move the PIP between the four corners of the screen can help move it out of the way for people who are not using a mouse.
- The captions and the PIP video can be independently moved around and resized.
- What other “widgets” can be floating/persistent/PIP-ified from the source?



Quick Split Screen

Elina clicks through from the search engine to an interesting article that she doesn't want to have covered by the picture-in-picture. Instead she drags the picture-in-picture to the side of the monitor to create a split screen.

- The split screen would be with the actual program even though created using the PIP UI box.
- Returning to the app means the captions would go back to being within the app window and not a persistent floating captions.
- This may require an OS level change to enable.

Social Watching

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Remote watch party with Lee and Daniel using live video.



Starting Soon

Lee and Daniel are on video chat while waiting for the next panel to start. Lee has the video chat application and the browser with the live stream tab open side by side so he doesn't miss the beginning. The stream has music playing which Lee has turned the volume down on to have it audible but not distracting while talking with Daniel.

- Multiple live audio inputs need to be independently controllable (volume, mute).



The Stream Starts

When the stream starts, Lee makes the stream application window full screen. When he does, the video chat from Daniel goes into a circle cropped picture-in-picture. Lee adjusts the volume from the stream so he can hear the stream and Daniel.



Social Meme or Link Sharing

Daniel shares a relevant link or meme. The message shows up in a toast notification. When Lee clicks on it...

How might this sharing moment not take away from the current setup of social watching?

- Today, if Lee were to click on the toast notification to see the image or click the link, it would behave like the "Quick Distraction" scenario (but now with 2x picture in the in picture).
- What if the meme or link can have a "quick view" that pops up another floating widget before opening up the full image/app/website?



2x Picture-in-Picture

If Daniel clicks a link that opens a new web page on his browser, then the streaming video would go into picture-in-picture while Daniel's video stream remains too.

- OS support for more than one picture-in-picture required.
- The existing picture-in-picture should stay in place (and in size) when the 2nd is added.



Quick View "Picture-in-Picture"

Clicking the shared link opens another "picture-in-picture" of the meme image or quick view of the linked content from the website. Clicking through on the quick view opens the full webpage or application.

- This could be search engine-like to automatically scrape what we think is the relevant content into a universal "quick view".
- Or this could be designed/specify by the source website.

Session Hopping & Changing Layouts

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Daniel is hopping between sessions, interacting with live Discord chat, and changing his virtual gatherings layout based on the changes in the session interactivity.



The perfect layout (for now)

Daniel has everything perfectly laid out on for attending Comi Con. Split screen between a video site (in browser), a discussion room app, and his friend Lee live video chatting in the corner.

- Note: Today discussion room apps (and browser UI) do not scale well for a narrow interface to split screen with. This could be a SW opportunity to work with discussion room apps to improve the Virtual Gatherings experience.
- Note: People who use screen readers can have a hard time managing the incoming video audio and the screen reading audio of the chat. Some people say using different devices (e.g. Video stream on PC and chat rooms on phone) helps to manage these multiple audio input experiences. More Accessible Virtual Gatherings research needed for this topic.



Session Hop

Daniel switches browser tabs to look at the program schedule. When switching tabs the browser video goes into picture-in-picture mode. Daniel identifies another session that is about to start that Daniel and Lee want to switch to. This other session is going to stream from a different streaming service. Daniel clicks the link...

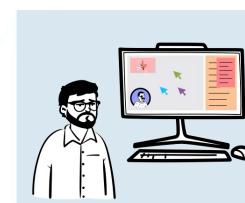
- PIP awareness / avoidance. By default, the new PIP should not cover any existing PIP widgets.



Reflow

Now that Daniel successfully opened the new stream, he ends the browser video from the picture-in-picture widget. The new stream chat is advertising a collaborative virtual whiteboard link to join during the session. Daniel clicks the link...

- During switching, there are 3 video streams until Daniel closes the browser stream.

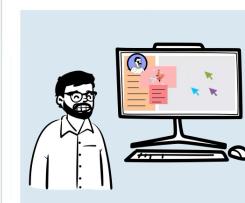


Feels the Need to Rearrange

Clicking the link opens the virtual board in another browser tab. The new stream goes into picture-in-picture. The new stream chat also goes into a picture-in-picture widget. These two picture-in-pictures hug the left and right of the screen as to "get out of the way".

Daniel wants the application he's interacting with the most to be on the right, so he starts rearranging his screen starting with swapping the snapped apps (left / right). Then he starts to move around the picture-in-picture widgets.

- The newest PIP would be the top-most PIP. When Daniel clicks or moves a PIP around, that one then becomes the top-most PIP for layering.
- Should chat streams be as standard as video for being PIP-ed automatically? Or would it be something special that the streaming platform would need to setup?



Multi-Layered Gathering (Good Chaos)

In the end, Daniel has his Discord and Miro board in split screen, with the live video stream in picture-in-picture on top mostly over the chat but also spilling over the virtual board. The stream chat box is floating below the video stream, like a sticky note attached to the bottom. Finally Lee's picture-in-picture video is layered on top of the video stream and chat. Chaotic, but a rich live interaction.

- Overlapping multiple picture-in-picture.
- Multiple live streams (two videos, chat, collab whiteboard).
- This storyboard showed Daniel's friend Lee as the second live video, but this could also have been the ASL Interpreter provided through the event platform (or through a third party service).
- Too much chaos? For a Device-to-Device connection it would be nice for Daniel to be able to select any of these (the video call, the streaming video, the discord chat, the whiteboard app), and one click send that app seamlessly to their phone or tablet to free up space on their computer.



Courteous Space Aware Widgets

While Daniel is primarily interacting with the virtual board, he occasionally clicks over on the discussion board to interact there (respond with an emoji or write a message). The picture-in-picture widgets are aware that they are blocking the majority of this interface, so they scoot out of the way temporarily, and then go back into the places where Daniel had put them when he changes focus back to the virtual board.

- PIP widgets are space aware of the windows and apps below them and their collective impact on the experience of using the window they are blocking.
- They understand how to move themselves "out of the way" and back (with animation).



Temporarily Push Aside

If the many picture-in-picture widgets are getting in the way temporarily, Daniel can invoke a temporary pushing of all picture-in-picture widgets to the side to have a clear view of all the full app windows to interact. When ready, Daniel can tell the picture-in-picture widgets to come back to where they were.

- Would require deeper OS level integration.