

Scoped Transitions

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Problem Statement

Transitions are *global* which means:

- Harder to embed independent/third-party widgets.
- Animations paused for the whole Document.
- Document becomes uninteractive.
- One transition at a time.

Rough API Shape

```
<html>
<div id="outer">
  I participate in root
  transition
</div>
<div id="scoped-root">
  <div id="inner">
    I participate in scoped
    transition
  </div>
</div>
</html>
```

```
#outer {
  view-transition-name: outer;
}
#scoped-root {
  view-transition-name: name-for-root;
  view-transition-scope: name-for-scoped;
}
#inner {
  view-transition-name: inner;
}
```

```
document.getElementById(  
  "scoped-root").startViewTransition(  
  updateScopedRoot);
```



```
document.startViewTransition(  
  updatePage);
```

Rendering Model

```
html
|__::view-transition
|  |__::view-transition-group(root)
|  |  |__ ...
|  |__::view-transition-group(outer)
|  |  |__ ...
|  |__::view-transition-group(name-for-root)
|  |  |__ ...
|__#outer
|__#scoped-root
|  |__::view-transition
|  |  |__::view-transition-group(name-for-scoped)
|  |  |  |__ ...
|  |  |__::view-transition-group(inner)
|  |  |  |__ ...
|__#inner
```

- The scoping element generates a pseudo-DOM for the transition.
- The image for scoped-root in the ancestor transition includes its pseudo-DOM.
- This is conceptually similar to transition in an iframe

Main Challenges

- Isolation of view-transition-names
 - An element can only participate in its nearest ancestor transition.
- Async DOM update shouldn't flash intermediate DOM.
 - Display old content screenshots during the callback.
 - Don't paint the element contents (like content-visibility).
 - Containment on scoping element?
- Element resizing
 - Scoping element's box decorations are in ancestor scope. Image only contains its contents.
 - Generate pseudo-DOM with `::view-transition-old` images during async DOM update.

Questions?