

NAC x Output Field

Accessibility Audit

(Conducted by Andy Slater, Brendan Lee, Viv Qiu)





X

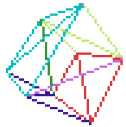


Intros

Together, we looked into ways to make New Art City more accessible, but before we tell you about it, some intros...



X



Andy Slater (he/him)

Output Field, Sound Artist/Consultant

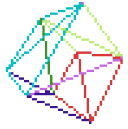
Chicago-based media artist, sound designer, teaching artist, and disability advocate. He is the founder of the Society of Visually Impaired Sound Artists & '22-'23 Leonardo CripTech fellow & '22 US Artist Fellow.

Andy is part of Output Field's panel of art professionals with extensive experience to contribute to a future of a more accessible, equitable, and inclusive arts landscape.





X



Brendan Lee (he/him)

Output Field, Designer

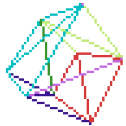
Brendan Lee is a creative at Output Field. Responsible for Output Field's brand, web design, and research projects, he is equipped to navigate between usability and aesthetic considerations.

He's done work for Designation for re-education, and built products at Matter. He's at Output Field now making artist tools and assisting exhibitions.





X



Viv Qiu (all pronouns)

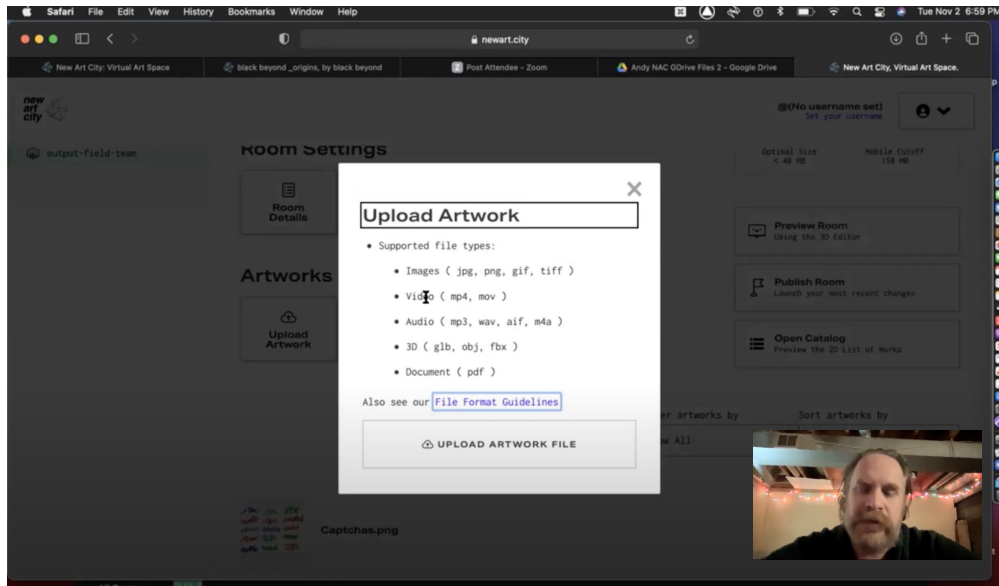
Output Field, Founder

Viv Qiu is a generalist based in the Bay Area, co-parented by Chinese immigrants and the internet. They work at micro and macro scales, shifting between object and theory, aesthetic and systemic.

They are a zealot for the experimental, the speculative, and the absurd. With ties to strategy, industrial design, research, curation, creative direction, they've made a home in concept as their core medium.



Together, we looked into ways to make New Art City more accessible.



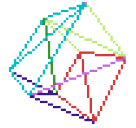
Over Zoom, we shared a screen with Andy as he navigated New Art City. We've gathered the insights in this deck, but if you'd like to watch the sessions, we recorded them and put them here:

[Click here](#) for recorded research sessions.

(For our sessions, Andy uses Safari and Mac's built-in screenreader to navigate the site.)



x



We split our research sessions into three scenarios:

1

First Impressions (New Visitor)

This applies to both casual visitors of NAC, but also the artists that NAC may invite to create an exhibition.

This session focused largely on **Aesthetic Legibility**. In other words, can you get a sense of the vibe? This session involved visiting the website, familiarizing with controls, viewing the spectrum of shows, and interpreting room view and catalog view in the context with a screenreader.

2

Start a Project (Collaborate, Upload)

This applies to disabled artists in their early stages of collaboration and furnishing a space.

This session focused largely on **Upload Usability** (with a screen reader), **and its Strategic Implications**. In other words, how easy is it to get started? This session centered tasks related to collaborating on a show, uploading artwork, filling in the information for each artwork, placing them in the space.

3

Finish Project (Iterate, assess, refine)

This applies to both disabled/able-bodied artists refining their space, finalizing it, publishing it.

This session focused largely on **Creative Refinement, 3D Wayfinding, and its Strategic Implications**. How do I know where I am? How do I get this art just right? How can we push able-bodied people to make their space accessible? This session centered editing and uploading artwork with existent things in the room, evaluating how they present in the space, and brainstorming creative sound-design ways for wayfinding.



X

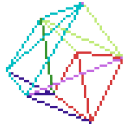


Insight Dashboards

1. First Impressions
2. Starting a Project
3. Finishing a Project



X



Session 1 - Dashboard (First Time Visitor)

Link to Zoom Session: [Click Here & Here](#)

Strategic Focus:
Aesthetic Legibility

Goal:
See if first impression is attractive, engaging. Does it Inspire curiosity, reward further exploration?

Tasks/Questions:

Test experience of room as a viewer (what kind of site this is?)

- Go to newart.city
- Observe, listen, explore
- Interpret the information available
- Understand information hierarchy
- Choose an exhibition that appeals to you

Enter Exhibition

- Walk around
- Navigate to catalog view
- Send a message in the chat
- Adjust volume of the room
- Are the coordinates helpful?
- What is the vibe?

Pain Points/UX UI Overview: [Click Here](#) for Detailed Notes

- Apple screenreader is incompatible with chrome (while chrome's built in screenreader is "awful"). Therefore, Safari compatibility is important for screenreader accessibility.
- Screenreader starts at top left, so it's easy to miss "events + opening"
- Pop-ups are often overlooked by the screenreader, cta/pop-up/etc tags in code
- Escape access menu is confusing, add words "navigation instruction" for the WASD controls, etc.
- Hard to exit videos in catalog view

Ideas to Explore/Strategic Implications:

- People often like to navigate down the entire site, to the bottom, before engaging.
- Make sure everyone puts in "show notes" otherwise it's hard to know the "vibe." This should be mandatory in the pre-publish checklist for all things "visible in catalog"
- Catalog views often have irrelevant artworks (walls, etc). Make sure people toggle visibility correctly
- Chat function may come in handy for disabled people to communicate while collaborating (with able-bodied people), but the screenreader makes it really hard (some learning curve is ok)

Session 2 - Dashboard (Start a Project)

Link to Zoom Session: [Click Here](#)

Strategic Focus:
Ease of Workflow

Goal:
Understand landscape of usability issues for uploading artwork (all file types)

Tasks/Questions:

Upload an object

- Receive invitation email from NAC
- Click through to artist dashboard
- Understand information hierarchy

Upload an object/sound

- Interpret the information about acceptable file types
- Choose file to upload
- Add information, fill in fields (is each field self explanatory? e.g. sound radius?)

Preview Space

- Is it clear what preview means?
- Are you able to find your recently uploaded object?

Pain Points/UX UI Overview: [Click Here](#) for Detailed Notes

- Make sure the order in which screenreader reads options is intuitive
- "Edit text" is glitchy, requires Andy to press button that said "Alt Text" after already having selected text box
- Hard to tell that files are fully uploaded, optimized, there should be a progress bar or confirmation
- The "saving changes" on the top-left shouldn't be registered by the screenreader
- "Preview" and "Download" buttons are read aloud after the word "Link" which is misleading
- Dropdown menus often freeze browser, always says "Safari Busy" and requires restart
- Having to use mouse to look up & down is bad, need a keyboard alternative (trackpad is bearable)
- Definitions of NAC-specific terms should be easy to understand

Ideas to Explore/Strategic Implications:

- Need stronger prompts to add alt text in the artist view, and be visible somehow in room view
- It would be helpful to have audio cues for entering different rooms, navigating, wayfinding (sound beacons, cardinal locations, this would be useful in preview, announce coordinations)
- Guided Tour: is there a way to program "hot spots" to "hot keys: 1, 2, 3, 4, etc" so people can quickly navigate to the most significant spots
- Rooms with immediate audio "welcome message" are very helpful

Session 3 - Dashboard (Finish a Project)

Link to Zoom Session: [Click Here](#)

Strategic Focus:
Intuitive Art Tool

Goal:
Evaluate if NAC allows for an iterative, organic, intuitive approach to sculpting and furnishing a digital experience.

Tasks/Questions:

Upload more artworks

- Assess new web design
- Place them
- Try to set a “main track”
- How are the fields for artwork info?

Evaluate State of Room

- What are some things that would help you navigate this space?
- Are you able to sculpt sound in an intuitive way?

Strategic Considerations/Big Picture

- What are some gaps that certain accessibility options fail to address?
- Is there anything missing from the startup checklist?

UX/UI Pain Points Overview: [Click Here](#) for Detailed Notes

- New web design has more intuitive order of options
- In Artwork information: the drop-down menu is incompatible with screenreader, needed mouse
- Some pop-ups are undetected by screenreader, still convoluted how to navigate to the upload menu
- Make sure text titles can't be easily confused with clickable buttons (e.g. “upload artwork”)
- The difference between “Description” and “Alt Text” text fields isn't clear (toggleable tool tips?)
- Avoid unnecessary messaging in screenreader (e.g. constant “screen loading / safari busy”)
- Click and drag is very unintuitive, the azimuth is difficult to use for any user. Size, process.

Ideas to Explore/Strategic Implications:

- “Transcription of Audio” could be worded to include both explicit captioning if it contains spoken word, but also artful descriptions of sound. Maybe helper text like “this doesn't have to just be captions” maybe examples. Helpful for not just deaf users, also autistic people sensitive to sound.
- Could have content warning checklist in “Launch Steps” (e.g. Loud sounds, triggers, flashing lights) could be community-contributed, positive viewpoints vs due diligence
- Toggle keyboard vs mouse modes or reduce # of mouse-only interactions
- Explore different ways to place objects, (minecraft style drop object here). Also look into key-ing thru objects (speed!), shortcuts for set base actions i.e. 90 deg rotation, flip, etc. And show these outwardly to user.

Conclusions

Thoughts on future approaches?
Recommendations for accessibility panel?
How could energy be spent?

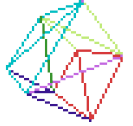
Standards for Accessibility: A Breakdown

What is Acceptable?

- Entire navigation structure becoming apparent after scanning the full page with a screen reader
- Learning curve for how to edit objects rotationally, positionally (especially through the editor dashboard)
- Learning curve for understanding the tasks that need to be done before an exhibition is published (very much helped by checklist)
- Not all exhibitions meeting all the needs of every type of user
- Acknowledging that the accessibility standards didn't happen (explanations are good and hold curators accountable)
- Acknowledgment of bugs in Chrome, for example, for screenreaders (especially if it's a Beta)
- A message about accessibility statement somewhere in the About (it's a tailored solution that NAC researched for)

What is Unacceptable?

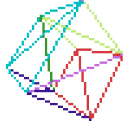
- Inability to find core functionalities relatively swiftly
- Misleading order of options read by screenreader
- Confusing conflation of text titles and clickable buttons
- Total incompatibility with preferred accessibility tools (re: Mac screenreader)
- Hard to discover/find information regarding accessibility tools available on New Art City
- Not being sure if the room you are about to enter was designed with your needs in mind
- Wholly clinical, dry, unartistic experiences relegated to users with disabilities (boring alt-text)
- Lack of intrigue
- Unnecessary information/artworks in catalog view, which should be tailored for disabled users





Strategic Overview

X



Criteria for Success:

- Framing accessible options as **positive** features, (e.g. Directors cut, available in 5 languages) rather than due-diligence for minorities/disabled users
- **Intuitive** experiences that require little navigation/attunement from disabled users (e.g. **automatically** turn on accessibility functions if detect screenreader)
- Ability to support linear/time-based alt-text, but also **non-linear alt text** AKA “show notes” (for time-based content like music, video)
- **As human as possible** (moving things the way you would in real life, there’s no azimuths in real life)
- Making **everyone** feel **seen** and considered, even if it means acknowledging where the site has gaps (could be addressed in accessibility statement and page for the show)

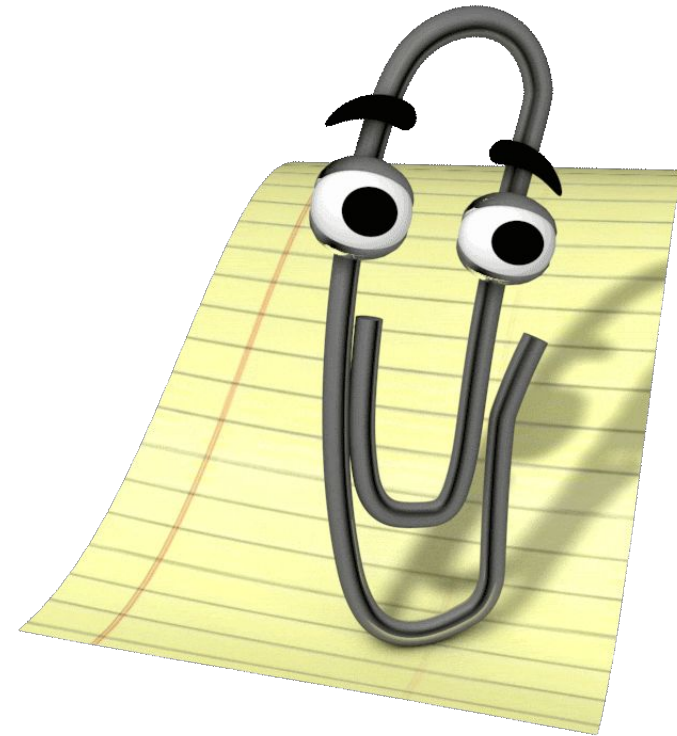
Areas of Focus for Accessibility Panel

- **Which accessibility tags** (triggers for abuse, flashing lights, loud sounds, etc)
- Figure out what things are not discussed in typical content consumption (whose needs are often not addressed? **People who aren’t technologically savvy?**)
- **Resource allocation, outreach**, and systems to put in place to make accessibility available for all content (**community sourced alt text?** e.g. YouDescribe and Coyote Project. as participatory dialogue?)
- Refine the **information hierarchy** based on user’s needs (do you need to hear “screen loading” all the time?)
- **Curator tours**/Director’s cut features
- Ways to incorporate **auditory wayfinding** (sound beacons, rotational audio cues, ticks to represent walking)
- Building compatibility with **adaptive controllers** (e.g. xbox controllers, microsoft adaptive controllers), exploring **tactility**
- Building out keyboard-centric modes or deciding mouse vs keyboard presence in interface, especially 3D world

A Case for the Docent:

In response to our goal to create a holistically accessible experience that is framed as a desirable feature for both artists and visitors, we welcome you to consider a “**curator tour**” style feature that provides a **guided experience** throughout the exhibitions.

This would be a function that can accommodate text descriptions, audio descriptions, welcome messages, and any further context that might enhance the experience of a NAC space. **By offering curators an opportunity to speak more on their work**, this framing would motivate curators to make their space more accessible, and have all users experience the benefits of **universal design**. This could potentially address the needs of anyone who isn't well-versed in 3D environments or 3D art. Open floodgates for discourse. Who is the docent? This could be a very engaging way to give the same info that curators would during a zoom opening ceremony.



A Case for Ambisonic Sound:

Ambisonics is a **full-sphere surround sound format** or a means of representing the sound field at a point or in space. Unlike conventional stereo and surround sound formats (which are based on the principle of panning audio signals to specific speakers), ambisonics captures the full directivity information for every soundwave that hits the microphone. **Crucially, this also includes height information, as well as the full 360° around the microphone.**

There are many ways to create this form of spacial audio, in post, or in situ. The latter provides interesting opportunities for visually impaired people to capture sound in IRL, 3 dimensional space, without needing to navigate any digital GUI to make it what they want. **They can sculpt sound in an environment they're familiar with.** This becomes a way to harness space through your body, instead of a laptop. This way, you may not even need to build a room in NAC. This is a very new field for sound design and has great potential.

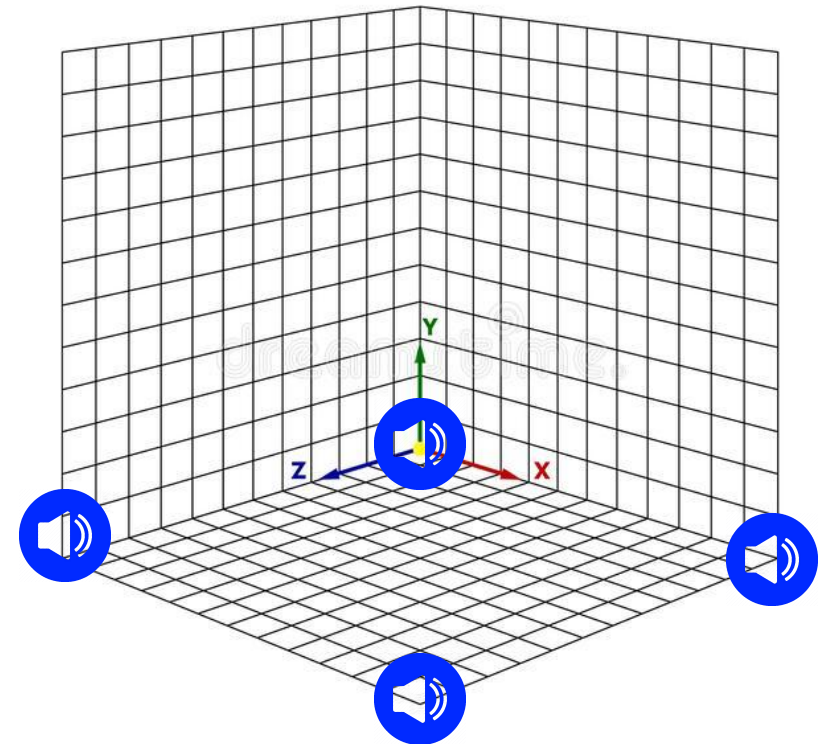
A Case for Auditory Wayfinding/Indicators:

We think it is worth exploring auditory ways to solve wayfinding and artwork refinement issues for visually impaired artists and visitors alike.

This approach could take many forms: sound beacons, rotational audio cues, ticks to represent walking, edge detection. Beyond wayfinding, auditory cues may also be useful when navigating other aspects of the space (e.g. portals, loading, copresence, etc)

Beacons could automatically propagate depending where you'd want them. (Real life example: bluetooth beacons on university campuses, IRL museums)

This would allow for a more analogous relationship between New Art City spaces and real life spaces.





X

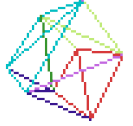


Some partners to potentially include

Organizations and projects that are aligned with the goals of NAC's accessibility panel.



X



CRITICAL DESIGN LAB

Critical Design Lab

Lab

<https://www.mapping-access.com/>

About:

CDL is a **multi-disciplinary arts and design collaborative** centered in **disability culture and crip technoscience**. Their work pivots around the concept of access: access is our ethic, our creative content, and our methodology. They use **digital media and social practice** to craft replicable protocols that treat accessibility as **research-creation, an aesthetic world-building practice, and an invitation to assemble community**.

Their work embodies **crip interdependence in form, aesthetics, and content**. They define critical design as disability culture's challenges to existing social and built environments. They approach this work with joy, relationality, and a commitment to embodied design processes. They embrace interdependence as a political technology and design methodology.



Tangled Art + Disability
Charitable Org

<https://tangledarts.org/>

About:

Tangled Art + Disability is a registered charitable organization dedicated to enhancing opportunities for artists with disabilities to contribute to the cultural fabric of our society by: **Showcasing** and promoting artists with disabilities from visual, performing, media arts, film and integrated art forms, **Engaging and inspiring** young people with disabilities to explore and embrace their own creative talent, **Fostering partnerships and collaborations** that enhance opportunities for artists with disabilities to practice and share their work with a wider public, **Providing** accessible professional development and networking opportunities, **Building an inclusive arts and culture sector** so that everyone can appreciate the abundance of art our society has to offer.



UC Berkeley Rad Mad Lab

Lab

<https://disabilitylab.berkeley.edu/>

About:

The Nakamura Disability Lab is one of UC Berkeley's well-kept secrets tucked away inside one end of the Hearst Annex complex. With its mission of "Making Better Crips," the lab has been operational since 2018 and led by Prof. Karen Nakamura, the endowed chair for Disability Studies and Professor of Anthropology. The lab was formed as a **nexus for disability research, media, and design in the Bay Area**. It combines the functions of a purposefully-accessible and cross-disability inclusive **makerspace, research lab, and teaching space**.



Chicago Cultural Access Consortium

Charitable Org (regional)

<https://chicagoculturalaccess.org/>

About:

Chicago Cultural Accessibility Consortium (CCAC) facilitates a dynamic community of cultural administrators and people with disabilities to remove barriers in the Chicago region's cultural organizations. CCAC is entirely run by passionate volunteers: Their mission is to empower Chicago's cultural spaces to become more accessible to visitors with disabilities. Central to our work, we provide the following free opportunities to cultural organizations and visitors with disabilities: **professional development, equipment loan, promoting accessible events.**

*This org exists in the Midwest, there are analogous ones that are more local for New Art City.



San Francisco Lighthouse for the Blind

Lab

<https://lighthouse-sf.org/>

About:

Headquartered in San Francisco, California, LightHouse for the Blind and Visually Impaired provides **education, training, advocacy, and community for blind individuals in California and around the world**. Founded and based in San Francisco since 1902, the LightHouse is one of the largest and most established comprehensive blindness organizations in North America, with a wide variety of programs to suit a wide variety of needs, as well as a rich network of blindness advocates and professionals.

These could be helpful partners for outreach, research, feedback and fundraising. Potentially putting together a program to teach some of their community how to use NAC.



Smith Kettlewell Eye Research Institute

Research Institute

<https://www.ski.org/>

About:

Their mission is to create a unique environment for research on human vision -- basic **scientific research** to increase the understanding of normal vision in support of vision disorders, **clinical research** to develop new diagnostic procedures and treatments for visual and other sensory disorders, and **engineering research** to produce better techniques for aid and rehabilitation of the blind and partially sighted.

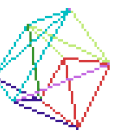
To this end, they maintain an independent research institute which **maximizes individual responsibility and innovation**, which promotes a balance of laboratory, clinical and rehabilitation scientists, and which limits size in order to foster mutually supportive research collaborations.

Could partner with them for research and feedback. They are very tech-centered and would love to be involved. They also fundraise.

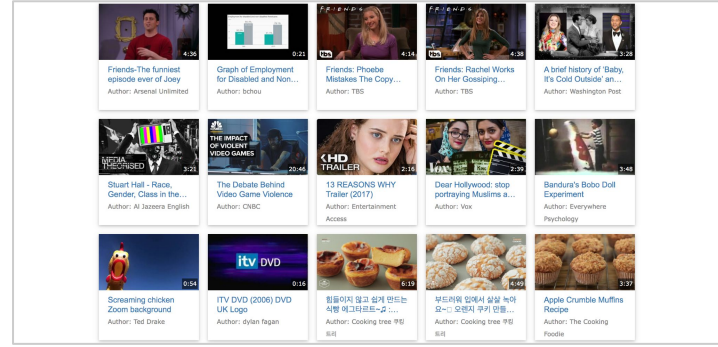
Notable Mentions



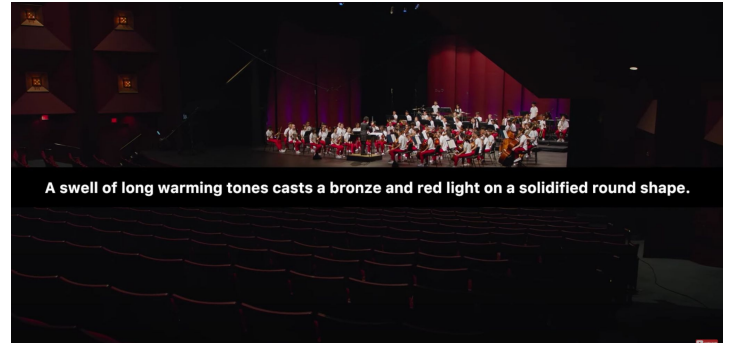
X



Transmediale: Infinite Distance (access. media art)



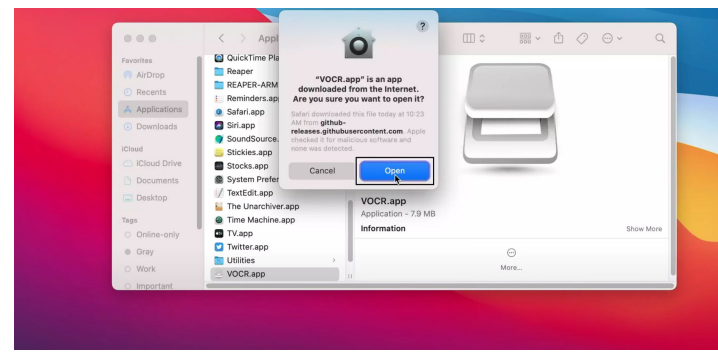
YouDescribe (community sourced audio-description)



Molly Joyce Side by Side (artful alt-text for sound)



Andy Slater: Describing Your Image: Accessibility for Blind and Low Vision Audiences (YouChicago)



VOCR (plug-in for screen recognition)

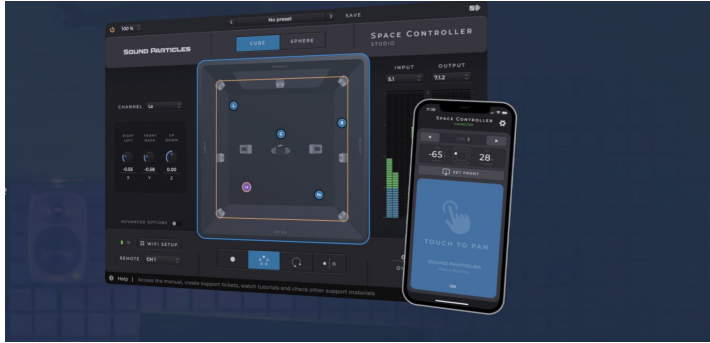
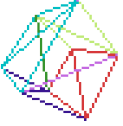


JJJJerome Ellis (multimedia accessible art)

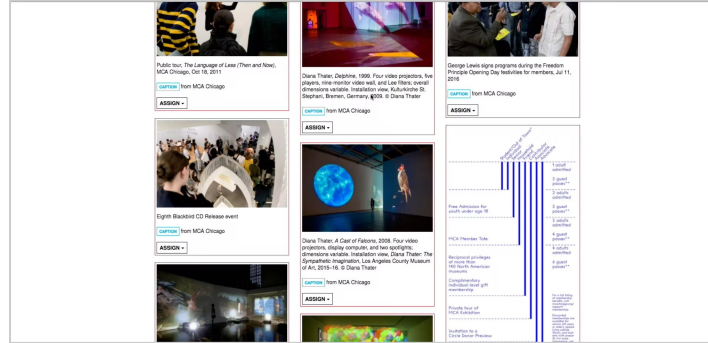
Notable Mentions



X



Space Controller plug in by Sonic Particles (app on your phone for ambisonic sound)



Coyote Project (MCA uses it, volunteer based image descriptions of their collection)



Microsoft Soundscape (spacialized wayfinding app)



Audimance (app for performances that provide different streams of access, made by Kinetic Light, disability arts group in SF)



Fayen D'Evie (Visually impaired interdisciplinary artist outside of Melbourne who collabs with Andy)



Leonardo Criptech (incubator for tech/media artists)

We hope these insights help inform
the future of NAC's accessibility panel!
We are excited to be a part of it.


X


Thank You

Let us know if you have any questions or would like to develop some of these ideas together.

OUTPUT FIELD

Vivian Qiu

viv@outputfield.com

Andy Slater

andyslatery2k@gmail.com

Brendan Lee

brendan.a.lee@gmail.com