How Music Hackers Design for Disability

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Problem

Schools of music are full of faculty and students with concealed performance injuries and invisible impairments such as depression, learning disabilities, and autistic-spectrum conditions. Academic and professional music folk mostly and understandably insist on protecting their careers by pretending to be ablebodied (Lubet, 2010, p.135).

Teacher Network

Music education should be inclusive. So where are the disabled teachers?

Disabled educators can help make lessons more accessible to everyone at school – but many more are needed

Carien Meijer
Chief executive, Drake Music

Fri 13 Apr 2018 07.30 BST

488 93

most viewed

All eyes on Canada as first G7 nation prepares to make marijuana legal

Kate Spade's designs conveyed happiness and sunshine. How sad to learn her life was quite different

Live French Open quarter-finals: Nadal comeback against Schwartzman halted by rain – as it happened

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Primary election results: Sanders' Iowa pick loses and Trump row forces Alabama runoff

Ableism in Music Education

“...[P]eople with disabilities who perceive the standard curriculum as ignorant, apathetic, oblivious, or even hostile to their interests are simply absent. Thus, cultural inequities manifest themselves as exclusion” (Lubet, 2010, p. 139).

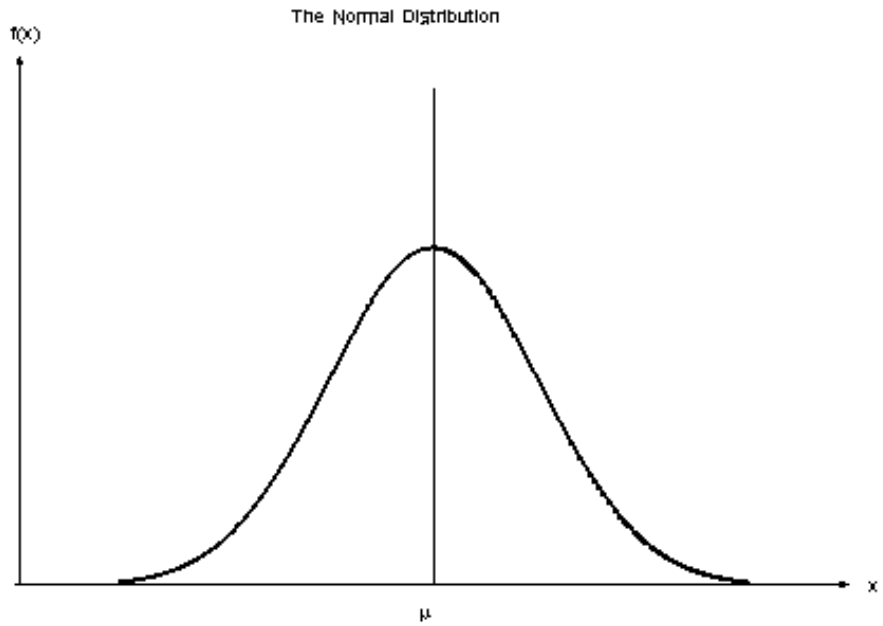
Disability Theory

Medical Model of Disability

Depends on the construct of “normal” (emerges in Europe approx. 1830 with statistical sciences)

Prior to this, bodies were conceptualized as either natural or unnatural (monsters, freaks, and so on)

(Straus, 2011)



Terminology Legacy

“Rachmaninoff could cleanly strike a 13th. This would require a bare minimum hand span of 12 inches.

The NBA has measured hand spans on their rookie basketball players for the past 24 years. In 24 years, only one NBA basketball player has had a hand span of 12.0 inches. Only eight have measured 11 inches or more.

Just thought it was an interesting perspective on just how **freakish** SR really was!”

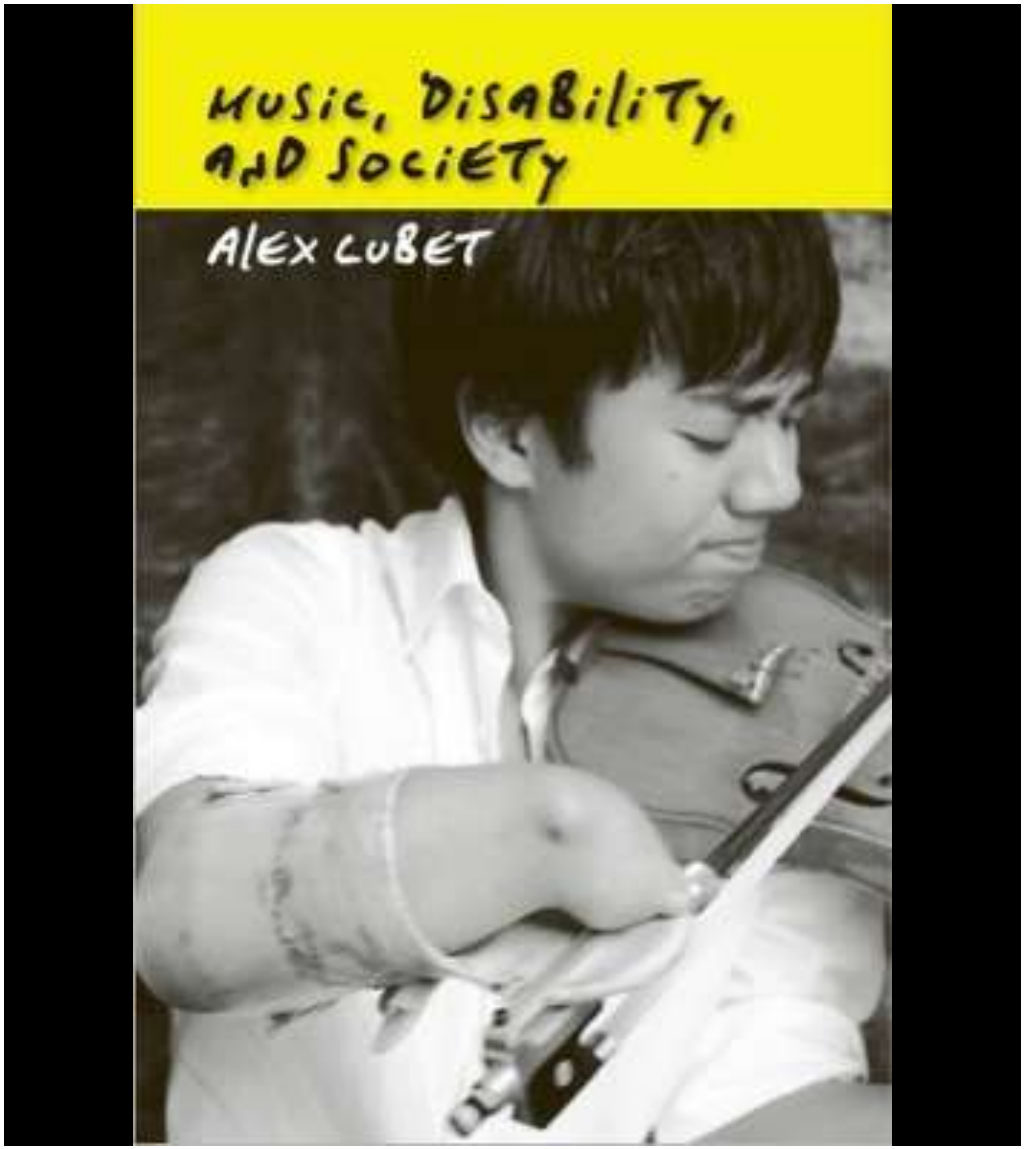
consider...

In the medical/individual model of disability, we (society) find faults with bodies and make them conform to “normal” things like...

Les Paul was badly injured in a 1948 car accident.

Doctors couldn't rebuild his right elbow, so Paul told them to fuse the elbow at a 90 degree angle so he could keep playing guitar.

Should we adapt instruments or people?



Social Confluence

Disability is a socially-contextualized experience

How people experience disability *depends*

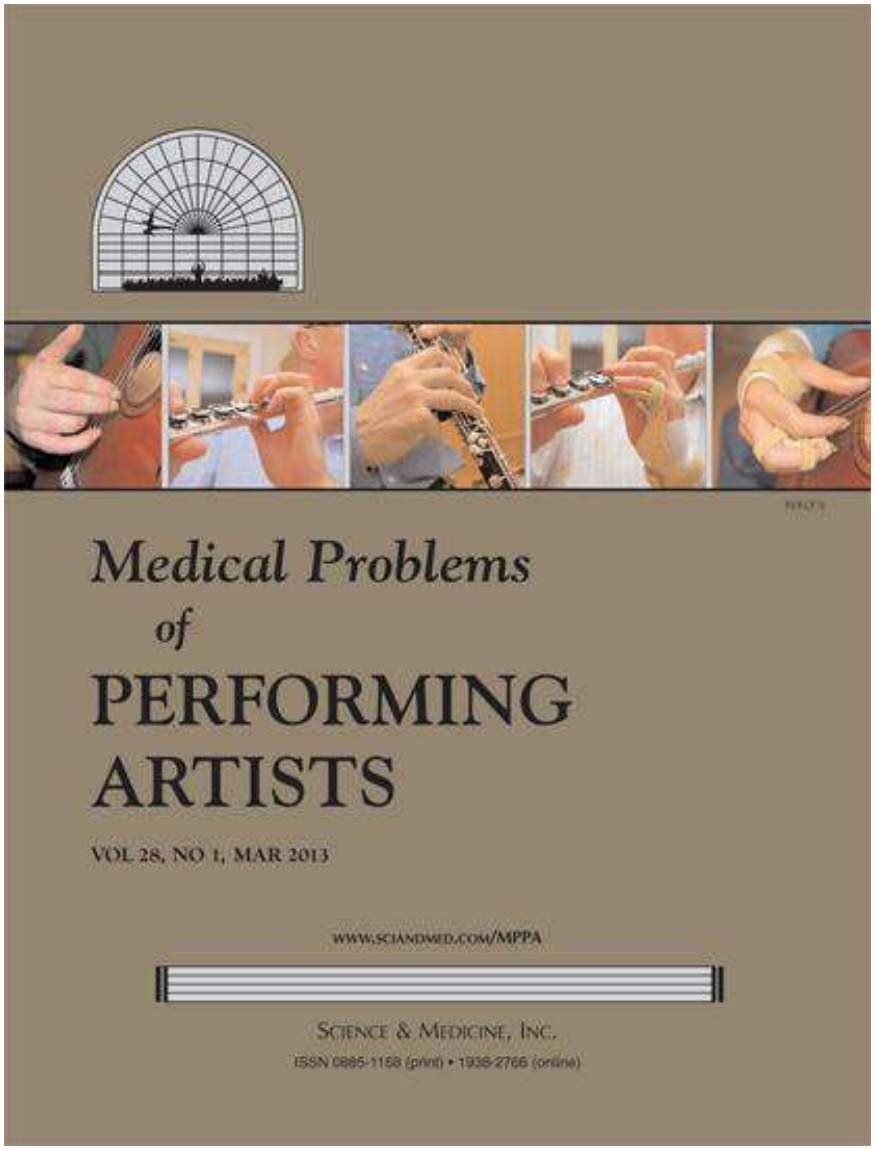
Normal Performance Body

disability experiences in music are often related to the nondisabled assumption of the idealized ‘normal’ performance body

Ephemeral is the New Normal

Ageing undermines the normal performance body

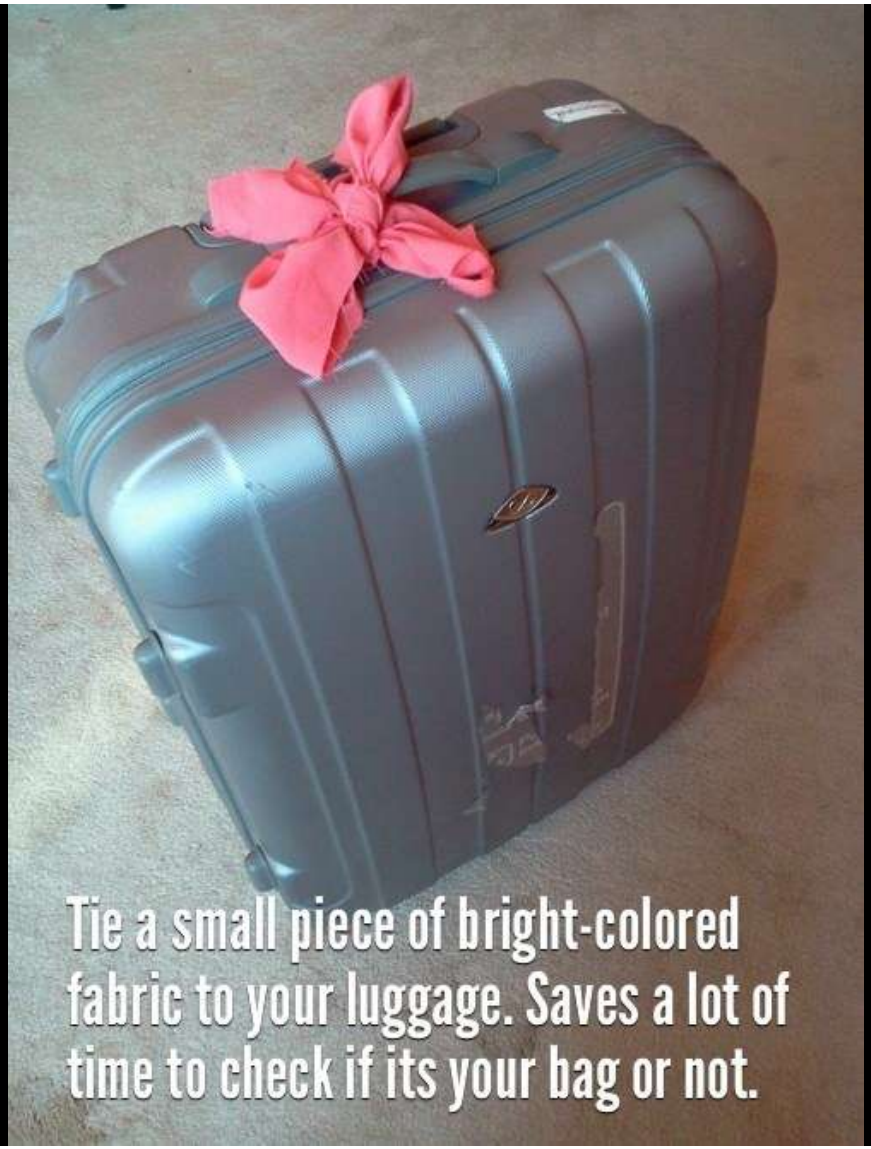
As a result, you will experience disability in music



Q: how can we migrate music education from the medical model to the social model?

A: Hacking?

are you a hacker?


Tie a small piece of bright-colored fabric to your luggage. Saves a lot of time to check if its your bag or not.

hacking music instruments

Rick Allen
Def Leppard

AQUPAD
AQUPAD

Questions

What is hacking? (action)

What is hacking disability? (action + construct)

What is hacking disability in music? (action + construct + context)

Method

Case study of
Monthly Music Hackathon NYC

Data collection at hackathons:

- Video ethnography
- Semi-structured interviews

Analysis:

- “Thick description” (Goldman, 2007; Denzin, 2001)

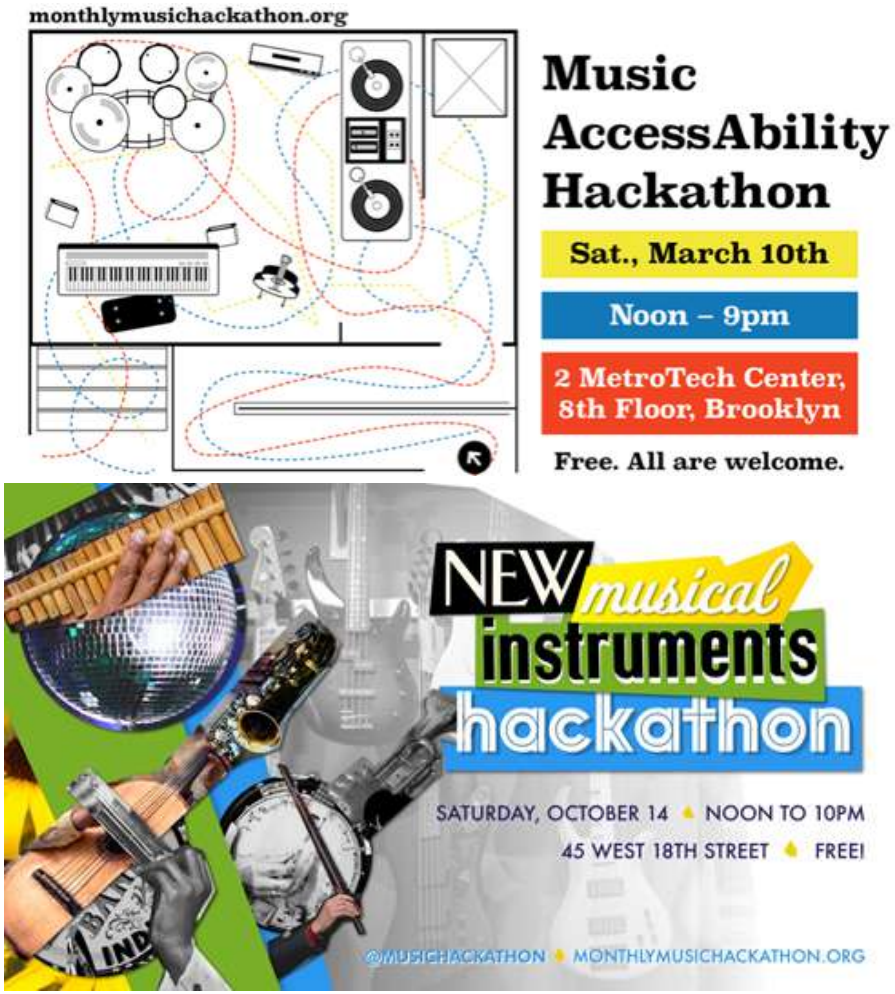
Monthly Music Hackathon NYC

- Reoccurring non-competitive event
- Musicians, software/hardware designers, coders, & educators gather to collaborate
- Hacking participants form small groups and try to come up with a solution to a problem in a short timeframe (10 hours)

Monthly Music Hackathon NYC

- It’s free and anyone is welcome
- Organized by Music Community Lab, a not-for-profit organization managed by volunteers
- Often held at Spotify HQ in Manhattan
- Attendance averages around 100

Themes of Events Attended



Opening Talks

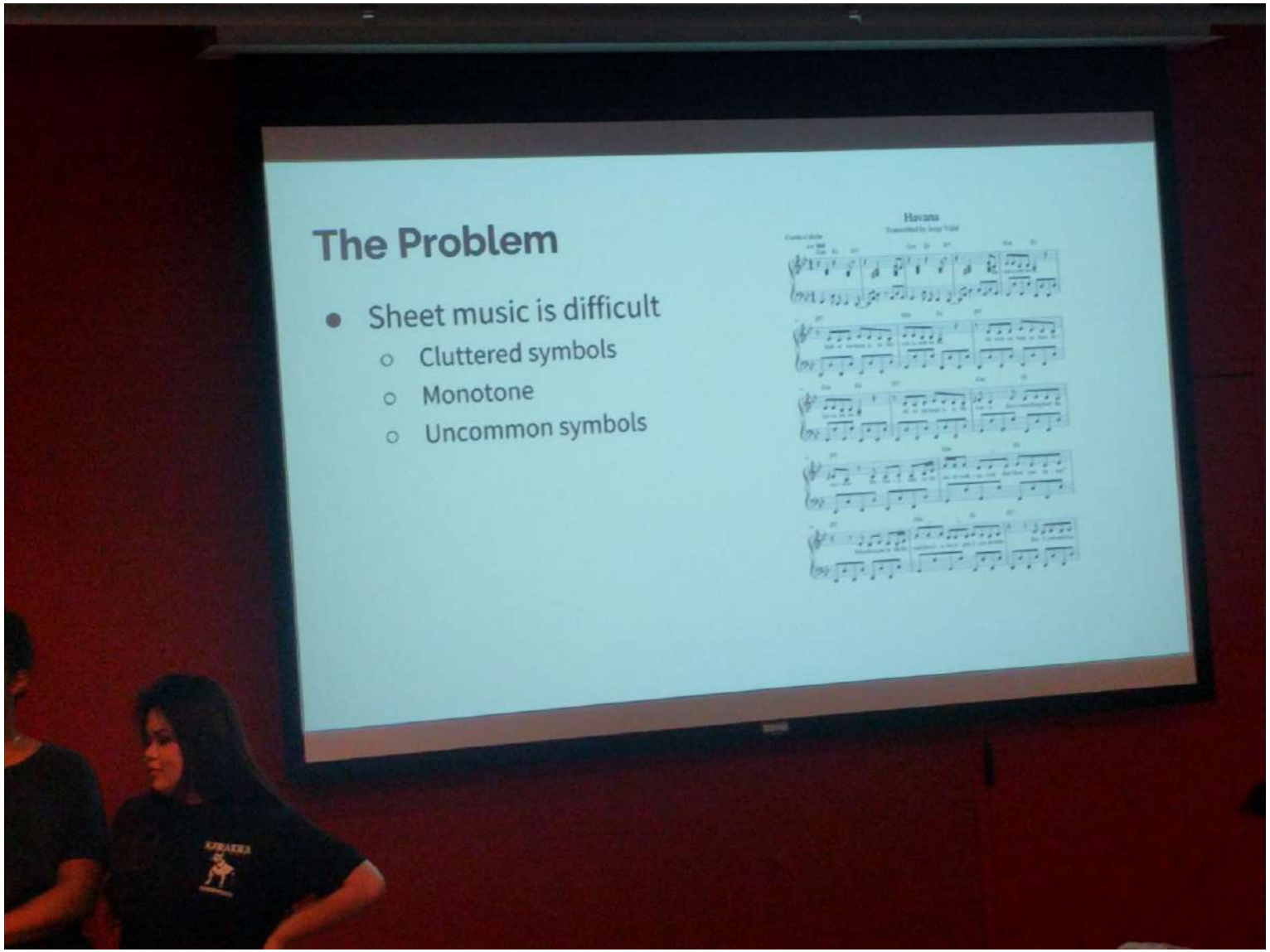
Brainstorming, Workshops, and Hacking

Prototype Presentations

Cases Within the Case

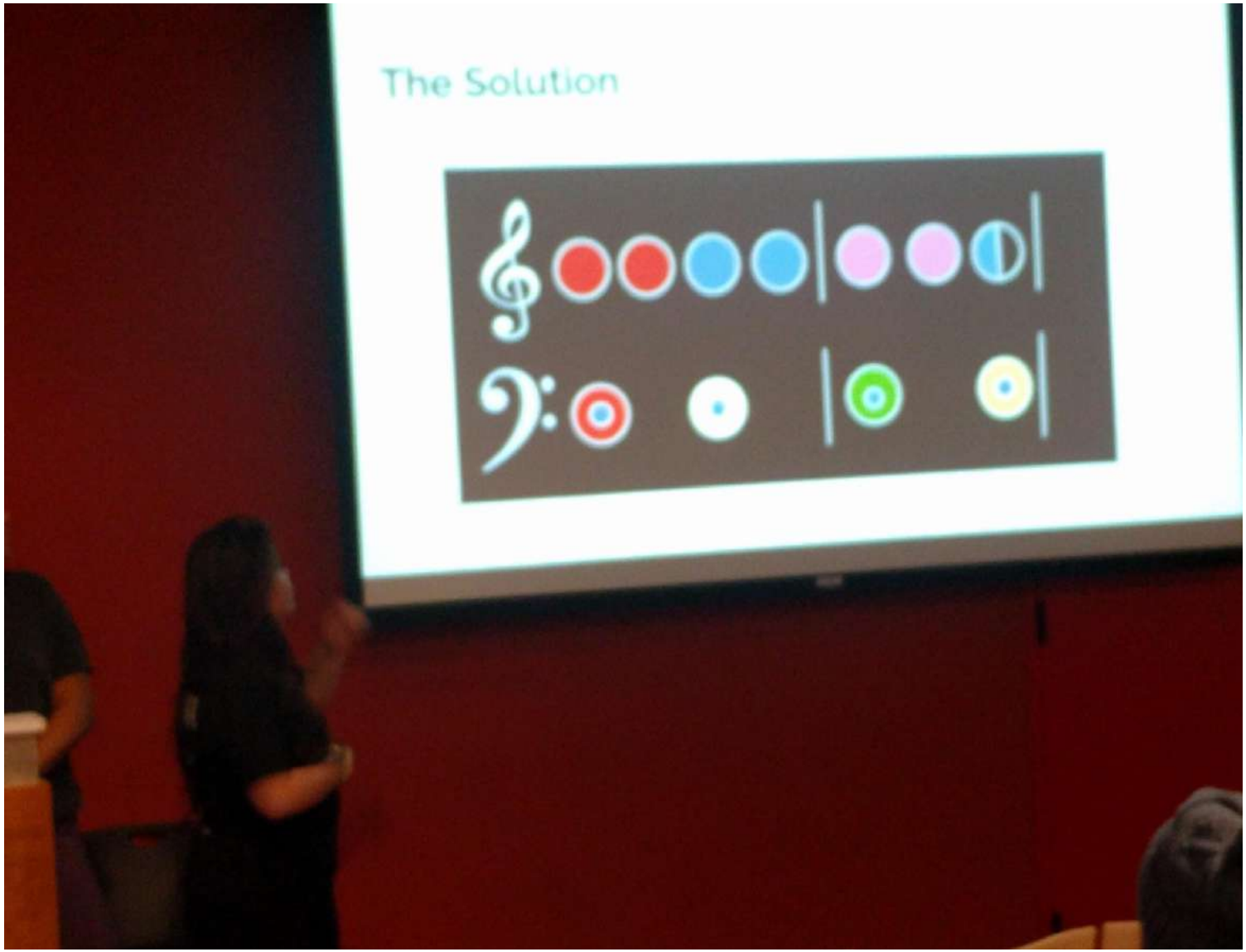
Case 1
‘SCND Method’ (notation)

The Hackers


The Problem
Sheet music is difficult
Cluttered symbols
Monotone
Uncommon symbols
Havana

Shapes and Colours

The Solution (?)

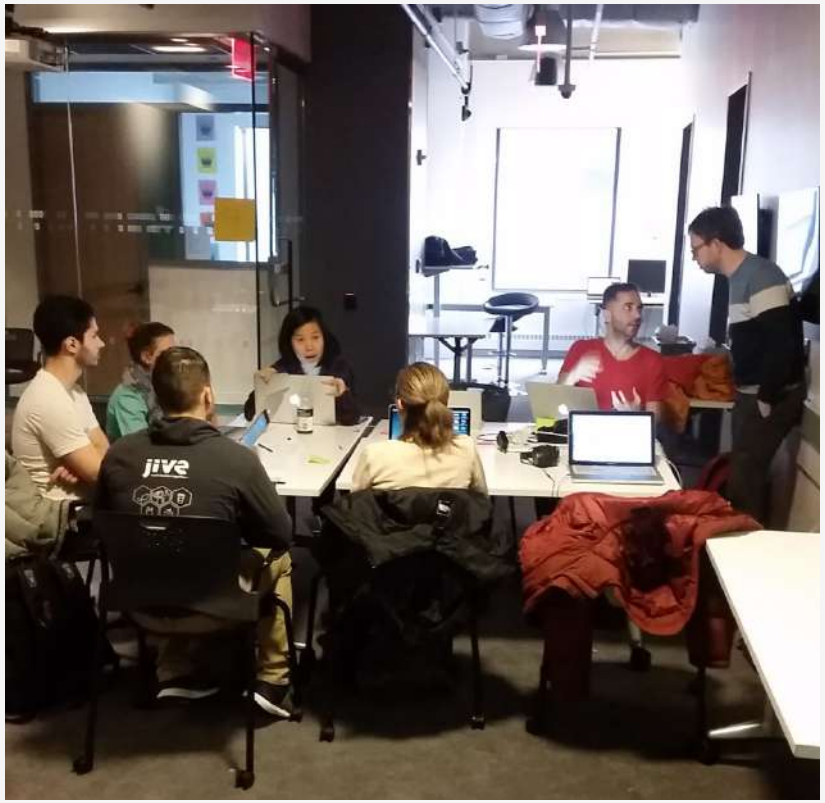


Case 2
Microtonal Instrument

Case 3
Haptic Phone App

Haptic & Visual Responses to Audio

- Created haptic phone app that vibrates along to the beat of a song
- Tried creating audio visualizer that translates audio frequencies into colours
- Meant for the hearing and visually impaired



Trial-and-Error & Achieving Goal

Case 4
Album Art for Colourblindness

“Hacking” Colourblindness

Joao, Isaac, and Bryant

“The objective really is, people with colourblindness, if they see album artwork they want to still be able to see the true colours of the album artwork” (Bryant)

The output of the program will be a “*more expressive image*” (Joao)

Are we solving the right problem?

The Problem with the Problem

- The group encountered a problem: how was their project going to be useful for a person with colourblindness?

"Are we solving the right problem?" (Bryant)

- A product made *for* people with disabilities vs.
  a product made *about* people with disabilities

Hacking Hacking

Human-centered design would seem to be the obvious and ethical path, but there are instances in which the hack comes first, and then its use is determined afterward

In other words, we don’t always know what we need until we encounter it

And, this can lead to more hacks (hacking the hack)

What is hacking disability in music?

making music, discussing, collaborating, innovating, problem solving, idea generating/brainstorming, networking, creating, **coding**, thinking, designing, being challenged, questioning, inviting, intriguing, skill developing, teaching, knowledge-sharing, mentoring, volunteering, donating, confusing, giving, resisting, persisting, energizing, helping, problem-focused, intense, dedicated, constructive, adventurous, community, active, trial-and-error, divide-and-conquer...

And, honestly, it can be really boring to observe

Takeaways: Inconspicuous absences

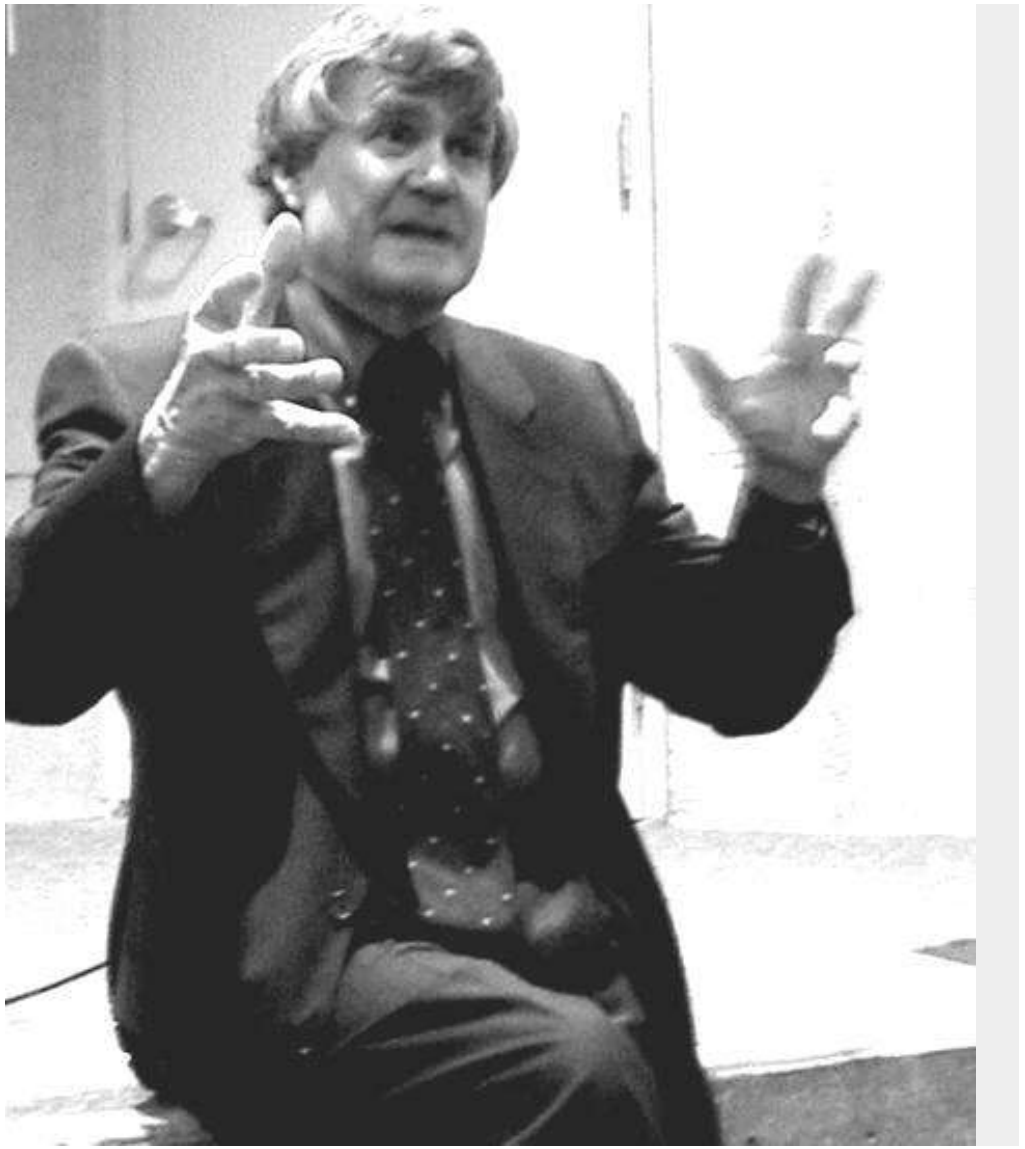
+ Champion disability identity, culture, pride, agency, and representation
+ Be led and informed by disabled people/people with disabilities (Good intentions are not enough. Prompts and guidance are needed).

What we can learn from music hackers?

+ Make a concerted effort to effect meaningful and immediate change through hacking
+ Hacking is as much a mindset as it is a technology-based act (social confluence in action)
+ We can all contribute to the hack

Hacking

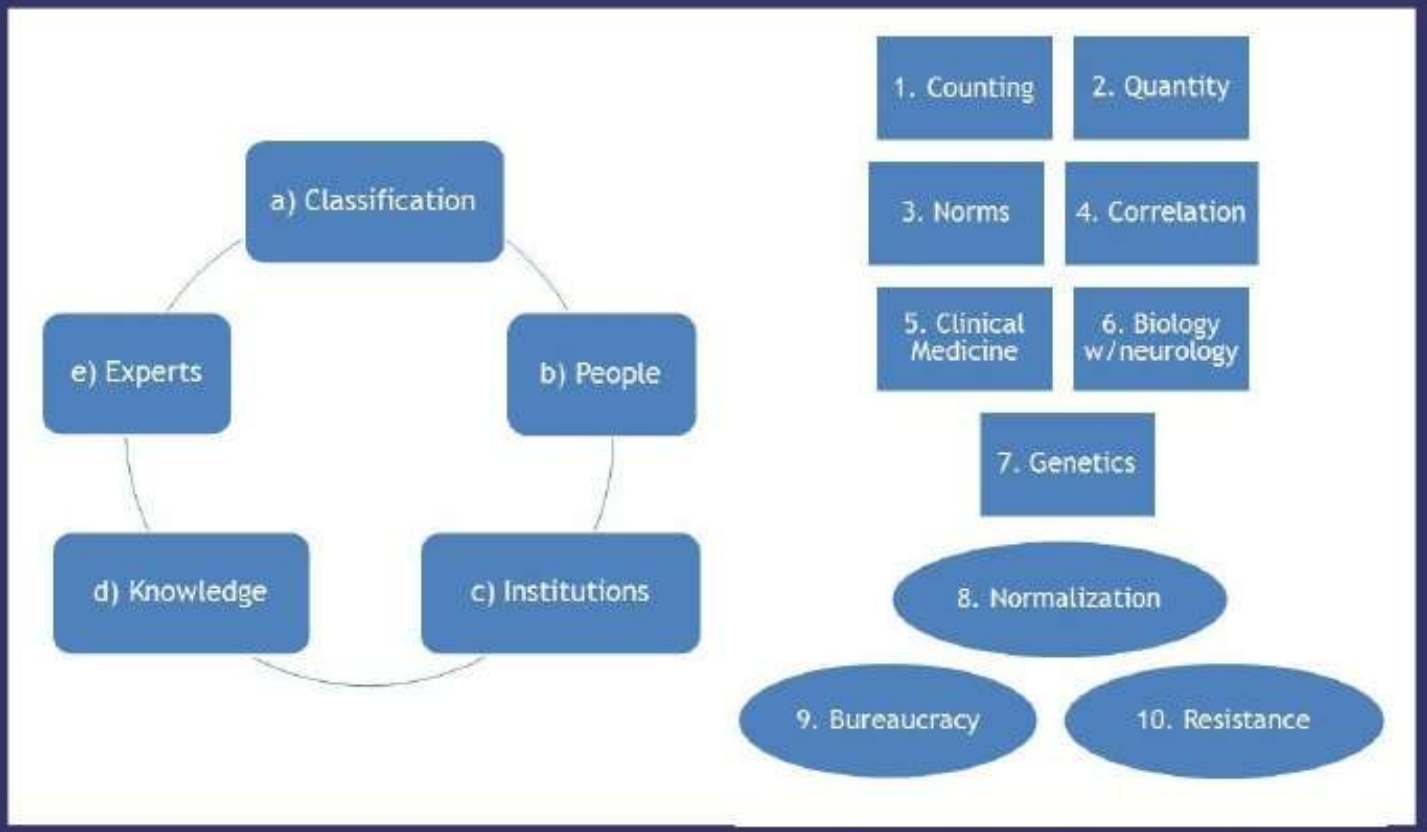
(Ian Hacking)



Making Up People - Hacking (2007)

We think of these kinds of people as given, as definite classes defined by definite properties. As we get to know more about these properties, we will be able to control, to help, to change, or to emulate them better. But it is not quite like that. They are moving targets because our investigations interact with the targets themselves, and change them. And since they are changed, they are not quite the same kind of people as before. The target has moved. That is the looping effect. Sometimes our sciences create kinds of people that in a certain sense did not exist before. That is making up people (p. 293).

Hacking 'Making up People' Framework



5 Interactive Elements of the Looping Effect

7 Engines of Discovery
3 Derived Engines

consider...

how do we
'make up'
disability
in
music education?

Hacking (2007)

[P]rofessionals … generate or legitimate the knowledge, judge its validity, and use it in their practice. They work within institutions that guarantee their legitimacy, authenticity, and status as experts. They study, try to help, or advise on the control, of the people who are classified as of a given kind.

Disability Identity: Who Chooses It?

Michele in NYC @RebelWheelsNYC · 10 Dec 2017

"See the person, not the disability"

I am visibly DISABLED (& proud). If you say you "don't see my disability", then you're not seeing the accommodations that I need, the social/systemic oppression that I face & that you think disability = bad. #Ableism. #SayTheWord

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Pertti Kurikan Nimipäivät
The Punk Syndrome
(2012)

How well does music education support disability identities?

What Can Be Done?
Social Hacking Homework

1. Disability Culture Immersion
2. Disability Consciousness
3. Disability Pride
4. Disability Representation

(Garland-Thomson, 2016)

How are we “making up” disabled people in music education?

Informed or Imagined?

Can we hack it?

Acknowledgements