

ITU KALEIDOSCOPE

ONLINE 2021

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Sonic interaction design: The next
generation of multi-sensory experiences



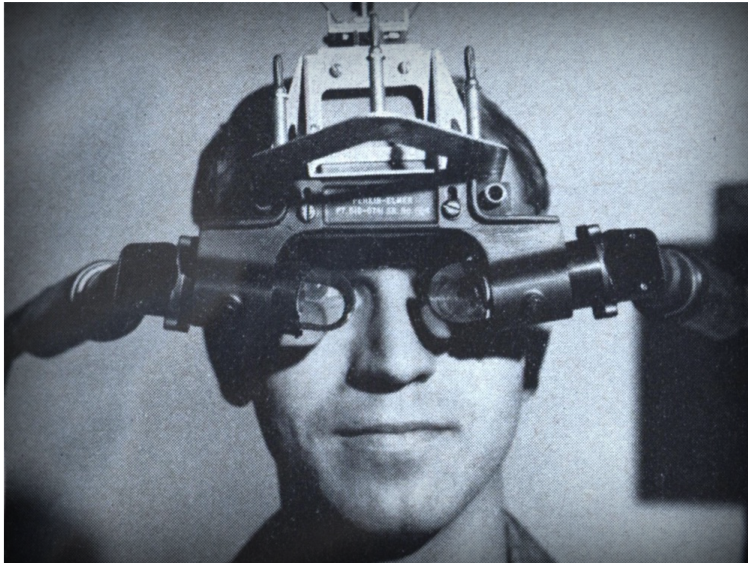
Why multisensory?





Immersive technology





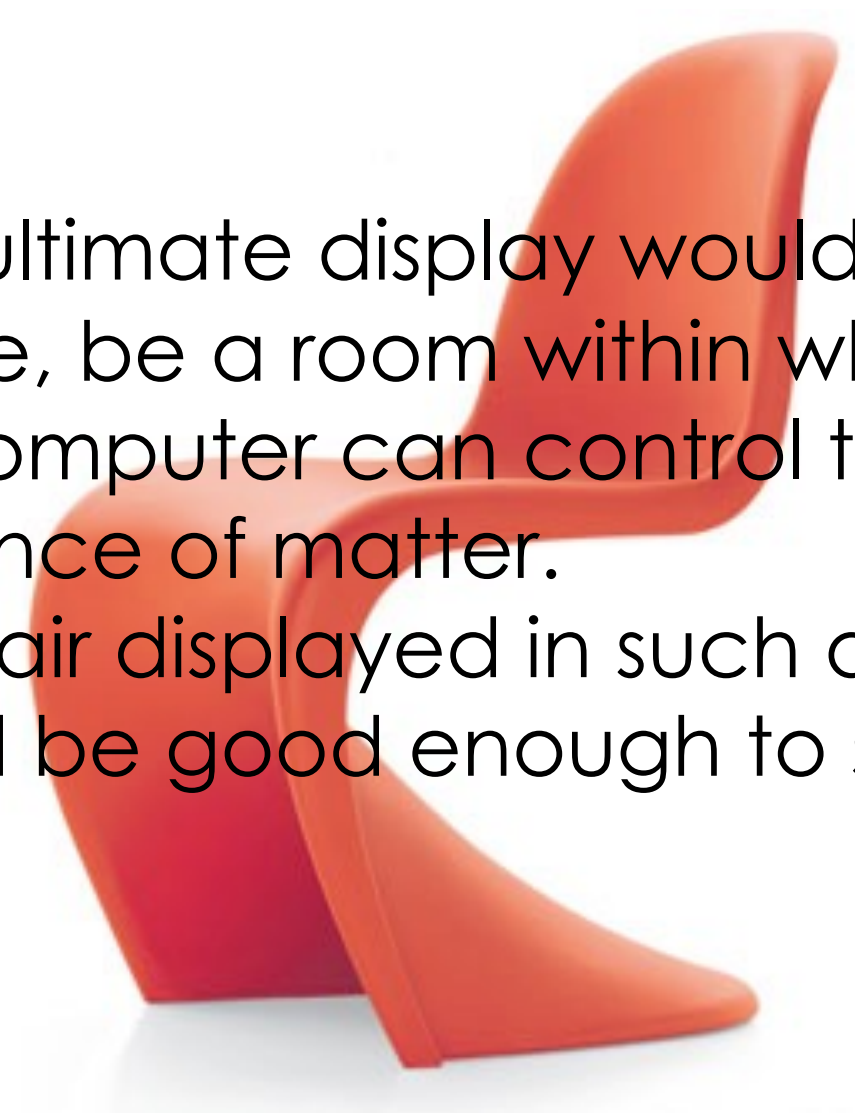
1968



2015

Ivan Sutherland

The ultimate
display
1965



“The ultimate display would, of course, be a room within which the computer can control the existence of matter.

“A chair displayed in such a room would be good enough to sit in..”.

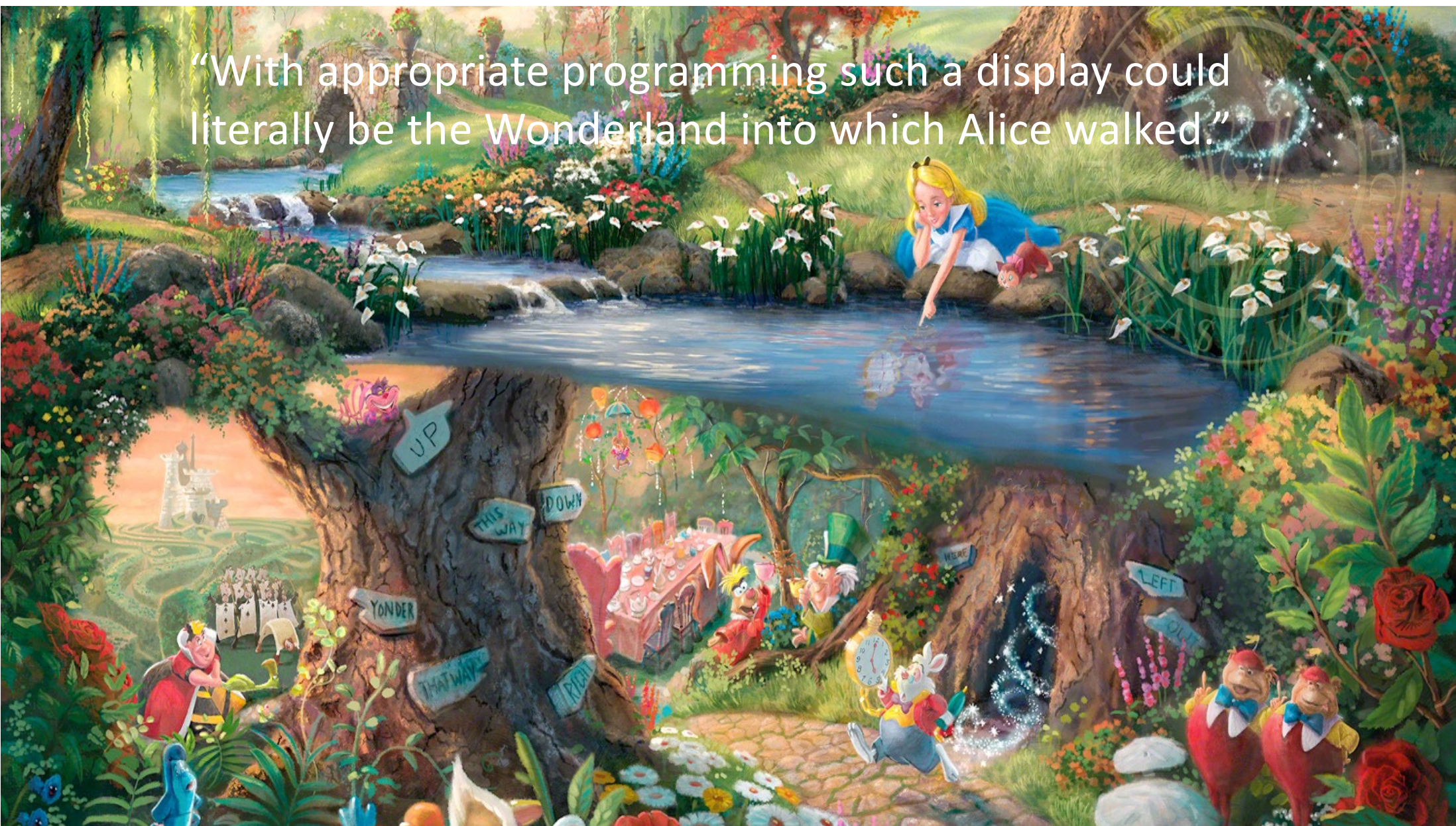


... handcuffs displayed in such a room would be confining,...



And a bullet displayed in such a room
would be fatal

“With appropriate programming such a display could literally be the Wonderland into which Alice walked.”



What is missing?

Visual displays



Auditory displays



A man with curly hair and a beard is wearing a black VR headset. He is holding a white robotic arm with a blue sensor and a red logo. The arm is positioned in front of him, and he is looking at it through the VR headset. The background is a plain grey wall.

Haptic Feedback is limited





VISION



HEARING



SMELL



TASTE



TOUCH





Sight



Hearing



Smell



Taste



Touch



Temperature



Balance

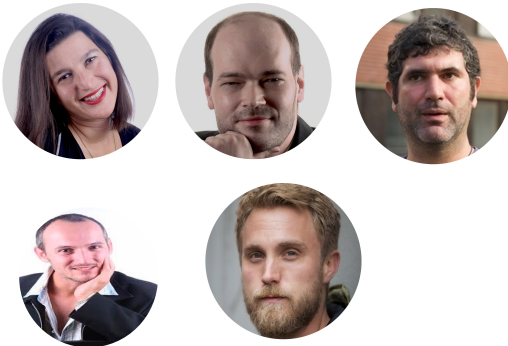


Proprioception



Nociception

VRMI principles



Serafin, S., Erkut, C., Kojs, J., Nilsson, N. C., & Nordahl, R. (2016). Virtual reality musical instruments: State of the art, design principles, and future directions. *Computer Music Journal*, 40(3), 22-40.

Focus: natural interactions



Jaron
Lanier



Musical instruments are the best user interface





IEEE 10th Symposium on 3D User Interfaces

23th & 24th
March
Arles
France



ATTEND THE CONFERENCE

PROGRAM

3DUI CONTEST

MEDIA

SUBMIT YOUR WORK

COMMITTEES

Awards

Contestants

Instructions

Rules

Instructions

This year, the IEEE 3DUI 2015 Symposium will hold the 6th annual 3DUI Contest - **3DUI Idol**. It is open to anyone interested in 3D User Interfaces (3DUIs), from researchers to students, enthusiasts, and professionals. The purpose of the contest is to stimulate innovative and creative solutions to challenging 3DUI problems. 3DUI 2015 will be co-located with IEEE Virtual Reality. Due to the recent explosion of affordable and portable 3D devices, this year's contest will be judged live at 3DUI. Contestants are required to bring their systems for live judging for attendees to experience them.

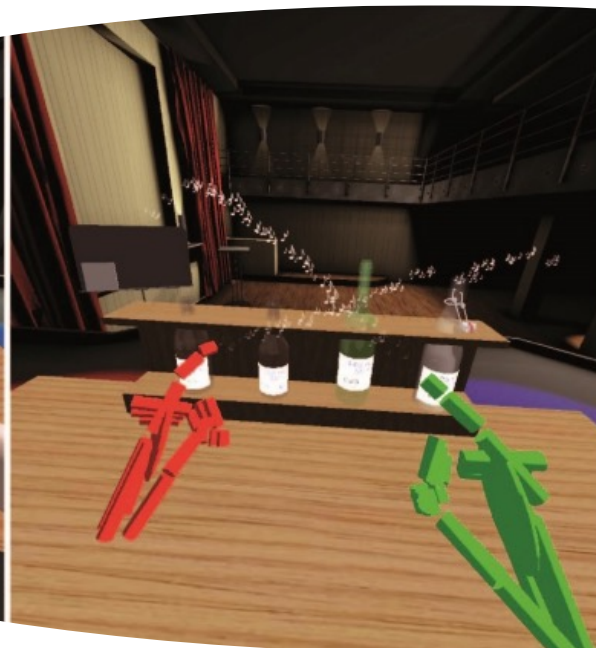
Closing Remarks

Do not forget to check the the results of the [3DUI Contest](#) and the [pictures](#) of the event.



3DUI competition - 2015





3DUI

The Digital Intonarumori

3DUI 2015



Singing in Virtual Reality with the Danish National Children's Choir.
Stefania Serafin, Ali Adjorlu, Lars Andersen, Nicklas Andersen

CMMR 2019









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Thank you!

