



Aalborg Universitet

AALBORG UNIVERSITY  
DENMARK

**Leonardo Journal LABS top-ranked thesis abstracts of 2021 on intersections between art, science and technology**

*LABS ID: 4247 Brooks, Anthony "SOUNDSCAPES: THE EVOLUTION OF A CONCEPT, APPARATUS AND METHOD WHERE LUDIC ENGAGEMENT IN VIRTUAL INTERACTIVE SPACE IS A SUPPLEMENTAL TOOL FOR THERAPEUTIC MOTIVATION." PhD , Sunderland, UK, 2011*

Brooks, Anthony Lewis

*Publication date:*  
2021

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*

Brooks, A. L. (2021, Sept 24). Leonardo Journal LABS top-ranked thesis abstracts of 2021 on intersections between art, science and technology: LABS ID: 4247 Brooks, Anthony "SOUNDSCAPES: THE EVOLUTION OF A CONCEPT, APPARATUS AND METHOD WHERE LUDIC ENGAGEMENT IN VIRTUAL INTERACTIVE SPACE IS A SUPPLEMENTAL TOOL FOR THERAPEUTIC MOTIVATION." PhD , Sunderland, UK, 2011. (LABS ID: 4247 ed.) Leonardo Electronic Almanac. <https://www.leonardo.info/leonardo-abstracts-service/38297>

**General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

**Take down policy**

If you believe that this document breaches copyright please contact us at [vbn@aub.aau.dk](mailto:vbn@aub.aau.dk) providing details, and we will remove access to the work immediately and investigate your claim.

## Leonardo Abstracts Service

LABS ID: 4247

### Brooks, Anthony "SOUNDSCAPES: THE EVOLUTION OF A CONCEPT, APPARATUS AND METHOD WHERE LUDIC ENGAGEMENT IN VIRTUAL INTERACTIVE SPACE IS A SUPPLEMENTAL TOOL FOR THERAPEUTIC MOTIVATION." PhD , Sunderland, UK, 2011

**Keywords:** Empowered Creative Expression; Personalised Interactive Installations; Supplementing Traditional (Re)habilitation Intervention; Sensors; Societal Impact of Art + Science + Technology; Human WellBeing and Life Quality

[Link to Full Thesis](#), 47 + front/rear matter + published papers + appendixes pages, written in English , copyright Anthony Brooks

**Abstract:** This research explores sensor-based interactive systems to determine requirements for an untraditional tool to support therapeutic intervention and learning.

Rather than concentrating on a specific physical disability, focus is on a means to stimulate a participant's existing ability to articulate creatively and playfully. Through motivating interactions via empowering unfettered gesture control of responsive digital multimedia in recreational activities, e.g. video gaming, music making, painting, and robotics; a 'whole-person benefit' - including impairment - is targeted.

A bespoke infrared sensor-based system was the vehicle for the investigations. Examined variables include (a) participants across wide age ranges and spectrum of ability including profound multiple disabilities (PMD), cerebral palsy (CP), acquired brain injury (ABI), and typically developing (TD); (b) different test locations; and (c) contrasting sensor-based apparatus.

End-user access, inclusion, and participation in the 'recreation-as- training/learning' activities were augmented through using divergent mediums adapted to the participant's profile. Gain in concentration, eye-to-hand contact and other self/social skills were amongst the reported PMD and CP benefits. Potentials within ABI were also positively evaluated, especially balance, body dynamics, and independence training. Despite the brevity of the study, the use of video games in various hospital contexts was also positive.

Results, and the research overall, signify the promise from using unencumbered gesture control of multimedia in this context. Benefits from regular use are hypothesized ranging from specific healthcare intervention, across various training/learning situations, to generic life quality. External expert evaluations substantiate these claims.

Despite the positive evaluations, limitations were identified in all the tested apparatus. This supported the determining of the requirements towards an optimal system solution. Thus, irrespective of the resultant patented product, it is concluded that a need still exists for an improved turnkey solution.

SoundScapes thus evolved from being product-centred into an open research platform upon which further ongoing multi/inter-disciplinary explorations are conducted.

**Department:** Faculty of Arts, Design and Media , Sunderland, UK

**Advisor(s):** Phil Ellis (now deceased)

#### Publications

Leonardo

Leonardo Music Journal

Book Series

Leonardo Electronic Almanac

Reviews ▾

Podcast

Leonardo Abstracts Service

Leonardo Gallery

Leonardo/Olats

Blog

SEAD White Paper

#### Programs

LASER Talks

Special Projects ▾

Residencies ▾

ASU-Leonardo Imagination Fellowship

Educators and Students Program

Leonardo Events

#### Community

Individual Member Directory

Affiliate Member Directory

Become an Affiliate Member

Author Directory

Education and Art Forum (LEAF)

Newsletter Archive

Newsletter Sign Up

Awards Recipients

#### Opportunities

Opportunities Hub

Volunteer and Intern Opportunities

Advertise with Leonardo

#### For Authors

Journals

Books

Resources

#### About

Our Mission

Our History

Governing Board of Directors

Editors and Editorial Boards

Our Team

Financials

Code of Ethics

FAQs

Contact Us

#### Donate

Subscribe

Email Sign Up



Email Address



# LEONARDO