Digital Creativity Labs and Mental Health
Digital Creativity Labs

• Impact-driven research in digital games and interactive media
• University of York lead, spokes at Goldsmiths, Falmouth, Durham, QMUL
• 30+ academics, 100+ partners
• Dedicated software dev team
IGGI: CDT in Intelligent Games and Game Intelligence

- 120 PhD students (of which 36 still to recruit)
- Applied games, game intelligence major themes
- Current projects on e.g. dementia, executive function training, therapy delivery

#data #games #ai #design
Network+ Closing the Gap

- Reducing physical health inequalities for people with SMI
- Seed funding, networking
- Digital tech, design & creativity key themes co-led by DC Labs members

Led by Professor Piran White and Dr Pete Coventry, our researchers are exploring how people interact with, and benefit from, their natural environments.

Professor Rowena Jacobs is leading a team which seeks to harness the potential of the vast amount of data relating to how people with SMI use health services and interact with their environment.

Dr Lina Gega and Dr Sebastian Deterding are exploring the potential of smartphones, apps and other digital technology to improve the physical health of those living with SMI.

Dr Deborah Maxwell is exploring the potential of co-design and creativity to understand and improve the physical health and wellbeing of people with SMI.
Digital
- Data
  - Drachen
  - Block
  - Wade
- AI
  - Walker
  - Hodge
  - Ursu

"Digital"
- Games
  - Deterding
  - Drachen
  - Kirman
- VR
  - Latham
  - Block
  - Schofield
  - Hook
- IM
  - Hook
  - Ursu

Creativity
- Creative arts
  - Audio: Williams, Maloney
  - Film: Ursu, Manni, Hook
  - Casual creators: Colton
- (Participatory)
  - Design
    - Deterding
    - Block
    - Hook
    - Kirman
    - Maxwell
Opportunities of ‘Digital’

1. Broad access: via mobile phones & web
2. Broad appeal: young-senior, men & women
3. Potentially scalable: near-zero production & distribution costs for digital copies
4. ‘Built-in’ rich data collection: Automatic capturing of behavioural data
5. Actionable: Interactive tech supports direct action, not just health communication
6. Adaptive: Algorithms allow adapting to person and situation
Opportunities of ‘Creativity’

1. Design as a unique way of taming ‘wicked’ real-life problems
2. Participatory design as a mature form of involving patients and stakeholders
3. Art and creative making contributing to wellbeing
4. Arts and media as a powerful way of giving voice, affording empathy and understanding in the wider public
Current and past projects
Gamification for health and wellbeing: A systematic review of the literature

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ARTICLE INFO
Article history:
Received 20 July 2016
Received in revised form 25 October 2016
Accepted 28 October 2016
Available online 2 November 2016

Keywords:
Gamification
Health
Welfare
Systematic review

ABSTRACT
Background: Compared to traditional persuasive technology and health games, gamification is poised to offer several advantages for motivating behaviour change for health and well-being, and increasingly used. Yet little is known about its effectiveness.

Aims: We aimed to assess the extent and quality of empirical support for the advantages and effectiveness of gamification applied to health and well-being.

Methods: We identified seven potential advantages of gamification from existing research and conducted a systematic literature review of empirical studies on gamification for health and well-being, assessing quality of evidence using the Cochrane Risk of Bias Tool.

Results: We identified 19 papers that report empirical evidence on the effect of gamification on health and well-being. 9 papers reported positive, 4 mixed effects, with mostly moderate or lower quality of evidence provided. Results were clear for health-related behaviors, but mixed for cognitive outcomes.

Conclusions: The current state of evidence supports that gamification can have a positive impact on health and well-being, particularly for health behaviors. However, studies report mixed or neutral effects. Findings need to be interpreted with caution due to the relatively small number of studies and methodological limitations of many studies (e.g. a lack of comparison of gamified interventions to non-gamified versions of the interventions).

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1. Introduction
1.1. Background

The major health challenges facing the world today are shifting from traditional, pre-modern risks like malnutrition, poor water quality and indoor air pollution to challenges generated by the modern world itself. Today, the leading global risks for mortality and chronic diseases—high blood pressure, tobacco use, high blood glucose, physical inactivity, obesity, high cholesterol—are immediately linked to a modern lifestyle characterized by sedentary living, chronic stress, and high levels of energy dense foods and recreational drugs (Stevens et al., 2009). In addition, following calls from the World Health Organization’s (2015; 1946) inclusive conception of health, researchers, civil society, and politicians have been pushing to extend policy goals from preventing and reducing disease towards promoting people’s holistic physical, mental, and social well-being (Carlosi and Hanlon, 2008; Hanley and Farmer, 2012; Ruppert and So, 2013; Marks and Shah, 2004; Scholes et al., 2011).

Practically all modern lifestyle health risks (and resulting diseases) are directly affected by people’s individual health behaviours – be it physical activity, diet, recreational drug use, medication adherence, or preventive and rehabilitative exercises (Ciana, K., Rimer, B. K., & Vosworth, K. 2004, pp. 6–8; Schroeder, 2007). By one estimate, three quarters of all health care costs in the US are attributable to chronic diseases caused by poor health behaviours (Vollmer, 2008), the effective management of which again requires patients to change their behaviours (Zola et al., 2015). Similarly, research indicates that well-being can be significantly improved through small individual behaviours (Systemimetry and Lycos, 2013; Tobin et al., 2017). Behaviour change has therefore become one of the most important and frequently targeted levers for reducing the burden of preventable disease and death and increasing well-being (Ciana, K., Rimer, B. K., & Vosworth, K., 2008, p. 16).

A main factor driving behaviour change is the individual’s motivation. Even if different theories contain different motivational constructs, “the processes that direct and energize behaviour” (Reeve, 2014, p. 8).
“Mission Schweinehund”
Gamified physical activation for Type II Diabetes patients (Walz, Deterding)

#games #design
“Mission Schweinehund”
Gamified physical activation for Type II Diabetes patients (Walz, Deterding)

**Results:** Daily physical activity increased by an average of 3,998 (SD=1,293) steps/day in the intervention group and by an average of 939 (SD=1,156) steps/day in the control group. The adjusted difference between the two groups was 3,128 steps/day (95% CI=2,313, 3,943, *p*<0.001). The increase in daily physical activity was accompanied by an improved aerobic capacity (adjusted difference of oxygen uptake at the first ventilatory threshold of 1.9 mL/(kg·min), 95% CI=0.9, 2.9, *p*<0.001). Glycemic control (HbA1c) did not change over the course of the intervention.
MotivAge: Motivational Design for Healthy Ageing (Deterding, Calvo)
DIG4IT: Games for Delivering GET to Young People with Phobias (Gega, Deterding)
The COVID-19 pandemic is creating a flurry of activity among social and behavioural researchers. Games research is no exception. Numerous scholars and journalists have been publishing opinion pieces suggesting that games may foster physical activity, social connection, mental respite, and overall wellbeing during social isolation. Others voice fears that extended periods of forced isolation and idleness could fuel e.g. gambling addiction. The game industry reports increased play time and spend on the one hand and disrupted production and supply processes on the other. Under the label PlayApartTogether, it has launched a public health information campaign, using games to disseminate COVID-19 health guidelines from the WHO.

This rapid activity makes it hard to maintain an overview of what we actually empirically know (or don’t) about how gaming interacts with the societal consequences of COVID-19. In other fields, researchers are already observing a glut of opinion pieces and rushed studies on popular participant recruitment sites like MTurk. This risks fatiguing our participants, duplicating work instead of collaborating, and producing weakly
Gaming during Covid-19 (Deterding, Iacovides)

The Use of Games for Mood Management and Basic Psychological Need Regulation During Social Isolation

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Date created: 2020-04-20 03:27 PM | Last Updated: 2020
Identifier: DOI 10.17605/OSF.IO/VP7YE
Category: Project
Description: Add a brief description to your project
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#games #data
Audio during Covid-19 (Maloney)
Adaptive audio for health & wellbeing (Williams, Hodge)
Listening to voices: co-created multi-media representations of voice hearing (Maxwell)
Making the Invisible Visible: Documenting Participatory Arts Events (Hook)

#arts #design #video
Nonlinear participatory narratives about mental health (Manni, Ursu)

THE REPRESENTATION OF THE ISSUE EXPLORED - ISOLATION AND COMMUNITY IN RECOVERY FROM MENTAL HEALTH PROBLEMS – HAS GAINED IN COMPLEXITY AND RICHNESS

NEXT STEPS: EVALUATING THE FILM WITH ITS CREATORS AND A RANGE OF EXTERNAL AUDIENCES
Casual creation for wellbeing
(Colton)

#arts #ai
Thank you
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