An Introduction to eOrygen

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INTRODUCTION

eOrygen is the newly formed digital mental health division of Australia's Orygen: The National Centre of Excellence in Youth Mental Health, driven by a mission to transform youth mental health care through engaging, evidence-based apps and the application of computing and data technologies to the domain of clinical psychology. In collaboration with the University of Melbourne's Centre for Youth Mental Health and School of Computing and Information Systems (CIS), and the Australian Catholic University's School of Behavioural and Health Sciences, the multidisciplinary eOrygen teams consists of clinical psychologists and allied health professionals, computing and information systems researchers, software developers, illustrators and professional writers, youth engagement staff and trained peer workers. The origin of eOrygen is its moderated online social therapy (MOST) project, which began in 2010. Beyond the by now well-established MOST web platform, eOrygen has started to work on several new digital mental health projects incorporating tools and technologies from artificial intelligence, ubiquitous computing and virtual reality.

SELECT PROJECTS

- **MOST** - Our moderated online social therapy (MOST) web platform integrates Facebook-style social networking, psychoeducational therapy units and a forum-like feature to talk about and crowdsource solutions to personal issues, all within a clinical and peer moderated environment. By tailoring therapy content to target the treatment of specific conditions and adding any required code customisations, the flexible MOST platform enables the setting up of individual sites for a variety of mental health cohorts. To date MOST has powered 14 trial interventions, for conditions including depression, psychosis and social anxiety in youth cohorts. We have also run MOST trials to support the carers of young people with mental health problems.
- **Smartphone-driven therapy** – Harnessing smartphone technology to bridge the gap between therapy and real life, we are building a client-facing mobile app and a paired provider-facing web app, which will work together to augment face-to-face therapy. Our client-facing mobile app will deliver personalised real-time recommendations of psychoeducational therapy exercises based on the passive sensing and ecological momentary assessment information captured from a user's smartphone. This mobile app will connect with our paired provider-facing web app, allowing young people, as they choose, to share information from their smartphone sensors with their therapist.
- **Virtual Reality** - In collaboration with CIS, eOrygen are working on a virtual reality application designed to transport young people into their own minds, to participate fully in their mind's rumination, worry, positive emotions, upward and downward thought spirals, and cognitive biases (such as jumping to conclusions). They are also able to learn and apply evidence-based therapeutic techniques such as diffusion, mindfulness, and self-compassion.

LINKS

- http://eorygen.org.au
- http://most.org.au
- https://www.researchgate.net/lab/eOrygen-Mario-Alvarez-Jimenez

EORYGEN PARTICIPANT AT CMH2019

Dr. Simon D'Alfonso is the tech lead and computing researcher at eOrygen, via his position as a member of the University of Melbourne School of Computing and Information Systems, where he leads the project "Digital technology and artificial intelligence for mental health" (https://bit.ly/2NbFii2). His current work revolves around a few themes:

1. The application of data science to extract information of (clinical) psychological significance from user interactions with digital and online systems.
2. Recommendation systems for online mental health therapy content.
3. Smartphone personal sensing, ubiquitous computing and digital phenotyping.

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