

IPC4MH

Immersive Prevention Centers for Mental Health

ABSTRACT

The proposed project aims to develop innovative Immersive Prevention Centers (IPCs) using virtual reality (VR) and mixed reality (MR) technologies within the Metaverse to address critical challenges in mental health care. Traditional mental health services often face limitations in accessibility, especially for underserved populations, due to geographical, socio-economic, and logistical barriers. By leveraging advanced VR/MR technologies, this project seeks to overcome these challenges, providing scalable and cost-effective mental health interventions that are accessible to a broader range of individuals.

The primary objective of the project is to design, develop, and evaluate IPCs that offer personalized, neuroscience-based therapeutic interventions. These centers will enable early detection and intervention for mental health conditions, which are crucial for preventing the progression of more severe health issues. By providing engaging and immersive therapeutic environments, the IPCs aim to improve treatment adherence and outcomes, enhancing patients' quality of life and overall mental well-being.

The project will involve a co-design approach, actively engaging stakeholders, including patients, healthcare providers, and technology developers, to ensure the IPCs meet their needs and preferences. Two main usage modalities will be employed: one-shot sessions for secondary prevention and 6-month-long interventions for tertiary prevention, involving 20-30 participants per center across three locations (Senior Nantes, Junior Poland, Junior Switzerland). Data will be collected through interaction logs, user satisfaction ratings, focus groups, structured interviews, psychological assessments, and system usability scores.

The expected impact of the project extends beyond individual patient care. For the public sector, the IPCs can reduce healthcare costs by minimizing the need for physical infrastructure and staffing while improving public health outcomes through broader access to mental health services. For civil society, the project raises awareness about mental and brain health issues, promotes mental health education, and supports vulnerable groups by providing accessible and equitable mental health care. For the industry, the project drives technological innovation, creating new markets and job opportunities in the tech and healthcare sectors, and enhances corporate social responsibility profiles.

The comprehensive evaluation of the IPCs will involve analyzing behavioral, clinical, and performance data to assess adherence, acceptability, usability, efficacy, and technical feasibility. The project will employ a mix of qualitative and quantitative methods, including thematic analysis, descriptive and inferential statistics, and machine learning models, to identify the most effective elements of the IPCs.

Ethical considerations are paramount throughout the project, with protocols approved by institutional review boards or ethics committees, ensuring informed consent, confidentiality, and data anonymization.

The successful implementation of the IPCs has the potential to transform mental health care delivery by providing innovative, accessible, and effective solutions that address both current and future challenges. This project will contribute valuable insights to the research community, fostering further innovation and

development in the field of digital mental health interventions, and ultimately improving mental health outcomes on a global scale.

KEYWORDS

- Prevention center
- Screening
- Training in group
- Young people
- Elderly population
- Metaverse
- Virtual worlds

DURATION

36 months

PARTNERS

	Name and Surname of the Principal investigator	Institution, Department, full Affiliations	City, Country
Coordinator (= Partner 1)	Antoine Widmer	HES-SO Valais, Institut Informatique	Sion, Switzerland
Partner 2	Przemysław Tomalski	Institute of Psychology, Polish Academy of Sciences (PAS)	Warsaw, Poland
Partner 3	Anne-Laure Héritier	DiverSsity	Sion, Switzerland
Partner 4	Yannick Prié	Université Nantes	Nantes, France
Partner 5	Bulteau Samuel	CHU Nantes	Nantes, France
Partner 6	Romain Streichemberger	C2Care	Sanary, France