



Offre n°2022-05031

Post-Doctoral Research Visit F/M Feeling and perceiving the symptoms of schizophrenia in augmented reality to reduce stigma

Le descriptif de l'offre ci-dessous est en Anglais

Type de contrat : CDD

Niveau de diplôme exigé : Thèse ou équivalent

Fonction : Post-Doctorant

A propos du centre ou de la direction fonctionnelle

Potioc designs, develops and evaluates new approaches that exploit multimodal interaction to promote a stimulating user experience. In particular, we explore approaches based on mixed reality (AR, RV), tangible interaction, brain-computer interfaces, and physiological interfaces. The main areas of application we are targeting are education, well-being, art, and accessibility.

Contexte et atouts du poste

Schizophrenia is a severe and chronic mental disorder that affects about 23 million people worldwide. This disorder is most often manifested by hallucinations, derealisation and delusions (so-called "psychotic" symptoms). This condition is a serious handicap impacting both the health and the social integration of the patient [1]. This is partly due to the stigmatisation of patients suffering from this disease, by the general population, but also by professionals (health, education, HR, police and so on) who are generally untrained in this disease. Patients are often seen as dangerous and unpredictable, whereas a very small percentage of them are likely to be violent [2]. This false belief limits their social relationships, their chances of getting a job, but also delays treatment.

One method of reducing the stigma of a mental illness is to have individuals experience its symptoms (For a state of the art, see Ando et al. [3]) In the case of schizophrenia, previous work have simulated auditory hallucinations using voices broadcast through headphones or have used virtual reality to simulate visual hallucinations. This type of approach has, in general, produced positive results and had the impact of increasing the participants' empathy for the patients. However, these methods have several limitations. Firstly, they immerse the subjects in a virtual environment where seeing and hearing the real world no longer takes place. This creates a misjudgment and distancing from the patients' real life experiences. To overcome this problem, it is possible to use augmented reality (AR), which places the user in real conditions of their environment, of which only certain sensory characteristics can be modified. AR therefore appears particularly capable of simulating 'reality distortion' experiences such as those that occur during psychotic episodes.

Mission confiée

As part of this research, the goal of this Post-doc would be to design an AR experience that would provide a convincing demonstration of schizophrenia symptoms following an iterative and user-centered design process. The design of this experience will be done in collaboration with the team of neuropsychologist of Antoinette Prouteau at the University of Bordeaux. Workshops with psychologists and patients will have to be organize both to understand better schizophrenia and test the realisms of the prototype. For the design of the prototype, the candidate will explore the application of game design and virtual reality concepts (e.g. sense of presence, embodiment) to such augmented reality immersion using an AR headset like the Hololens 2, but also vibro-tactile actuators.

Principales activités

The candidate will design functional prototypes, manage their implementation and evaluate them. The implementation itself will be performed in collaboration with an engineer funded on the same project. It will be expected, however, for the candidate to be able to implement and test basic features using unity. The postdoc will benefit from the strong experience of the research team in both the design of AR experience and in the use of Unity.

Compétences

- Strong experience in Human-Computer Science research
- Skills in Programming (including Unity/C#)
- Experience with user-centered design process
- Previous experience in AR/VR appreciated
- Interest in Psychology/Mental Health

Avantages

- Subsidized meals
- Partial reimbursement of public transport costs
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

Rémunération

2653€ / month (before taxes)

Informations générales

- **Thème/Domaine** : Interaction et visualisation
Instrumentation et expérimentation (BAP C)
- **Ville** : Talence
- **Centre Inria** : [Centre Inria de l'université de Bordeaux](#)
- **Date de prise de fonction souhaitée** : 2022-09-01
- **Durée de contrat** : 1 an, 6 mois
- **Date limite pour postuler** : 2022-07-15

Contacts

- **Équipe Inria** : [POTIOC](#)
- **Recruteur** :
Prouzeau Arnaud / arnaud.prouzeau@inria.fr

A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 200 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.

Consignes pour postuler

Thank you to send:

- CV
- Cover letter
- Support letters (mandatory)
- List of publication

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.