2023-06415 - Virtual and Mixed Reality Engineer for the ShareSpace project

**Type de contrat :** CDD  
**Niveau de diplôme exigé :** Bac + 5 ou équivalent  
**Fonction :** Ingénieur scientifique contractuel

**A propos du centre ou de la direction fonctionnelle**

The Inria Centre at Rennes University is one of Inria's eight centres and has more than thirty research teams. The Inria Centre is a major and recognized player in the field of digital sciences. It is at the heart of a rich R&D and innovation ecosystem: highly innovative PMEs, large industrial groups, competitiveness clusters, research and higher education players, laboratories of excellence, technological research institute, etc.

**Contexte et atouts du poste**

Within the framework of a European project HORIZON-CL4-2022-HUMAN-01-14 "ShareSpace" with 14 European academic and industrial partners, the aim of this position is to support the research activities by developing a prototype of VR and Mixed Reality training system to improve safety group cycling.

The project involves some displacements in Europe for the project meetings, and some demonstrations in international events. Travel expenses are covered within the limits of the scale in force.

**Mission confiée**

**Assignments :**

With the help of academic researchers and a PhD student, the recruited person will be taken to support the development and tests of VR and XR prototypes of training tools dedicated to train cycling securely in groups, with two main target populations: family with children, and elite cyclists in pelotons.

**For a better knowledge of the proposed research subject :**

Training people in sports is a complex process that involves several subskills that are strongly correlated. Virtual Reality offers an interesting possibility to control the situation and the multisensory feedback. Hence, it enables to decouple the subskills, with specific VR design for each of them, independently. This approach has been applied to several sports applications (Bideau et al., 2009). However, one of the difficulty is to ensure biofidelity of the VR/XR...
environment to ensure the transfer of skills between the VR/XR situation and the ecological one in real (Covaci et al., 2015).

In the specific case of the Sharespace project, the idea is to identify and train family and professional cyclers in small pelotons, in a safety perspective. The goal is to develop scenarios to make people become more sensitive to safety issues while maintaining a level of performance, and learn to adapt their motor strategy accordingly.


**Collaboration** :
The recruited person will be in connection with academic researchers of Inria, and a PhD student recruited full-time on the project, who will collaborate with the engineer to design the specifications of the prototypes, raise scientific questions, and prepare the user tests.

**Responsibilities** :
The person recruited is responsible for proposing technological solution, develop prototypes, participate in the user tests and the publication of scientific papers.

### Principales activités
Main activities (5 maximum) : development in the EU project software architecture, technology watch to identify technical opportunities, demonstrations, user experiments.

Additional activities (3 maximum) : report writing, support to the other users of the prototype, demos in international event, participation to meetings

### Compétences
Technical skills and level required : high expertise in Unreal Engine (or other game engine) development, C++, and have experience in VR/XR application development. Knowledge in sports sciences and neurosciences, statistics, would be appreciated.

Languages : English is very important, and French would help for everyday life in Rennes.

Relational skills : good relationship with others, friendly, like to work in teams, to share knowledge and pleasant time with colleagues.

Other valued appreciated : rigorous, curious

### Avantages
- Subsidized meals
- Partial reimbursement of public transport costs
- Possibility of teleworking (90 days per year) and flexible organization of working hours
- Partial payment of insurance costs

### Rémunération
Monthly gross salary from 2 655 euros according to diploma and experience

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**Informations générales**

- **Thème/Domaine** : Interaction et visualisation
- **Ingénierie technique et de production (TIC)** (BAP E)
- **Ville** : Rennes
- **Centre Inria** : [Centre Inria de l'Université de Rennes](#)
- **Date de prise de fonction souhaitée** : 2023-09-01
- **Durée de contrat** : 1 an, 6 mois
- **Date limite pour postuler** : 2023-07-31
L'essentiel pour réussir

The candidat should be curious about new VR/XR technologies, like to work in a team, like to address challenges and test state of the art scientific methods. He should also appreciate carrying-out experiments, human relationship with colleagues and subjects of the experiments.

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

Please submit online : your resume, cover letter and letters of recommendation eventually

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.