The project will proceed by developing four main key aspects:
study the perceptual interaction and conflicts between vision and haptics when interacting with passive tangible objects in AR/MR.

design interaction techniques combining the capabilities of wearable haptics (vibrotactile rings, pressure fingertip displays) and tangible objects for AR/MR, addressing the known limitations of the proposed system, e.g., under-actuation, limited range of forces, and visual occlusions.

develop use cases augmenting the shape, stiffness, and texture of everyday objects through wearable haptics and AR, focusing on representative job (e.g., desk with a computer) and household (e.g., a dinner table with plates and cutlery) environments.

evaluate the performance and user experience of the proposed augmentation approach on human subjects.

**Compétences**

We are looking for excellent, highly-motivated students interested in Virtual/Augmented/Mixed Reality and haptics, with a computer science background and previous experience in computer programming (C#, C++). Experience in using VR/AR tools (e.g., Unity 3D, ARToolKit, Oculus Rift, Hololens) and single-board/embedded computers (e.g., Arduino, Raspeberry) is considered a plus.

The student should be able to speak and write in English.

**Avantages**

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

**Rémunération**

Monthly gross salary:

- amounting to 1982 euros for the first and second years,
- and 2085 euros for the third year