



L'Institut franco-allemand de recherches de Saint-Louis (ISL) est le pionnier de la coopération franco-allemande dans le domaine de la défense et de la sécurité. La mission de l'ISL est d'apporter des innovations technologiques aux forces de défense et de sécurité. Les recherches s'effectuent dans des disciplines multiples et à des niveaux de maturité variant entre la recherche fondamentale et le développement de prototypes préindustriels, intégrables dans des équipements opérationnels.

Proposition de Stage

Domaine de recherche : Robotique, IHM

Development of a Control & Command (C2) for robotic applications

Contexte

In the field of ground and aerial unmanned systems, the Advanced Visionics and Processing group (AVP) has developed several robotic platforms, notably on the group. We are now expanding our field of applications thanks to the collaboration of unmanned aerial vehicles. The team successfully participated to the CoHoma 2 challenge and secured the second place [1-2]. For this challenge, we developed a web-based command and control software to monitor the position and state of each unmanned system and provide them with high-level commands such as "waypoint navigation". We aim at adding new functionalities to our C2-software.

[1] <https://www.defense.gouv.fr/terre/actualites/challenge-cohoma-re-tex-2e-edition>

[2] <https://www.youtube.com/watch?v=aq-iwJunoSO>

Description du sujet de stage

The internship will be focused on the development of new functionalities for our C2 software. The software itself uses an API, a database and a web-based frontend. The new functionalities include but are not restricted to:

- Adding the radio signal coverage obtained from the API of our military radio
- Making the frontend fully usable from a touch-screen and with gloves
- Keeping an history of the already visited places

The student, depending on its profile and motivation, can focus more on the backend or the frontend, although they are not mutually exclusive.

Notions in HTML, CSS and javascript are welcome for the frontend.

Notions in SQL, Python and FastAPI are welcome for the backend.

Niveau : Bachelor or Master

Durée : 4 months minimum, ideally 6 months

Superviseur : Martin Rebert

Modalité de dépôt de candidature :

Le/La candidat(e) est prié(e) d'envoyer un CV (détaillant le cursus universitaire) et une lettre de motivation.
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