

Stage Master 2 Informatique

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“The Intelligent Real Estate Chatbot”

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Technopôle Brest Iroise : getKey and CERV

Context:

Getkey is a startup company aiming at proposing a platform between a real estate agency and services between private individuals. The goal is to determine how to choose its services according to its needs, its means and its availabilities. The goal is to support a particular salesman before signing a mandate, in terms of communication (professional photos, virtual visit), call management.

It is a fact that most of the real estate agents' working time is spent for nothing: actions such as looking for real estates matching the clients' needs, showing them the results of the salesman's research and answering to their questions are remunerated just in case a sale is made. For such a reason, an automatic support always available could be very useful. Clients can ask their questions, find real estate that matches their criteria, visit a real estate property, get most of the information they need without the help of the seller, get in touch with it directly and plan for it. appointments to make a visit. Such support would reduce the real estate agent's unnecessary work time, which would allow the agency to reduce its costs. The goal is to automate a maximum of process.

Scientific challenges:

In this Master Research internship, the goal is to integrate an embodied conversational agent (ECA) with artificial intelligence to accompany the user.

Regarding the ECA, the goal of this work will be to integrate a virtual humanoid agent on a web site and to animate it. To communicate naturally with the user, the agent must be able to generate multimodal signals, that is speech, facial expressions, hand gestures, gaze behavior etc...[4]. Such a behavior must be generated according to the data shown on the web page, for example pointing to a real estate picture or looking at a highlight sentence on a document.

On web site, this type of virtual agents are called chatbot4 and have been developed and studied for years [5].

The research questions are:

1. Is it possible to have a virtual agent on a web site able to interact naturally with a user taking into account what is shown on the web-page?
2. Does the virtual agent improve the users' experience and help them to retrieve the needed information about real estates?

In terms of artificial intelligence, the idea is to draw on existing recommendation systems [1,2] and the community [3]

Candidate

The candidate will be ...

The following competences are expected :

- Knowledge about Unity3D, WebGL ;
- Knowledge about C#, JavaScript ;

Bibliography:

[1] framework grab (python) <https://grablib.org/en/latest/>

[2] graphlab <https://en.wikipedia.org/wiki/GraphLab>

[3] Netflix Prize <https://www.netflixprize.com>

[4] J. Cassell. Embodied Conversational Agents Representation and Intelligence in User Interfaces. American Association for Artificial Intelligence, 2001.

[5] A. E. Shawr, B. A. Chatbots: are they really useful? LDV Forum, 22(1):29-49, 2007.