

Recent trends in the development of Speech Technologies and Dialog Systems

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The seminar will present recent research lines at the Applied Artificial Intelligence Group (UC3M) to develop intelligent and adaptive dialog systems. One of the key aspects in the development of dialog systems is dialog management: the selection of an optimal dialog strategy that chooses the best system responses to the user inputs. On the one hand, we will describe the state of the art related to different statistical approaches to dialog management and present our methodology, which is based on a classification procedure that considers the complete dialog history to select the next system action. On the other hand, different user modeling techniques will be described for the evaluation and improvement of the dialog strategy. In addition, we will present a new approach to bridge the gap between the academic and industrial perspectives in order to develop dialog systems using our proposals while employing the industrial standards, which makes it possible to obtain new generation interfaces without the need for changing the already existing commercial infrastructures. Finally, we will describe the systems developed applying our proposals, which also integrate important research lines within the field of Artificial Intelligence (context-awareness, user adaptation, multimodal interaction, affective computing, Ambient Intelligence and Smart Environments, etc.).