**Part 1 overview**

In Part 1 of the project you will implement a dialog system in the restaurant recommendation domain with your group. The system should be able to perform a text-based dialog with the user. During the dialog the user informs the system about their preferences for a restaurant, after which the system finds a suitable restaurant in a database and provides additional details if necessary. The implementation of the project uses an existing dataset with annotated dialogs in the restaurant domain (see Part 1a for more details).

The dialog system should be programmed in Python 3. The program is terminal/command line based, so it is not part of the project to build a graphical user interface. You are required to bring your own laptop to the lab sessions (minimal 1 laptop per group) and to install Python 3 and some additional packages on it. Use of a version control system (such as git) or other ways of enabling collaborative editing (for example Visual Studio Code has collaboration features) is recommended, but not required. **We strongly advise against using Notebooks** for development and/or collaboration, because this frequently causes various types of issues when converting to runnable plain Python code.

There are various options for installing Python. If you don't have a Python installation yet and you don't know exactly which type of installation you want, we recommend to install [Anaconda](https://www.anaconda.com/download#downloads). Other environments and package managers are permitted as well.

The first part of the project consists of three subparts. During the first subpart the goal is to use an existing labeled dataset of human-machine dialogs, and apply a number of machine learning classifiers to categorize user utterances in terms of the function of the utterance in the dialog. In the second subpart you will construct a dialog transition diagram that models the dataset. This model is used together with the machine learning algorithm to implement a dialog manager to perform the actual dialogs between the system and a human user. In the third part you will add a simple reasoning component to the implemented system, and you are going to implement some configurable variations to the system as a preparation for Part 2 of the project. During this second part you will conduct a human user evaluation experiment to investigate the impact of the configuration options on usability of the system.