**Project objective:**
Create a speech recognition demonstrator from existing modules which allows us to easily replace parts of the system with own current and future developments and is able to display the decoding result or react on spoken input within seconds. The demonstrator should be extendable to German utterances.

**Background information:**
A speech recognition system typically consists of one or more sensors which capture the audio signal, a preprocessing unit which tries to reduce noise or room dependent signal distortions and a decoder, which tries to find the most probable word sequence for a given observation.

It furthermore depends on a probabilistic acoustic model of the relation between the observations and words and a probabilistic language model, which describes which words typically co-occur within sentences.

There are already many software projects dealing with speech recognition and there are already some software tools which allow to build a demonstrator on small hardware. You can partly rely on existing APIs or even use an external service for a first version.

**Key tasks for a successful project:**
- Understand, which parts are necessary for a speech recognizer.
- Identify existing solutions and evaluate if you can use them in the given project.
- Discuss, how you can integrate existing research results of our department.
- Find good subtasks for each member of your project team and specify the overall objective accordingly. You can decide, if you want to focus on better training data, setting up the hardware or creating the necessary software.