Assignment Lab2
Basic dialogue management

Task 3. Improvements

The app works properly and includes the required features. However it is a very simple implementation and presents some errors and limitations.

The first error comes from an issue in recognizing some non-english names I added in the grammar. The ASR transcripts ‘Gerlof’, ‘Staffan’ and ‘Sharid’ with different spellings (like ‘Gerloff’, ‘Stephan’ and ‘Shahrid’ respectively) which leads to not recognizing those entities even though they are in the grammar. To fix that, I added new entities in the grammar, and now a single person (value) can be reached via different spellings (keys). This is ok in this case but it wouldn’t work if I had another ”real” Stephan in my names list for instance.

Another error is linked to the different ways of telling the time in English. One may use a 24-hour or a 12-hour format, one may or may not say ”o’clock”. A user may say ”14” or ”2 o’clock” for ”2:00 pm” instead of ”2”. Here too, the solution was to add new entities in the grammar, to become more flexible to the user’s expression. So now raw formats like ”8” or ”3” are recognized, but even ”8:00” (the transcription of ”8 o’clock”), ”3:00”, ”15”, ”1500” as well as ”1500 hours”.

Then, this application works mainly with one-word utterances only. An upgrade to full sentences understanding will certainly be covered in the next labs. In the meantime, I tried to improve a bit in this direction, adding some several-word utterances in the lists of answers corresponding to ‘yes’ and ‘no’ (e.g. ”I think so”, or ”No, I don’t” are now integrated). In the same vein, I added some more entities in the grammar to be able to recognize a day said as in ”on Monday” and a time said as in ”at 9”, those prepositions being strongly associated with date and time respectively.

In order to deal with the app being launched by mistake, I added the possibility to reset the system after the Greeting and Introduction steps. If the user doesn’t reply to the system’s greeting with a counter-greeting or if they don’t show agreement after the introduction, the system will go to the Done state, where it is ready to start again.

Finally, a really annoying error results from the code’s logic and structure. Since the persons, days and times are all stored in a single common grammar, checking only the presence of one recognized word/utterance in the grammar is not sufficient to ensure a known person is given by the user at the question ”Who are you meeting with?”, a known day at the question ”On which day is your meeting?” and a known time at ”What time is your meeting?”. A user could very well replied ”1” for the person, ”Victoria” for the day and ”Tuesday” for the time, and the system would go on down to the confirmation step with undefined values for getPerson, getTime and getDay. To avoid such a situation, an additional condition has been included at steps CheckPerson, CheckDay and CheckTime to make sure that the recovered value doesn’t lead to undefined for the locally targeted parameter.