LT2216 Course Project
Train Info System

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Introduction

An application for the passengers to get departure information of the trains in Sweden

- **When a train goes after a certain time.**

    ("When does the train goes from Emmaboda to Kalmar tomorrow after 13.30?")

- **When the next train goes.**

    ("When does the next train goes from Emmaboda to Kalmar?")

- **When the first or the last train goes for a certain day.**

    ("When does the first/last train goes from Malmö to Karlskrona on March 24th?")

- **More train information. (Departure time, arrival time, stations passing by)**

- **Stations announcement from the departure station.**

Technicalities

Related to the course content

- Xstates with React
- Javascript and Typescript
- SRGS (Speech Recognition Grammar Specification)

Trafikverkets API (Swedish Transport Administration)

Challenges

Station names (must be in Swedish) => ASR in Swedish (can recognize short English expressions)

Numbers and letter cases in ASR => added all possible forms in the grammar using <one-of>

TTS in Swedish is not working => TTS in English in the Demo

Frame-based dialog => Grammar => as flexible as possible

- A: From station (Malmö, Malmö Central, Malmö C, Malmö Station…)
- B: To station (From A to B, from B to A, or just A B)
- C: Time (now, half past six, a quarter to ten, eleven thirty)
- D: Date (today, tomorrow, March 23rd)
- The user can say any combination of A B C D, and in any order
- When slots are partially filled => ask for the empty ones
- The old value of a filled form can be correct and re-filled
- When all forms are filled => retrieve data using API
- Removed "confirmation" part to simplify the dialog

Future Work

Better Grammar

- to recognize for example "the second train", " the second last train", etc.

More functions based on the API

- Checking trains with transfers
- Checking if a train is delayed

Better structure of the dialog

- Using Rasa at the root menu to recognize more user's intent. (as in Assignment 2)
- Adding a timer to guide the dialog when wrong input or no input. (as in Assignment 4)

Better TTS

- TTS in Swedish and with SSML for a better user interface.