TEDU Assistant

Final Project Specification

Advisor   Yücel Çimtay

Jury   Aslı Gençtav
                Emin Kuğu

Members   Deniz Akşimşek
                Enes Akmil
                Gizem Kurtcuoğlu
                Mehmet Batuhan Şenol

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Introduction

Description

TEDU Assistant is a voice-controlled, natural-language query system (i.e.: voice assistant, chatbot) which will answer common questions for university students, academic and adminitrative staff where answers are available but difficult to find or inconvenient. It will provide easy access to data publisned on university websites.

Such a system has the potential to

- speed up operations of the university,
- increase accesibility for visually impaired individuals.

The system will be designed to be deployed in TED University.

Constraints

(economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.)

- The system must be created in coordination with the university, as it will access data belonging to the university. The university needs to consent to the use of data, and a procedure for data exchange must be agreed upon.
- The system must not violate privacy, particularly of academic staff.
- The system must respect authorization of data access.

Professional and Ethical Issues

- Being voice-activated, the system has the risk of being inaccessible to speakers of uncommon dialects.
- The system will potentially have access to personally-identifying data. This data must be handled confidentially with respect to regulations.

Requirements

Functional requirements

1. The system must accept questions through voice or text input.

2. The system must both display responses in text and speak them out loud.

3. The system must be able to answer questions that are not in an exact format.

4. The system must support English. It must be extensible to allow addition of other languages in the future.

5. The system must ask follow-up questions to the user if needed. For example, if a student asks a question where the answer depends on the student's year or department, the system must be able to ask these questions to the students and then answer the original question accordingly.

   These questions will be displayed in text.

   If no additional information is necessary to answer a question, no questions will be asked by the assistant and the answer will be given directly.

6. The system must respond honestly if it doesn't understand a question. It may ask the user to repeat the question or phrase it differently.

7. It should show examples of questions the system can answer on first interaction.

8. The system must be able to provide the following information:

   1. Room numbers of members, centers and departments (as long as this information is available on the university website). This includes not only academic staff but also office members (such as Corporate Communications),

   2. Dates on the academic calendar.

   3. Who to consult on given topics (e.g. internship).

   4. Department information:

      1. List academic staff of a faculty or department.

   5. Direct users to pages when asked:

      1. Opened courses.

      2. Final exam dates.

9. The system must prompt the user for a rating out of 5 stars for each answer. These replies must be collected so that the function of the assistant can be evaluated.

10. After answering a question, the assistant should provide shortcuts to additional questions the user may be interested in. These additional questions are based on the question that was asked.

Non-functional requirements

1. The system must not provide any information to a user that isn't already publicly available.

2. Data collected for the sake of improving the system must be anonymized.

3. The system must be accessible through phones, tablets and desktop computers.

4. The system will have a Web-based client. This client must be accessible by all users, in accordance with WCAG 2.0 [1].

5. The system must be compliant with GDPR [2] and KVKK [3][4] regulations.

References

[1] https://www.w3.org/TR/WCAG20/

[2] https://gdpr-info.eu/

[3] https://www.kvkk.gov.tr/

[4] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6698&MevzuatTur=1&MevzuatTertip=5