Use Case Model

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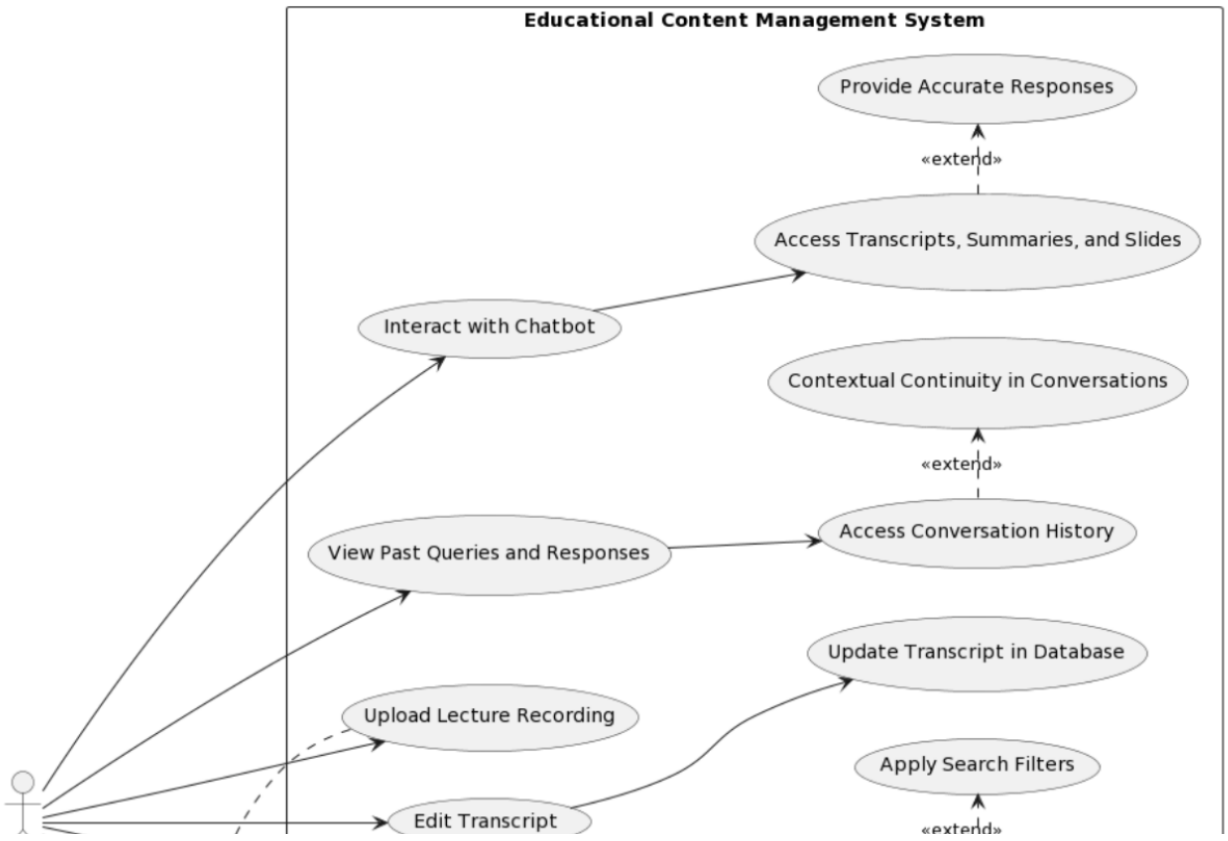
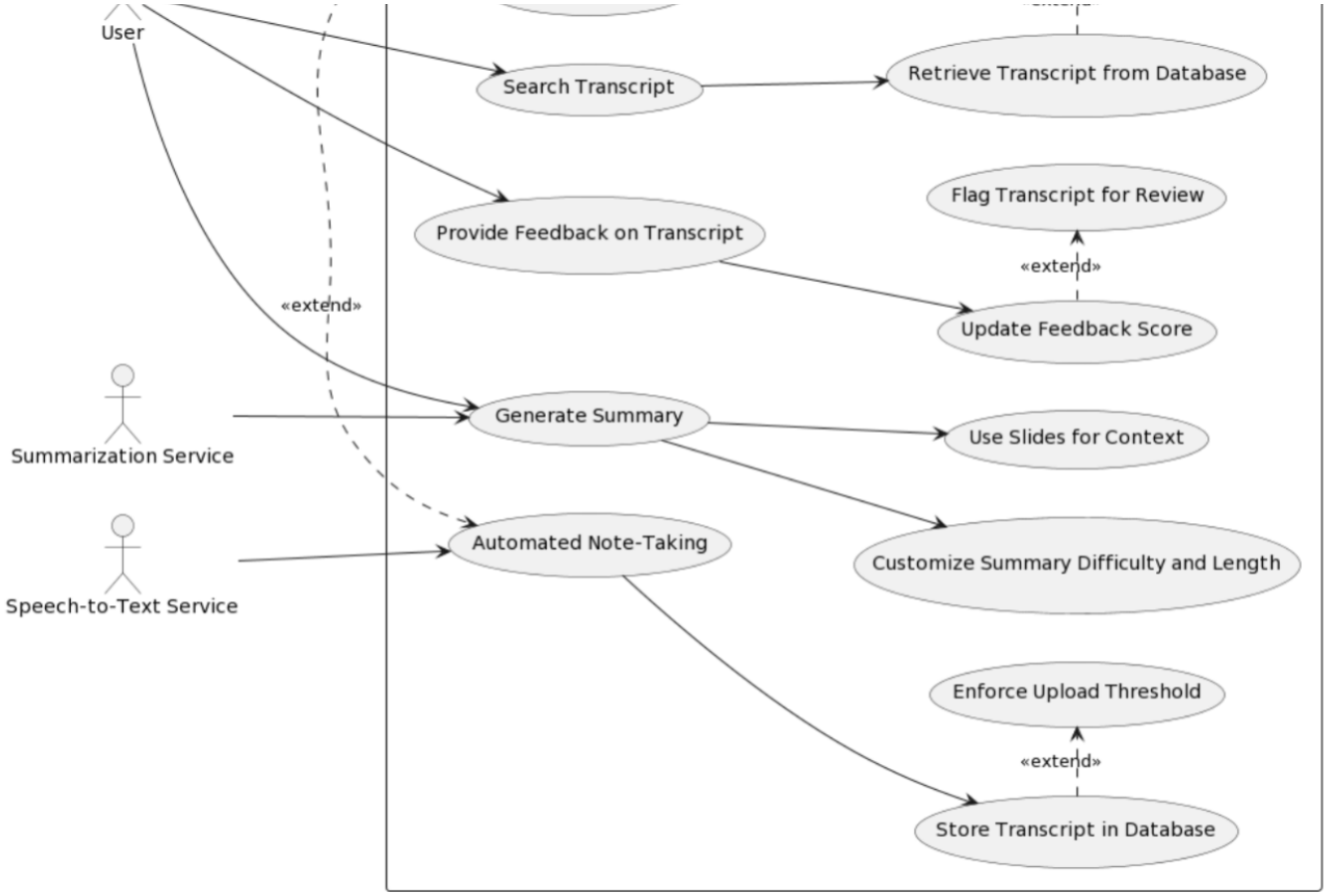
Use Case Diagram





Use Case Descriptions

Use Case 1: Upload Lecture Recording

Brief Description

This use case allows the user to upload audio or video recordings of lectures for automated transcription.

Actors

- **User**: The individual uploading the lecture recording.
- **Speech-to-Text Service**: The service that converts spoken words in the lecture recording into text.

Preconditions

- The user is logged into the system.
- The user has a lecture recording in a supported format.

Basic Flow of Events

1. The user selects a lecture recording for upload.
2. The system verifies the format and quality of the recording.
3. The recording is submitted to the Speech-to-Text Service for transcription.
4. The transcribed text is stored as a transcript in the database.

Postconditions

- The lecture recording is stored and available for transcription.
- A new transcript entry is created in the database.

Extension Points

- **Automated Note-Taking**: The system automatically initiates transcription of the uploaded lecture recording.

Use Case 2: Edit Transcript

Brief Description

This use case enables the user to make edits or corrections to the automatically generated transcripts.

Actors

- **User**: The individual editing the transcript.

Preconditions

- A transcript generated by the Speech-to-Text Service is available.
- The user is authorized to edit the transcript.

Basic Flow of Events

1. The user selects a transcript for editing.
2. The system retrieves and displays the transcript.
3. The user makes necessary edits or corrections to the transcript text.
4. The edited transcript is saved and updated in the database.

Postconditions

- The transcript is updated with the user's edits.
- The updated transcript is stored in the database.

Use Case 3: Search Transcript

Brief Description

This use case allows the user to search for specific transcripts based on various parameters like course code, date, or keywords.

Actors

- **User**: The individual searching for a transcript.

Preconditions

- The database contains one or more transcripts.

Basic Flow of Events

1. The user enters search parameters.
2. The system retrieves transcripts matching the search criteria.
3. The matching transcripts are displayed to the user.

Postconditions

- The user is presented with transcripts that match the search criteria.

Extension Points

- **Apply Search Filters**: The search can be refined using specific filters for more precise results.

Use Case 4: Provide Feedback on Transcript

Brief Description

This use case involves the user providing feedback on the quality and accuracy of transcripts through an upvote/downvote system.

Actors

- **User**: The individual providing feedback on a transcript.

Preconditions

- The transcript is available in the system.
- The user has accessed and reviewed the transcript.

Basic Flow of Events

1. The user selects a transcript to provide feedback on.
2. The user submits feedback in the form of an upvote or downvote.
3. The system updates the feedback score for the transcript.

Postconditions

- The feedback score of the transcript is updated based on user input.

Extension Points

- **Flag Transcript for Review**: Transcripts with significantly low scores are flagged for review or potential removal.

Use Case 5: Generate Summary

Brief Description

This use case describes how the system generates concise summaries of lecture transcripts tailored to user preferences for difficulty level and length.

Actors

- **User**: The individual requesting a summary.
- **Summarization Service**: The AI-powered service that creates summaries from transcripts.

Preconditions

- A transcript is available for summarization.
- The user is authorized to request a summary.

Basic Flow of Events

1. The user selects a transcript and requests a summary.
2. The user specifies preferences for the summary's difficulty level and length.
3. The Summarization Service processes the transcript to generate a summary based on user preferences.
4. The system presents the generated summary to the user.

Postconditions

- A summary of the requested transcript is generated and made available to the user.

Extension Points

- **Customize Summary Difficulty and Length**: The summary is tailored according to the specified difficulty level and length.
- **Use Slides for Context**: If slides are uploaded, they are used to provide additional context for the summary.

Use Case 6: Interact with Chatbot

Brief Description

This use case enables the user to interact with an AI-powered chatbot for clarifications, further explanations, or additional information based on the lecture content.

Actors

- **User**: The individual interacting with the chatbot.

Preconditions

- The chatbot is integrated with access to transcripts, summaries, and uploaded slides.

Basic Flow of Events

1. The user initiates a conversation with the chatbot.
2. The user poses questions or requests information related to lecture content.
3. The chatbot accesses relevant transcripts, summaries, and slides to provide accurate responses.
4. The conversation history is stored for future reference.

Postconditions

- The user receives information or clarification requested from the chatbot.

Extension Points

- **Provide Accurate Responses**: The chatbot uses available resources to ensure the accuracy of its responses.

Use Case 7: View Past Queries and Responses

Brief Description

This use case allows the user to review their past interactions with the chatbot, including queries posed and responses received.

Actors

- **User**: The individual reviewing past chatbot interactions.

Preconditions

- The user has previous interactions with the chatbot.
- Conversation history is stored in the system.

Basic Flow of Events

1. The user accesses the feature to view past queries and responses.
2. The system retrieves and displays the user's conversation history with the chatbot.
3. The user reviews the information provided in past interactions.

Postconditions

- The user is able to review and reflect on past queries and the information provided by the chatbot.

Extension Points

- **Contextual Continuity in Conversations**: The system maintains a context for conversations to provide continuity in interactions over time.
