Software Requirements Specification (SRS) Document

Customized Learning Assessment Generation by Team 20
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Brief Problem Statement

- This application is intended to help the teachers assess students more effectively, by automating the task of assessment generation leveraging the power of LLMs.

- In addition to lightening the burden of teachers, this solution aims to make it easier to personalize assessment generation based on the context the teacher wants to inculcate into the subjects, to make it more engaging and useful to the students.

- These assessment questions can also be adjusted by the teacher, as the goal is not just to test student's memorization skills, but instead help in holistic and value-based learning.

- With this approach, a large dataset of assessments could be built and saved, giving a wide range of problems and ideas to apply.

System Requirements

- A fast and stable internet connection is required on both the client and server side.
- Any client system with a sufficiently modern browser (like Edge, Chrome, Firefox, Safari, etc.) is supported.
- On the server system, the following technologies are required
  - Python (version 3.11 or higher)
    - Must have all the dependency modules installed from requirements.txt
  - MERN stack
    - Must have all dependencies installed with 'npm'.
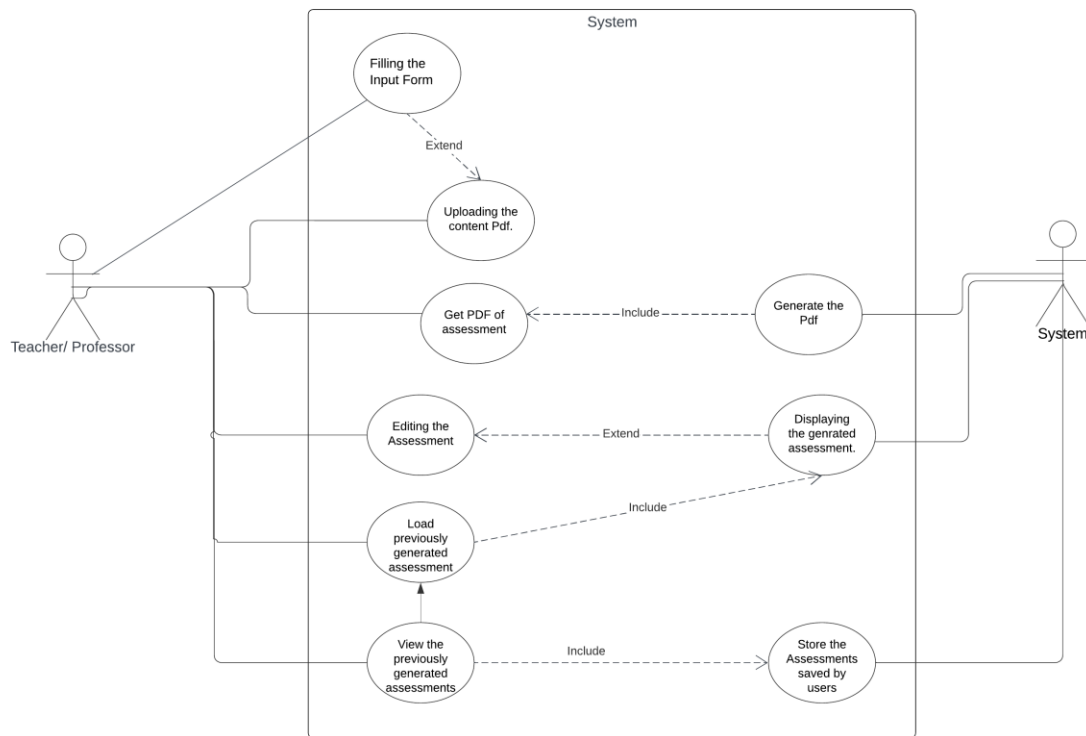
Users Profile

The application is aimed to be designed for single end user, the school teachers, assisting them in generating customized assessments to test students understanding of the topic. The application does not have a profile page (i.e., the user is not required to sign in), all the users will be able to access the assessments generated by all other users.

The application is designed to be intuitive for users and does not demand any technical expertise. However, users should possess familiarity with the subject matter they are assessing and basic computer skills.

Feature requirements (described using use cases)

No.	Use Case Name	Description	Release
1.	Filling the Input Form (on page 1)	The user fills in an input form providing details for the topic (textbox), question type (dropdown), number of questions (textbox), context for the assessment (file upload) and the values to be inculcated (textbox)	R1
2.	Uploading multiple Reading Materials (Page 1)	The user can upload multiple files as context documents (or reading material) for the assessment generation.	R1
3.	Viewing Generated Assessment (Page 2)	The user, after filling in the input form, views the assessment generated in a readable format.	R1
4.	Editing the Assessment Generated (Page 2)	The user gets the option to edit the individual questions in the generated assessment.	R2
5.	Exporting the assessment as pdf. (Page 2)	The user can export the generated assessment as pdf.	R2
6.	Viewing a List of previously generated assessments (Page 3)	All the previously generated assessments on the application can be viewed by the user.	R2
7.	Load a previously generated assessment and export it as pdf. (Page 2)	The user can revisit any previously generated assessment and export them as pdf.	R2

Use case diagram

Use case Description

Use Case Number:	1
Use Case Name:	Filling the Input Form (on page 1)
Overview:	The user fills in an input form providing details for the topic (textbox), question type (dropdown), number of questions (textbox), context for the assessment (file upload) and the values to be inculcated (textbox)
Actors:	Teacher (the single end user for this application)
Pre-condition:	The teacher should be familiar with the subject matter they are assessing and have basic computer skills.
Flow:	Filling in all the fields of the input form.
	Alternate Flows: Teacher can visit the History Page (page 3) directly to view previously generated assessments.
Post Condition:	The user can upload (multiple) reading materials.

Use Case Number:	2
Use Case Name:	Uploading multiple Reading Materials (Page 1)
Overview:	The user uploads multiple files as context documents (or reading material) for the assessment generation.
Actors:	Teacher
Pre-condition:	The user has filled in all other input fields of the form.
Flow:	The user can upload one or more context documents (or reading materials) and submit the form.
	Alternate Flows: If the user does not want to upload any reading material, the form can be directly submitted.
Post Condition:	The application should redirect the teacher to the page containing the assessment generated (according to the input form).

Use Case Number:	3
Use Case Name:	Viewing Generated Assessment (Page 2)
Overview:	The user, after filling in the input form, views the assessment generated in a readable format.
Actors:	Teacher
Pre-condition:	The user has submitted an input form containing details about the assessment to be generated.
Flow:	The user can view the assessment generated by the application.
Post Condition:	The application should allow the user to edit the generated assessment.

Use Case Number:	4
Use Case Name:	Editing the Assessment Generated (Page 2)
Overview:	The user gets the option to edit the questions in the generated assessment.
Actors:	Teacher
Pre-condition:	The user is viewing the generated assessment (on page 2 of the application)
Flow:	The user can make edits to the generated assessment and save them.
	Alternate Flows: If the user does not want to make any edits, they can generate a new assessment or view previously generated assessments.
Post Condition:	The application should display an option to export the assessment as pdf.

Use Case Number:	5
Use Case Name:	Exporting the assessment as pdf. (Page 2)
Overview:	The user can export the generated assessment as pdf.
Actors:	Teacher
Pre-condition:	The user is viewing the generated assessment (on page 2 of the application)
Flow:	The user clicks on the option to export the assessment as pdf.
	Alternate Flows: If the user does not the assessment to be stored as pdf, they can generate a new assessment or view previously generated assessments.
Post Condition:	The application redirects the user to the Input Form Page (page 1) to generate a new assessment.

Use Case Number:	6
Use Case Name:	Viewing a List of previously generated assessments (Page 3)
Overview:	All the previously generated assessments on the application can be viewed by the user.
Actors:	Teacher
Pre-condition:	--
Flow:	The user views all the previously generated assessments on the application with the date and time of generation
Post Condition:	The user should be redirected to the generated assessment by clicking on its name.

Use Case Number:	7
Use Case Name:	Load a previously generated assessment and export it as pdf. (Page 2).
Overview:	The user can revisit any previously generated assessment and export them as pdf.
Actors:	Teacher
Pre-condition:	The user is viewing the previously generated assessments (on page 3 of the application.)
Flow:	The user clicks on the name of the assessment, they want to load and then exports it to pdf.

	Alternate Flows: If the user does not want the assessment to be stored as pdf, they can generate a new assessment or view another previously generated assessment.
Post Condition:	The application redirects the user to the Input Form Page (page 1) to generate a new assessment.