

Software Requirements Specification (SRS) Document

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Brief problem statement

The eBook reader is a general eBook reader with added functionalities designed to assist people who struggle with English or with reading in general. It serves to translate a given book into one of many languages and read the book aloud to assist the user. The reader also aims to be blind-friendly and have voice commands for the main features of the application.

System requirements

The user system should be able to run:

- Programming languages: MongoDB, Express.js, React.js, Node.js, GraphQL SDK
- APIs: IIIT's Machine Translation API, IITM's Text-to-Speech API, and Mashinga's Automatic Speech Recognition API.

Users profile

Foreseen Users:

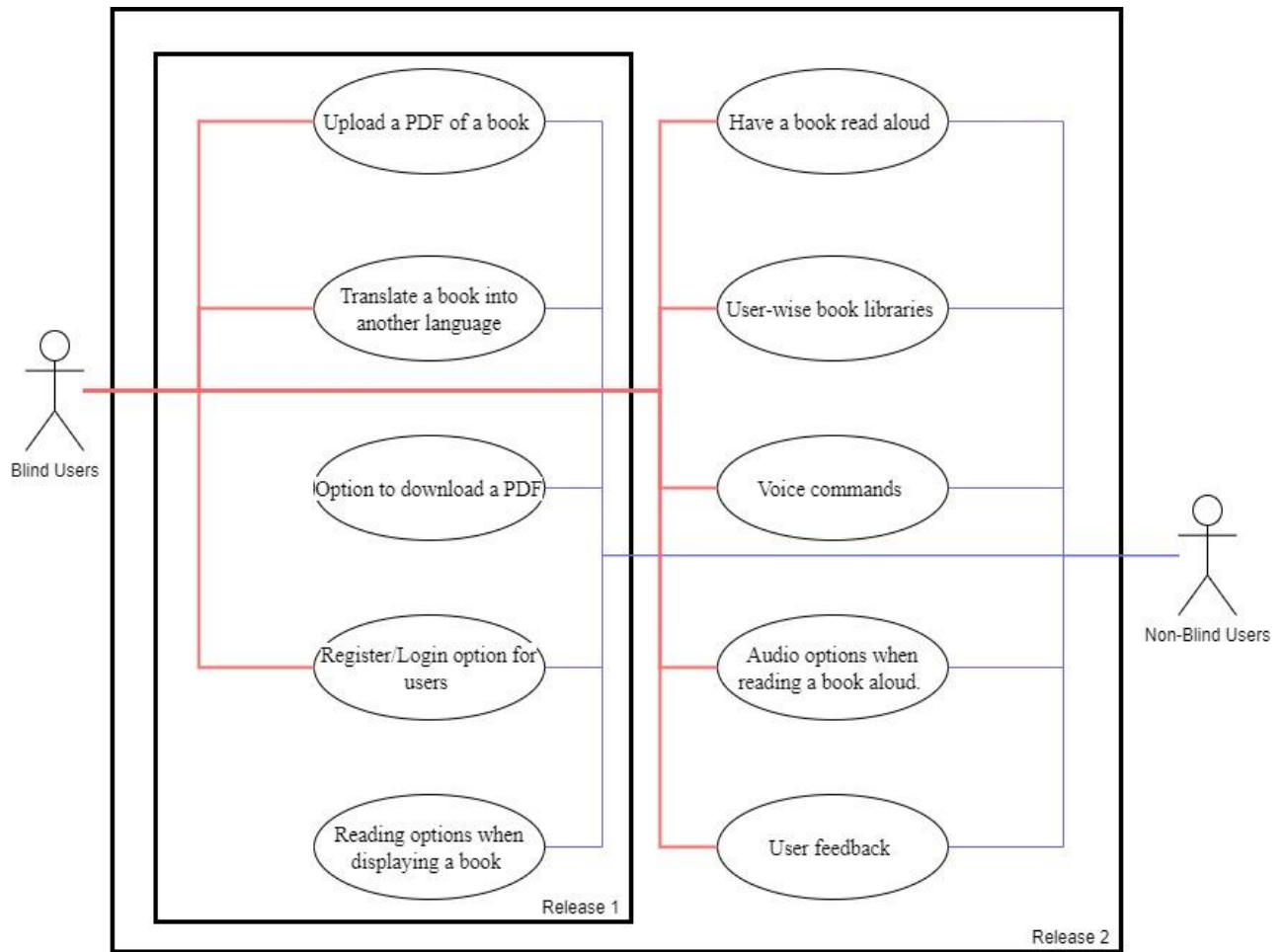
1. Non-Blind Users: Can read an eBook with ease and will mainly use the webapp for translation and reading of eBooks.
2. Blind Users: Can use the voice commands to have the book read out to them.

All users are expected to be able to use computers well enough to access and use the webapp given instructions regarding the same.

Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	Upload a PDF of a book.	The user will be provided with an option to upload the pdf which they want to be translated/read out to them.	R1
2.	Translate a book into another language.	The user will be provided with the option to translate the uploaded pdf into one of the given language options.	R1
3.	Option to download a PDF.	The user will be provided with the option to download PDFs from their library.	R1
4.	Register/Login option for users.	Users should be allowed to login and register to create accounts to use the application.	R1
5.	Reading options when displaying a book.	Users should be able to move to any page of the book and read from that page onwards.	R1
6.	Have a book read aloud.	This feature lets the user to have their translated/untranslated book to be read aloud to them. If the book is to be read in a different language than the one uploaded, then it will first need to be translated.	R2
7.	User-wise book libraries	Users will have access to all the books he/she translated before and can access them from a library where they are all stored.	R2
8.	Voice commands	Users may use voice commands to perform all the functionalities given in the application.	R2
9.	Audio options when reading a book aloud.	Users may pause the audio of the book being read aloud whenever they wish and resume from the same place. Users should also be allowed to adjust the playback speed. Users may switch the part of the book from which they want to be read.	R2
10.	User feedback	An optional feature for users to rate us for further improvements in the future.	R2

Use case diagram



Use case description

Use Case Number:	UC-1
Use Case Name:	Upload a PDF of a book.

Overview:	The user will be provided with an option to upload the pdf which they want to be translated/read out to them.
Actors:	All users.
Pre-condition:	User must be logged in.
Flow:	<p>Main (success) Flow:</p> <ol style="list-style-type: none"> 1. The user selects a PDF from their device's local storage at the library page. 2. PDF starts getting uploaded upon pressing an 'upload' button and the PDF starts getting uploaded and stored in the server until it is completely uploaded. 3. The user is redirected to the library page.
	<p>Alternate Flows:</p> <ol style="list-style-type: none"> 1. User cancels the uploading of the PDF. 2. User is redirected back to the library page.
Post Condition:	<p>Main Flow: PDF must have been uploaded completely, with the options of translation and/or having the book read out to the user should be given at the library page.</p> <p>Alternate Flow: User is redirected back to the library page.</p>

Use Case Number:	UC-2
Use Case Name:	Translate a book into another language.
Overview:	The user will be provided with the option to translate the uploaded pdf into one of the given language options.
Actors:	All users.
Pre-condition:	User must have uploaded a pdf of a book from their device's local storage.
Flow:	<p>Main (success) Flow:</p> <ol style="list-style-type: none"> 1. User is shown the options of which languages they may translate the PDF into. 2. After the user selects a language, the language selected is sent to the server. 3. Translation is done at the server, the book must be formatted properly and the PDF is sent back from the server and added to the user's library page. 4. The user is redirected to the library page where they are now given the option to either download the translated PDF or have the book read out to them.

	<p>Alternate Flow:</p> <ol style="list-style-type: none"> 1. User cancels the translation of the PDF. 2. User is redirected back to the library page.
Post Condition:	<p>Main Flow: Book must have been translated completely, formatted properly, resembling the untranslated version as closely as possible with respect to location of images and structure of text. The options to download or have the book read out should be given on the library page for said PDF.</p> <p>Alternate Flow: User is redirected back to the library page.</p>

Use Case Number:	UC-3
Use Case Name:	Option to download a PDF.
Overview:	The user will be provided with the option to download PDFs from their library.
Actors:	All users that have uploaded at least one PDF.
Pre-condition:	User must have uploaded a pdf of at least one book.
Flow:	<p>Main (success) Flow:</p> <ol style="list-style-type: none"> 1. At the library page, the user selects the download option next to any book present in their library. 2. The PDF starts getting downloaded into their local storage. 3. Upon completion of the download, the user is taken back to the library page.
	<p>Alternate Flow:</p> <ol style="list-style-type: none"> 1. User cancels the downloading of the PDF. 2. User is taken back to the library page.
Post Condition:	<p>Main Flow: The book must have been downloaded completely and stored in the user's device's local storage.</p> <p>Alternate Flow: The user is taken back to the library page.</p>

Use Case Number:	UC-4
Use Case Name:	Register/Login option for users.
Overview:	Users should be allowed to login and register to create accounts to use the

	application.
Actors:	All users.
Pre-condition:	1.User haven't registered to out platform. 2.User need to open the Login page.
Flow:	Main Flow: <ol style="list-style-type: none"> 1. User clicks on the login button. 2. The user enters their information (email and password). 3. Their information is validated. 4. They are redirected to their library page.
	Alternate Flow (registration):- <ol style="list-style-type: none"> 1. User clicks on the register button. 2. They enter the information (username, email, password, etc.). 3. Their information is sent to the server where it is stored for validation. 4. They are redirected to their library page.
Post Condition:	After successful login users will be redirected to their respective dashboards.

Use Case Number:	UC-5
Use Case Name:	Reading options when displaying a book.
Overview:	Users should be able to move to any page of the book and read from that page onwards.
Actors:	Non-Blind Users using the app to read a book.
Pre-condition:	Users need to upload the pdf and select the language in which they wanted the translated book to be in. Also they need to download the translated book and open it to exploit this use case.
Flow:	Main Flow: <ol style="list-style-type: none"> 1. Reader opens up the book to the last-read position. 2. The user can select any page to read. 3. Last read position will be set to the page where the user left off.
	Alternate Flow (the user closes the reader): <ol style="list-style-type: none"> 1. The last-read position is updated and sent to the server.
Post Condition:	The last-read position (as stored in the server) accurately reflect where the user left off.

Use Case Number:	UC-6
Use Case Name:	Have a book read aloud.
Overview:	This feature lets the user to have their translated/untranslated book to be read aloud to them. If the book is to be read in a different language than the one uploaded, then it will first need to be translated.
Actors:	All users.
Pre-condition:	Users need to upload the pdf of the book and select their desired language from drop-down which they want their book to be read in.
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. Firstly upload the pdf of the book, then choose a language from the drop-down menu. 2. Select option for "Read-Aloud" to listen the book in desired language.
	<p>Alternate Flow:</p> <ol style="list-style-type: none"> 1. User can use this functionality to read out the books from their library too.
Post Condition:	Audio starts playing from the last-read position after the user clicks the "Read Aloud" button.

Use Case Number:	UC-7
Use Case Name:	User-wise book libraries.
Overview:	Users will have a personalized library where they can access all the books that they previously used, may it be for translating or reading out loud or both. This feature will ease the use of the product and make it seamless when the customer uses the product repeatedly.
Actors:	All users.
Pre-condition:	For a user to use this feature, they will have to be registered as well as logged in. If they have used a book earlier, it will be visible in the library.
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. User loads the website. 2. Logs in if they have registered or registers first and then logs in. 3. They have an option in the navigation bar/menu to see what they have in the library.
	<p>Alternate Flow:</p> <ol style="list-style-type: none"> 1. User loads the website. 2. Logs in/registers, then uploads a book first. 3. Then translates or reads aloud or both.
Post	The user will see the library interface and uploaded books will be visible.

Condition:	
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Use Case Number:	UC-8
Use Case Name:	Voice commands
Overview:	A user can access most of the features of the platform by just giving voice commands. Users will still have to use keyboard input to authenticate. This feature makes the site immensely helpful to blind or slightly blind users as well as in case of not being able to understand how to do a task at the site.
Actors:	All users.
Pre-condition:	A user will have to know what features they can access via voice commands.
Flow:	Main Flow: <ol style="list-style-type: none"> 1. Enter the website/platform. 2. Start accessing the platform using voice commands.
	Alternate Flow: <ol style="list-style-type: none"> 1. Enter the website/platform. 2. Access all features by finger-touch.
Post Condition:	If the command is identified by the platform, it will repeat it and execute it else prompt the user to try giving the voice command again.

Use Case Number:	UC-9
Use Case Name:	Audio options when reading a book aloud.
Overview:	When a book is being read aloud, the user will be able to adjust the playback speed to their liking, they will be able to pause the audio and resume it later, they will also be able to seek to any part of the book and continue the reading from there.
Actors:	All users using the read-aloud functionality of the webapp.
Pre-condition:	The users must be using the "read-aloud" functionality of the webapp to gain access to these features.
Flow:	Main (success) Flow (the user pauses the audio): <ol style="list-style-type: none"> 1. The audio stops playing. 2. The last-read position of the book is updated.
	Alternate Flows: Alternate Flow 1 (the user presses play): <ol style="list-style-type: none"> 1. The last-read position of the book is loaded (initially set to the start of the book).

	<p>2. The audio begins playing from that point onwards.</p> <p>Alternate Flow 2 (the user seeks to certain point in the book):</p> <ol style="list-style-type: none"> 1. The last-read position of the book is updated. 2. The audio begins playing from the specified point onwards. <p>Alternate Flow 3 (the user adjusts the playback speed):</p> <ol style="list-style-type: none"> 1. The rate at which the book is read is modified as specified as the user (no changes in what is being read).
Post Condition:	The last read position must accurately reflect which paragraph the user was reading when they last read that specific eBook.

Use Case Number:	UC-10
Use Case Name:	User feedback
Overview:	Describe the purpose of the Use Case and give a 1-2 line description. This could be the same as the description provided in feature requirements section.
Actors:	All users.
Pre-condition:	The user must be logged in and must choose to submit feedback.
Flow:	<p>Main (success) Flow:</p> <ol style="list-style-type: none"> 1. The user chooses to provide feedback (by clicking a button on the screen). 2. The user is prompted with a form to fill out to provide their feedback (the form will contain relevant fields such as the topic of the feedback and the content of the feedback) 3. The feedback is sent to the servers to be stored once the form is submitted and can be accessed by the owners of the webapp.
	<p>Alternate Flows (the user decides to not submit feedback):</p> <ol style="list-style-type: none"> 1. The user chooses to not fill out the form and clicks on a “cancel” button. 2. The user is redirected to the homepage.
Post Condition:	<p>Main Flow: Feedback is sent to the servers and stored appropriately.</p> <p>Alternate Flow: The user’s incomplete feedback is NOT sent to the server and user is redirected to the home page of the webapp.</p>