SRS

Task 1 — UNDERSTANDING THE CONTEXT & STAKEHOLDER ANALYSIS

Phase 1A — Initial Reading & Comprehension

1. Organization Context

- **Who is the client? What do they do?**

The client is the organization creating a community-powered book translation platform. They provide a web space where users translate books, upload translations, and collaborate.

- **Current state of digital assets?**

They have a collection of digital books ready to be displayed for translation and stored in a manageable structure (likely unorganized and lacking community features).

- **Primary pain point driving this project?**

There is no centralized, community environment to translate books, track translation versions, and ensure quality or legitimacy.

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2. Project Scope Understanding

- **What problem are they trying to solve?**

Create a platform where users can collaboratively translate books, upload their work, rate others' translations, and access translation history.

- **Why is it important to them?**

It increases accessibility of books across languages, encourages community contribution, and ensures controlled, legitimate translations via admin supervision.

- **Project "Numidia" in one sentence:**

A web platform enabling community-driven translation, sharing, and evaluation of books.

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3. Geographic & Cultural Context

- **How does Algeria's location affect decisions?**

Arabic and French are dominant; English is globally required. The platform must support trilingual UI and RTL layout for Arabic. Internet speed constraints also require optimized files.

- **Why trilingual support?**

To serve Algerian users (Arabic & French) and international contributors (English).

Phase 1B — Stakeholder Identification & Analysis

Stakeholder Table

Stakeholder Group	Primary Goals	Pain Points (Current Problems)	Influence Level	Questions We Should Ask
Academic Researchers	Access high-quality translations	No central archive of versions	Medium	Do they need citation tools or version comparison?
Librarians / Archivists	Organize and preserve digital books	Hard to track multiple versions	Medium	Should they validate book metadata?
University Students	Access translations for study	Limited availability of translated books	Medium	Should they have download limits?
General Public	Read or contribute translations	No easy way to participate in translation	Low	Should anonymous users download/view translations?
Platform Management / Admin	Maintain quality & security	Malicious uploads, spam, copyright issues	Very High	What moderation actions must exist?
Translators (Your Added Group)	Translate and share books	No feedback/recognition system	High	What translation languages/formats are allowed?

Critical Thinking Questions

- **Are there indirectly mentioned stakeholders?**

Yes: copyright holders, educational institutions, international readers.

- **Conflicts between stakeholder needs?**
- Public wants open access; Admin needs control and moderation.
- Translators want freedom; copyright holders may restrict uploads.
- **Who has conflicting priorities in access vs security?**
- Users want open, fast access.
- Admin must enforce verification, prevent abuse, and protect copyright.

Task 2 — REQUIREMENT ELICITATION & CLARIFICATION

Phase 2A — Explicit vs Implicit Requirements

EXPLICIT Functional Requirements (5)

1. The system MUST allow users to create an account and log in.
2. The system MUST display a list of all available books.
3. Users MUST be able to download the original book file.
4. Users MUST be able to upload a completed translation.
5. The system MUST show previous translations with ratings and comments.

EXPLICIT Non-Functional Requirements (3)

1. The platform MUST authenticate users for upload actions.
2. The interface MUST be simple and responsive (web-friendly).
3. The username "Admin" MUST be reserved for supervision.

IMPLICIT Requirements (Inferred)

- **For users to compare translations:**

The system must store multiple translation versions per book, show metadata (upload date, uploader, rating), and sort them.

- **Infrastructure implied:**

Reliable file storage, download servers, sufficient bandwidth, scalable hosting, and a database for version history.

- **Compliance/legal requirements:**
- Copyright handling for uploaded translations.
- Content moderation.
- User data protection (password hashing, privacy laws).

AMBIGUOUS / MISSING Requirements (8–10 Questions)

1. What file formats and maximum file size are allowed for uploads?
2. Should translations be reviewed by Admin before appearing publicly?
3. Should comments be moderated or auto-published?
4. Are translations allowed in any language or only specific ones?
5. Can users edit or delete their previously uploaded translations?
6. Who can download translations — everyone or only registered users?
7. Should users receive notifications (ratings, comments, approvals)?
8. Should the platform support collaborative translation (multiple users per version)?
9. What metadata should be stored for each book and translation?
10. Should there be a reporting feature for inappropriate translations?

Phase 2B — Requirement Classification Framework

Below is a sample classification of your platform's requirements:

Requirement	Type	Category	Priority	Stakeholder	Status
User login/registration	Functional	Authentication	MUST	All Users	Explicit
List all books	Functional	User Interface	MUST	Users	Explicit
Upload translation	Functional	Content Management	MUST	Translators	Explicit
Show previous translations with ratings	Functional	Collaboration	MUST	Users	Explicit
Download original book	Functional	Content Delivery	MUST	Translators	Explicit

Requirement	Type	Category	Priority	Stakeholder	Status
File storage & backup	Non-Functional	Data Management	MUST	Admin/Owner	Implicit
Responsive UI	Non-Functional	Usability	SHOULD	Users	Explicit
Username "Admin" reserved	Constraint	Security	MUST	Admin	Explicit
Copyright compliance	Constraint	Legal/Compliance	MUST	Admin/Owner	Implicit
Multi-language UI (Arabic / French / English)	Functional	User Interface	SHOULD	All Users	Implicit

Task 3 — FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS ANALYSIS

Phase 3A — Functional Requirements Deep Dive

We expand your platform's major features into detailed, testable requirements.

Feature: Book Page (Download, Upload, Translation List)

Stated requirement:

"Users can download the original book, upload their translation, and view previous translations with rating/comments."

Detailed Functional Requirements

1. The system **SHALL** display book title, author, description, and language.
2. The system **SHALL** provide a **Download Original Book** button.
3. The system **SHALL** restrict downloads to supported file types.
4. The system **SHALL** require authentication before allowing uploads.
5. The system **SHALL** allow users to upload translated files.
6. The system **SHALL** validate the file type and size upon upload.
7. The system **SHALL** store metadata for each translation (uploader, date, language, rating).
8. The system **SHALL** display all previous translations in a list.

9. The system **SHALL** allow sorting translations by rating, date, or most downloaded.

10. The system **SHALL** allow authenticated users to leave comments.

11. The system **SHALL** allow users to leave a rating (one rating per user).

12. The system **MUST NOT** allow anonymous uploads.

13. The system **SHOULD** allow filtering translations by language.

14. The system **SHALL** show the number of comments under each translation.

Document Viewer Requirements (adapted to your platform)

Your platform uses standard files (PDF, text). No TIFF/JPEG2000, but we must follow the exercise pattern.

Testable Requirements (10–12)

1. The system **SHALL** open supported files (PDF/TXT) in an inline viewer when possible.

2. The system **SHALL** provide a fallback download-only option when inline preview is not possible.

3. The system **SHALL** allow users to zoom in/out within the preview.

4. The system **SHALL** allow full-screen mode for the viewer.

5. The system **SHALL** preserve document formatting during preview.

6. The system **SHALL** display basic metadata (file size, language, uploader).

7. The system **SHOULD** allow users to rotate PDF pages (if supported).

8. The system **SHALL NOT** allow editing inside the viewer.

9. The system **SHALL** load the preview within 2–3 seconds on average.

10. The system **SHALL** restrict viewer access for files that violate copyright (admin action).

11. The system **SHALL** allow users to download directly from the viewer page.

12. The system **SHALL** log viewer downloads for analytics (optional).

Phase 3B — Non-Functional Requirements Analysis

Performance

- Search or book pages should load in **< 3 seconds**.
- File previews should load in **< 4 seconds** for common PDFs.

- The platform should support **at least 500 concurrent users** initially.
- **Client question:** "What is your expected peak user load?"

Security

- Authentication must use **username + password** (hashed).
- Sensitive actions (upload/delete) require login.
- Data in transit must use **HTTPS (TLS 1.2 or higher)**.
- Admin-only actions require special privileges.
- Only registered users can upload translations.
- Optional: two-factor authentication for Admin.

Availability & Reliability

- Required uptime: **99%** annually.
- Recovery time target (RTO): **≤ 1 hour**.
- Daily automatic backups of the database and files.

Usability & Accessibility

- Web interface must be responsive on mobile and desktop.
- Arabic (RTL), French, and English fully supported.
- Interface should follow basic WCAG AA accessibility.
- **Client question:** "Do you require full WCAG 2.1 AA compliance?"

Scalability

- System should scale to **thousands of books** and **tens of thousands of translations**.
- Database should support horizontal scaling.

Maintainability

- Codebase should be modular and well-documented.
- Platform expected lifespan: **10+ years**.
- Long-term supported file types: **PDF, TXT**.

Compliance

- Must respect copyright laws for book translation.
- Must comply with basic data privacy rules (EU users → GDPR consideration).
- Admin must be able to remove illegally uploaded content.

NFR Summary Table

NFR Category	Requirement	Measurable Criterion	Priority
Performance	Fast page load	< 3 seconds	MUST
Performance	Preview load time	< 4 seconds for PDFs	SHOULD
Security	User authentication	Password hashing + HTTPS	MUST
Security	Admin control	Restricted admin actions	MUST
Availability	System uptime	99%	SHOULD
Reliability	Backups	Daily backups	MUST
Usability	Mobile support	Fully responsive UI	SHOULD
Localization	Trilingual interface	EN/FR/AR fully supported	MUST
Scalability	User load	500+ concurrent users	COULD
Compliance	Copyright respect	Admin removal tools	MUST

Task 4 — USE CASE & USER STORY DEVELOPMENT

Phase 4A — Primary Use Cases

Use Case 1 — Compare Two Translations

Actor: Researcher / User

Precondition: User is viewing a book that has ≥ 2 translations.

Main Flow:

1. User opens the book page.
2. User selects two translations to compare.
3. System displays both translations side-by-side (preview or metadata).
4. User scrolls or zooms each independently.
5. User decides which translation is better and rates accordingly.

   Alternate Flow:

- Preview unsupported → system provides download links instead. **Postcondition:** User comparison feedback recorded (via rating/comment).

Use Case 2 — Uploading a New Translation (Archivist Equivalent)

Actor: Translator / Authenticated User

Precondition: User logged in; book exists.

Main Flow:

1. User navigates to the book page.
2. User clicks **Upload Translation**.
3. User selects file + metadata (language, notes).
4. System validates the file.
5. System stores the translation and updates translation list.

   Alternate Flow:

- Invalid file → error shown. **Postcondition:** Translation is visible to other users.

Use Case 3 — Student Discovering Materials

Actor: Student / General User

Precondition: User on home page.

Main Flow:

1. User browses the list of available books.
2. User selects a language filter (e.g., English → find English translations).
3. User clicks a high-rated translation.
4. System displays translation details and comments.

   Alternate Flow:

- No translations available → system suggests similar books. **Postcondition:** Student accesses or downloads the translation.

Phase 4B — User Stories (8–10) with Acceptance Criteria

User Story 1

As a **user**, I want to **browse all available books** so that I can choose one to translate or read.

AC:

- Books displayed in a list
- Pagination or scroll
- Each book has a "View" button

User Story 2

As a **translator**, I want to **download the original book** so that I can translate it offline.

AC:

- Download button visible
- File downloads without errors
- System checks login status

User Story 3

As a **translator**, I want to **upload my translation** so that others can view it.

AC:

- Upload form accepts PDF/TXT
- Invalid formats rejected
- Upon success, translation appears in the list

User Story 4

As a **user**, I want to **rate translations** so that I can help highlight quality work.

AC:

- 1–5 star rating
- Only one rating per user
- Average rating updates instantly

User Story 5

As a **user**, I want to **leave comments** so that I can provide feedback.

AC:

- Comment text area available
- Comment appears with username + timestamp
- Admin can delete abusive comments

User Story 6

As a **user**, I want to **see all previous translations** so I can choose the best one.

AC:

- Translations listed with rating, date, uploader
- Sort options by rating/date

User Story 7

As a **user**, I want to **edit my profile** so that my information stays up to date.

AC:

- Editable fields (name, bio)
- Changes persist
- Invalid input rejected

User Story 8

As an **admin**, I want to **remove harmful translations** so that the platform stays legitimate.

AC:

- Admin sees "Delete" button
- Deletion instantly removes translation
- Action logged

User Story 9

As a **user**, I want to **favorite books** so I can track interesting ones.

AC:

- Click "Add to Favorites"
- Favorites appear in profile
- Clicking again removes favorite

User Story 10

As a **user**, I want to **filter translations by language** so I can find the version I understand.

AC:

- Filter dropdown visible
- List updates dynamically
- "No translations found" message shown when relevant

TASK 5 — CONSTRAINT ANALYSIS:

Phase 5A — Technical & Organizational Constraints

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1. User Authentication Must Be Secure

- **Type:** Security
- **Impact:** Must store hashed passwords, secure login flow, protect user accounts.
- **Question:** What authentication method is required? (Basic login? OAuth?)

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2. Books Must Respect Copyright Restrictions

- **Type:** Legal / Organizational
- **Impact:** Users may not upload copyrighted books or translations without rights.
- **Question:** Who verifies that a book or translation is allowed to be uploaded?

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3. Uploaded Translations Must Be Moderated after Publication

- **Type:** Organizational
- **Impact:** comments and ratings are enabled to review and rate translations
- **Question:** how to ensure that comments and reviews are authentic

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4. The System Must Support Multiple Languages (Arabic, English, French)

- **Type:** Localization
- **Impact:** Must handle multilingual UI, and Unicode content.
- **Question:** Should UI translations be professional or basic?

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5. Fast Response Time for Browsing Books & Viewing Translation Files

- **Type:** Performance
- **Impact:** Requires caching, optimized database queries, and fast file serving.
- **Question:** What is acceptable max load time (< 2 seconds)?

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6. Storage Limitations for Uploaded Book Files

- **Type:** Technical Constraint
- **Impact:** PDF, DOCX, and EPUB files can be large → storage must be planned.
- **Question:** What should be the file size limit per upload (e.g., 20MB, 50MB)?

7. Open Community Model Must Prevent Spam & Abuse

- **Type:** Security / Community Management
- **Impact:** Users may upload harmful files, spam comments, or offensive content.
- **Question:** Should anonymous users be allowed to comment?

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8. Multiple Translations for the Same Book Must Be Supported

- **Type:** Data / Architecture
- **Impact:** Must store different translation versions per book by different users.
- **Question:** Should translations be ranked or labeled by version?

Phase 5B — Risk Identification

Risk	Likelihood	Impact	Mitigation Strategy
Users upload copyrighted books or translations illegally	High	Legal consequences	Add copyright warning, require confirmation checkbox,
Users upload inappropriate or offensive translations	Medium	Damage to platform reputation	Moderation queue, community reporting
Users upload malware-infected or harmful files	Medium	Security threat	Validate file types, scan uploads, restrict executable formats
Platform slows down with many uploaded files	Medium	Poor user experience	Use pagination, caching, file compression, cloud storage
Storage cost increases as translations grow	Medium	Financial burden	Impose file-size limits, archive old files, use tiered storage
Users create spam accounts to promote fake translations	Low	Community trust issues	CAPTCHA, email verification, account suspension tools

TASK 7 — STAKEHOLDER CLARIFICATION QUESTIONS

FUNCTIONAL CLARIFICATIONS

1. What file formats for uploaded translations are allowed? (PDF, DOCX, TXT?)
2. Can multiple users upload different translations for the same book?
3. Should admins review translations before they become visible?
4. Can users report inappropriate translations or comments?
5. Can users edit their comments after upload ?
6. Should book metadata (title, author, language) be editable after upload?

PERFORMANCE & SCALE

1. How many active users are expected in the first year?
2. How many book uploads per month are expected?
3. Should search remain fast even with thousands of books ?
4. What is the estimated average file size per uploaded book or translation?

SECURITY & ACCESS CONTROL

1. Are users allowed to comment, or only read?
2. Should email verification be required for new accounts?
3. What password policy should be enforced (minimum length, symbols)?
4. Should admins be able to suspend or delete user accounts?

BUSINESS & ORGANIZATIONAL

1. Is the platform non-profit, educational, or commercial?
2. Who is responsible for verifying copyright compliance?
3. Who will moderate content: admin team or volunteers?
4. Who will maintain the platform long-term after development?

DATA MANAGEMENT

1. Should the system store multiple uploaded translations per book?
2. Should users be able to update their translation file after uploading?
3. What is the max allowed file size per upload?
4. Should old or inactive translations be archived automatically?
5. Should previous versions of files be saved or overwritten?