File Upload and Short Link Generation Platform

Overview: You are tasked with building a file upload and short link generation platform. The platform should allow users to upload a file to the server, and generate a short link that can be shared with others. When the short link is accessed, the uploaded file should be available for download.

Requirements:

1. Front-end:
    - Implement a user interface that allows users to select and upload a file.
    - Display a short link after the file is successfully uploaded.
    - Include error handling for invalid file types or file size restrictions.
    - Provide a download link for the uploaded file.
2. Back-end:
    - Implement a server-side API that handles file upload and short link generation.
    - Store the uploaded file on the server or on a cloud storage service (e.g., AWS S3).
    - Generate a unique short link for each uploaded file.
    - Store the short link and the corresponding file information in a database (e.g., MySQL, MongoDB).
3. Additional features (optional):
    - Implement user authentication and authorization to allow registered users to manage their uploaded files.
    - Add a file expiration feature to automatically delete files after a certain period of time.
    - Implement a file deletion feature to allow users to delete their uploaded files.
    - Implement proper file validation to prevent malicious file uploads.
    - Ensure the uploaded files are stored securely and not accessible by unauthorized users.
    - Protect against cross-site scripting (XSS) and cross-site request forgery (CSRF) attacks.

Guidelines:

- Use any programming language, framework, and database of your choice.
- Ensure that your code follows best practices for security and efficiency.
- Make sure to handle errors gracefully and provide appropriate error messages to users.
- Pay attention to the user interface design and make it user-friendly.

- Provide comments in your code to explain your implementation choices and any assumptions you make.

Deliverables:

- A fully functional web application that meets the requirements outlined above.
- Code hosted on GitHub with clear documentation in the README file.
- The application hosted on an online platform of your choice
- Instructions for running the application locally
- A clear and concise report explaining your implementation choices, challenges faced, and any additional features or improvements you would make with more time.

Note: You are free to use any open-source libraries or resources as long as you provide proper attribution and follow all licensing requirements.