Problem Definition - Your Answer

Task Requirements

- Find source files on disk based on language suffix (.c, .py, .java etc.), wildcard name match.
  Must have ▾
- View contents of selected source file, along with its location on disk, date of last modification.
  Should have ▾
- Annotate source file (and add to catalog): Add a description and tags. Must have ▾
  - ■ Annotations are short descriptions that the user can write and attach to a source file
- Compare source files (diff) Should have ▾
  - ○ Source file differences are highlighted and show
    - ■ Ref: conflict resolution screen in git
- Delete a source file from the catalog. Must have ▾
- Move a source file to a new location and update it's location attribute Must have ▾
- Find source files in catalog based on annotation, date range Must have ▾
- Validate catalog: After a source file has been added to the catalog, the original file might be modified, deleted or moved to a different location on the disk. This option will use the catalog information to check current disk contents and identify any changes. Should have ▾
  - ○ Button activated function

Use case narrative:

1. Use case Name: Search source files in the catalog

Actor: User

Goal: Find a source file in the catalog

Preconditions:

- At least one file exists in the catalog
- The catalog system is initialized and accessible

Main success scenario:

1. The user chooses a search type
   a. File name
   b. Annotations
   c. Last Modified Date
   d. File type
2. The user inputs the appropriate data for the selected search type
   a. A string or integer for the file name
   b. A string for annotations
   c. A date in the correct format for the last created date
   d. A string for the file type
3. The system shows any matches in the catalog

Exception:

- The source file is not found because:
   a. It does not exist
   b. Invalid Input format

2. Use case Name: Edit annotations

Actor: User

Goal: Edit the annotations that are attached to the source file in the catalog

Preconditions:

- At least one file exists in the catalog
- The catalog system is initialized and accessible

Main success scenario:

1. The user selects a file from the catalog:
    a. They can select it from the already shown list
    b. They can search it using different search types
2. The system displays the details of the selected file, including the current annotation.
3. The user views the annotation attached to the source file
4. The user edits the annotation
    a. Blank field
    b. A string for updated annotation
5. The user saves the updated annotation
6. The system confirms the changes and updates the catalog with the edited annotation

Exception:

-   The targeted source file is not found through search because:
    a. It does not exist
    b. Invalid Input format
-   If the system fails to save the edited annotation (e.g., due to network or file system issues), the system displays an error message
-   The user cancels the editing process, so the system returns without performing any action

3. Use case Name: Delete the source file from the catalog

Actor: User

Goal: Delete a source file from the catalog

Preconditions:

-   At least one file exists in the catalog
-   The catalog system is initialized and accessible

Main success scenario:

1. The user selects a file from the catalog:
    a. They can select it from the already shown list
    b. They can search it using different search types
2. The system displays the details of the selected file
3. The user confirms their intention to delete the file from the catalog
4. The user deletes the file from the catalog
5. The system confirms the changes and updates the catalog

Exception:

- The targeted source file is not found through search because:
    c. It does not exist
    d. Invalid Input format
- The user cancels the deletion, so the system returns without performing any action
- If the system fails to delete (e.g., due to network or file system issues), the system displays an error message

4. Use case Name: Open the source file from disk

Actor: User

Goal: Open the selected file from the disk

Preconditions:

- The catalog system is initialized and accessible
- The user knows the location of the file on the disk
- The file exists in the specified location.
- The user has the necessary permissions to access the file on the disk.

Main success scenario:

1. The user selects the source file from the disk
    a. They can select it from the already shown list
    b. They can search it from the file name or language suffix
    c. The user navigates through directories to locate the file
2. The user opens the file
3. The file is opened in the appropriate application or viewer based on its type.
4. The system displays the file content

Exception:

- The source file is not found because:
    a. It does not exist
    b. Invalid Input format
- If the file type cannot be opened by the system, it displays an error message such as "Unsupported file type. Please use an external application to open this file"

5. Use case Name: Add source file to catalog

Actor: User

Goal: Add a source file to the catalog

Preconditions:

- The catalog system is initialized and accessible
- The user knows the location of the file on the disk
- The file exists in the specified location.
- The user has the necessary permissions to access the file on the disk.

Main success scenario:

1. The user selects the source file from the disk
   a. They can select it from the already shown list
   b. They can search it from the file name or language suffix
   c. The user navigates through directories to locate the file
2. The system prompts the user to add an annotation.
   a. Blank field
   b. A string for annotation
3. The user enters an annotation
4. The user adds the new file to the catalog
5. The system confirms the changes and updates the catalog

Exception:

- The source file is not found because:
   c. It does not exist
   d. Invalid Input format
- If a file with the same name or metadata already exists in the catalog, the system displays a message to inform the user that it already exists
- The user cancels the adding process, so the system returns without performing any action
- If the system fails to delete (e.g., due to network or file system issues), the system displays an error message

6. Use case Name: Move source file to a new location

Actor: User

Goal: Moving source file to a new location on the disk

Preconditions:

- The catalog system is initialized and accessible
- The file exists in the specified location.
- The user has the necessary permissions to access and move the file.
- The destination location is valid and writable.

Main success scenario:

1. The user selects the source file from the disk
   a. They can select it from the already shown list
   b. They can search it from the file name or language suffix
   c. The user navigates through directories to locate the file
2. The system prompts the user to select a new location/directory for the file
   a. They can select it from the already shown list
   b. They can search the directory name
   c. The user navigates through directories to select the location/directory
3. The system validates the destination location and checks for potential conflicts (e.g., duplicate file names).
4. The system moves the file to the new location.
5. The system updates the catalog with the new file path.

Exception:

- The source file is not found because:
   a. It does not exist
   b. Invalid Input format
- The location/directory is not found because:
   a. It does not exist
   b. Invalid input format
- If a file with the same name or metadata already exists in that destination, the system displays a message to inform the user that it already exists and prompts the user to confirm whether to overwrite, rename, or cancel
- The user cancels the moving process, so the system returns without performing any action
- If the system fails to delete (e.g., due to network or file system issues), the system displays an error message

7. Use case Name: Validate Catalog

Actor: User

Goal: Ensure the system properly validates file operations and reflects accurate updates in the catalog

Preconditions:

- The catalog contains metadata for the file
- The user has the necessary permissions to perform operations on the file

Main success scenario:

1. The system detects a file operation (move, rename, or overwrite) initiated by the user.
2. The system validates the integrity of the file operation by checking the disk and catalog consistency.
3. If the operation is valid, the catalog is updated with the new metadata.
4. The user receives confirmation of the successful operation.