

My Research on Image Reusability

1. My Findings (The Current Problem)

I looked into how our code (specifically `SubModule.jsx`) handles the ZIP files we upload.

Currently, when we upload a clean JSON file that says `"imageName": "water_cycle.png"`, the code actually changes it behind the scenes! During the upload, it attaches a random timestamp and a massive folder structure to the filename (e.g., `grade/0/subject/Admin-Testing/.../water_cycle__123456789.png`) and saves *that* messy string into the database.

Because the database overwrites our clean filename with this highly specific string, **the JSON is no longer reusable**. If we try to export or reuse the quiz, the image path is permanently locked to that one specific upload instance.

2. My Solution (How to fix it)

To fix this and achieve the reusability sir asked for, I have a two-step plan:

Step 1: Keep the Database Clean (Store Pure Paths) I will update the uploader code so it stops messing with the JSON. The database must store **exactly what we uploaded** in the ZIP file.

- If the ZIP says `"imageName": "water_cycle.png"`, the database will only save `"water_cycle.png"`.
- This makes our database JSON 100% clean, portable, and ready to be reused anywhere.

Step 2: Let the Frontend do the Work (Dynamic Resolution) If the database only stores `"water_cycle.png"`, how does the app find the image? The React frontend (the student portal) already knows what Grade, Subject, and Chapter the student is looking at. I will write a simple function in the frontend that takes the clean filename and dynamically glues the correct URL and folder path together on the fly just before showing the image.

3. Conclusion

By making this change, the database never hardcodes a URL or a messy storage path again. The data becomes completely decoupled from the website, making all of our quiz images perfectly reusable just like sir requested!