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Database Research

VENDOR ONLINE MARKETPLACE

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Contents

What data storing method is best suited for this project

1. Context

Vendor is an online marketplace where users can sell and buy items.

When a user wishes to sell a product, they can upload a few images of the item and answer a few questions to create a listing. These images need to be stored and will be showed to anyone viewing the listing, therefore these pictures need to be stored for an unknown amount of time, at least until the product listing is removed.

This document will compare and analyse the most advantageous way of storing images in this context.

2. Options available

There are three options that can be used to address the problems in the current context. These solutions are as follows: saving the images into an SQL data base as BLOBs (binary large objects), storing the images on the host machine and saving a reference to them in the database or using an already existing solution, such as Cloudinary.com.

3. Defining the options.

1. SQL BLOBs

Wikipedia defines BLOBs as a collection of binary data stored as a single entity. These are typically images, audio, or multimedia objects but they can sometimes also store binary executable code. Files stored cannot be bigger than 2GB.

The data type and definition were introduced to describe data not originally defined in traditional computer database systems. Because it was too large to store practically, at the time when database systems where first being introduced, around 1970s and 1980s, the data type only became useful later, when disk space became cheaper.

2. Local storage

Images can also be saved on the machine that is hosting the system. While still needing to save pointers or identifiers to the files in the database, this allows files of any size to be saved and displayed on the website.

3. Cloudinary

Cloudinary is a cloud-based image and video management service. It allows users to upload, store, manage and deliver media files for websites and apps. Cloudinary is a SaaS technology company headquartered in Santa Clara, California, with offices in Israel, England, Poland, and Singapore.

On 7 April 2020, Cloudinary launched its upgraded WordPress plug-in for streamlined picture and video processing, and revealed its designation as a WordPress VIP Platform Partner, a select group of partners evaluated for consistency, protection, ease of use and size.

4. What storing method doesn't raise any budget problems?

For this question, I've investigated what others in the community consider the best way of storing images. The first solution suggested using FileStream instead of using BLOBs because of poor performance and other limitations. FileStream, on the other hand, allow files bigger than 1 MB and its much faster.

A third option proposed as being even better is using Amazon S3, Google Cloud Storage or Azure Blob since these solutions don't require too much managing and it makes the process a lot less painful. Although using already design systems can turn out to be expensive, especially later it the lifetime of a project when things need to be scaled up. Using an already existing solution for storing images can save a lot of time now, but if more storage space is needed, it would require buying subscriptions.

I think, in this case, the best solution is storing images locally, and then referencing them using randomly generated and assigned ids. This way images uploaded are not limited in size and there is no limit to the amount of space available.

5. What is the fastest way of storing and retrieving images?

In an ideal situation the images would be stored and retrieved instantly, as soon as the user upload a file or loads a page. In reality, there is no way of achieving that, there are always going to be delays, even if they are not perceived by us.

From the options specified earlier, the fastest solutions are those that are local, because accessing another service through the internet is going to take longer than looking for a file stored locally.

6. Conclusion

To summarize, there are a lot of viable options for every storage problem, but in this case a local solution seems to be the best, it is fast and it does not have a limit on the total space available. This means that an online solution is not the suitable for this project and the remaining solutions are SQL BLOBs/FileStreams or local storage with ids. Since storing images in the data base will make it bulky and hard to work with, I think the best option is saving the images locally and accessing them using unique ids.

7. References

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