APEX QR VAULT

This project is a meticulous exploration into the nuanced dynamics of estimating the size of a 1-second video at 1080p resolution with a 16:9 aspect ratio. Focused on the assumption of an uncompressed video state and guided by a standard frame rate of 30 fps, the project employs a comprehensive formula that takes into account essential parameters such as frame width, height, bit depth, and duration. Noteworthy assumptions include a frame width of 1920 pixels, a frame height of 1080 pixels, 30 frames per second , and at duration of 1 second.

The calculated video size of a 1second 1080 30fps video is 3mb approximately serves as a foundational metric shedding light on the storage demands associated with uncompressed videos. So, by using our idea we can store at least 45mb per second in a 3mb data .

So lets make some calculations :-

Lets assume we can store upto 500 qr codes in frame and maximum capacity of a qr code is 3kb and there is 1second 1080 30fps video….

So now ,
No of frames per second :- 30
No qr codes in a frame :-500
Size of each qr code :- 3kb
So total data stored in each frame is :-1.5mb
Total data stored per second :- 1.5mb×30fps= 45mb…..

However, recognizing the prevalent use of compression techniques in real-world scenarios, the project goes beyond mere estimation. It acts as a precursor for a more profound exploration into video compression methodologies, seeking to uncover strategies for optimizing storage efficiency without compromising visual quality.

This endeavour is positioned to contribute significantly to the evolving landscape of video storage and compression technologies. Through a detailed examination of the interplay between video resolution, compression techniques, and the associated storage implications, the project aims to provide valuable insights that can shape future advancements in the field. It lays the groundwork for a comprehensive understanding of how different variables influence video storage, setting the stage for more informed decision-making in the realm of digital video content. The main motto of this idea is to show that storing data in the form of black and white in a form of video stores more data than storing data in form of 0,1…

By :-

N. AKHIL. 322103311039

GUNJESH KUMAR. 322103311018

P. MURALI. 322103311040

M. TEJESHWAR RAO. 322103311030