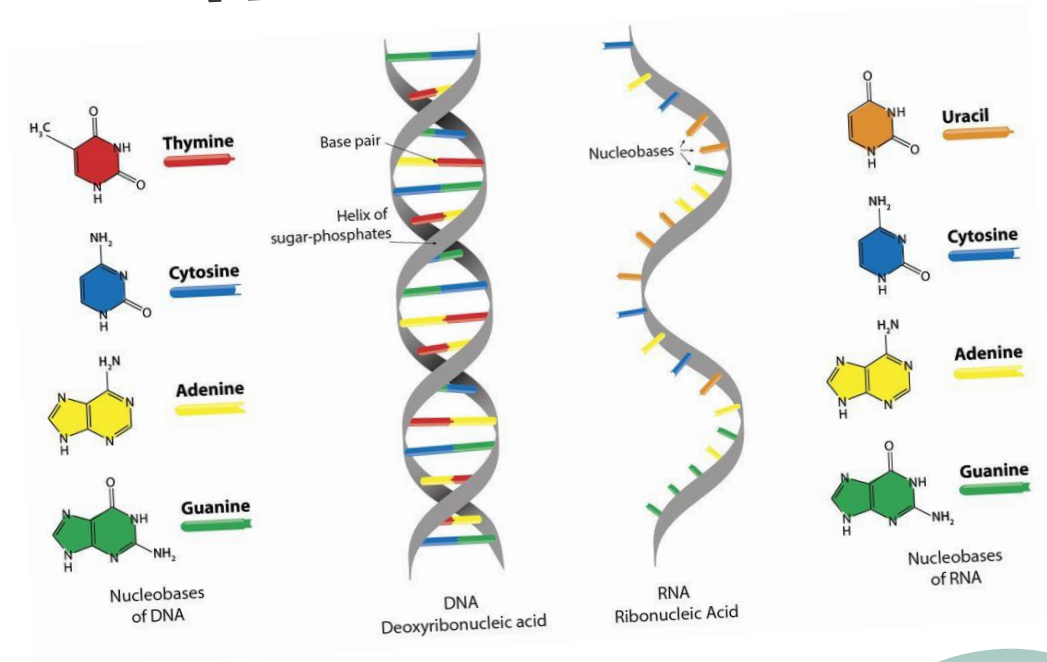


DNA Data Storage & Indexing

Monograph by:
Rui Fernandes, 92952

What is DNA?



How is DNA useful for data storage?

Flash Drive

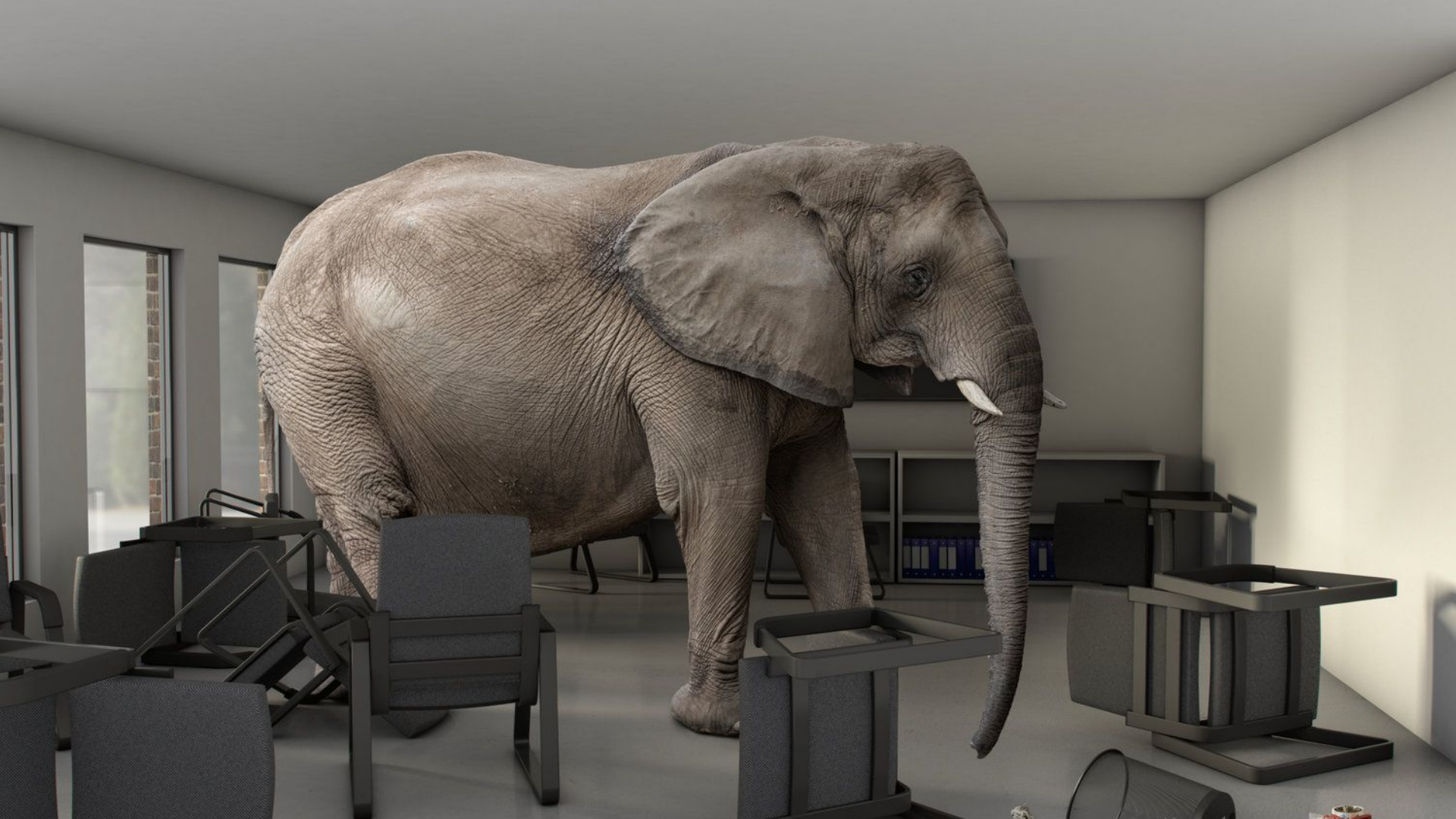
12 grams
1 Terabyte
16.2 cm³

DNA

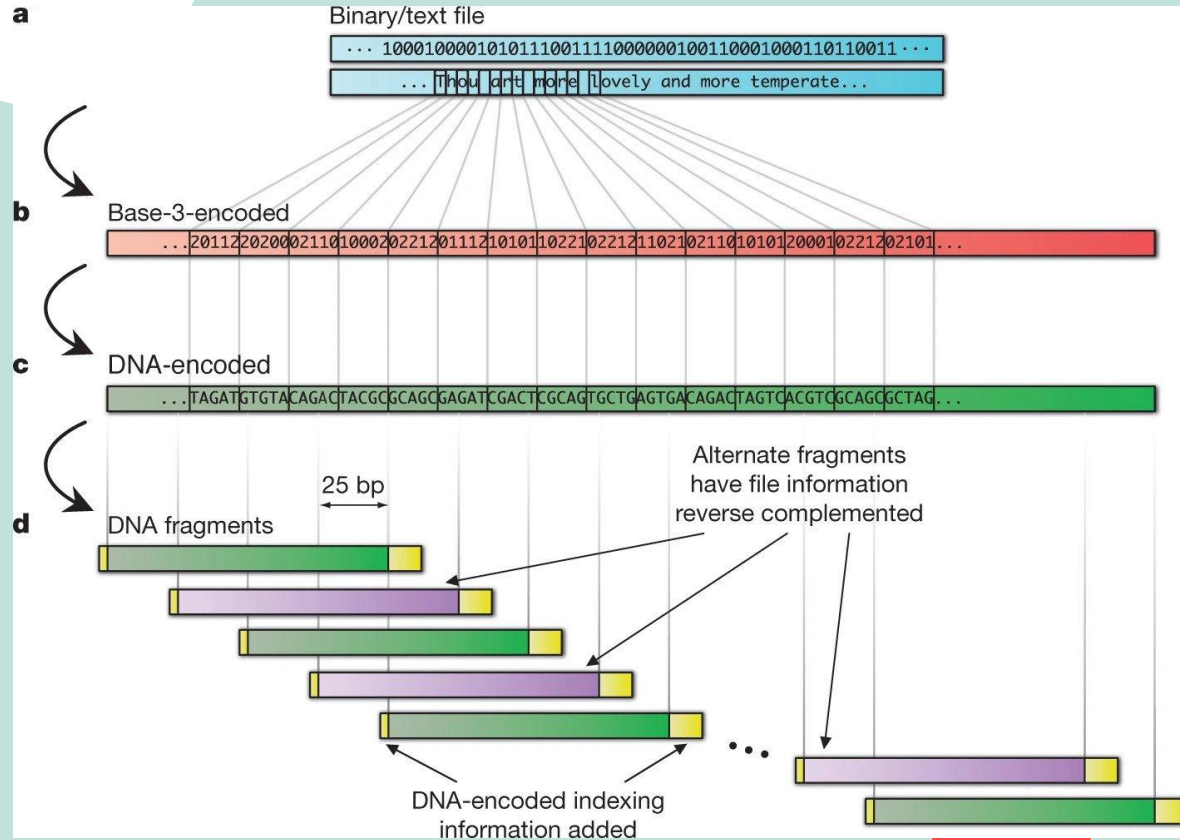
1 gram
215 Petabytes
0.6 cm³

The Internet

1 Million Exabytes



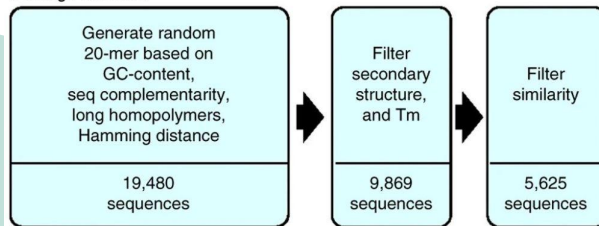
1st Paper Synthesized DNA Storage



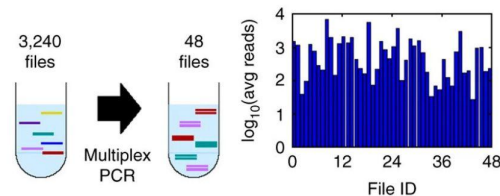
2nd Paper Random Access

a

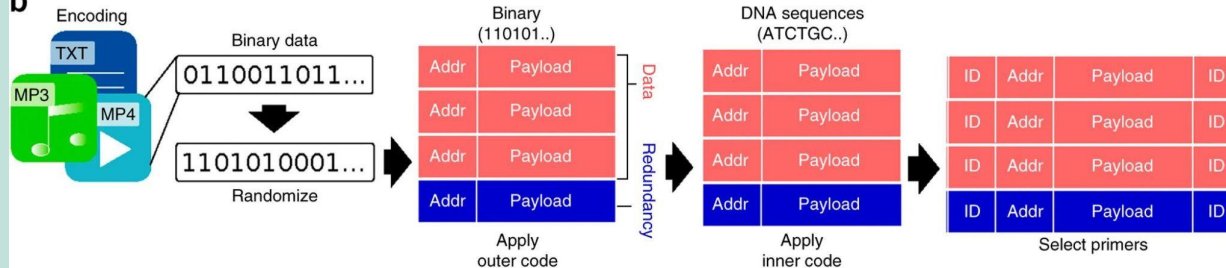
Primer library design
i. Design workflow



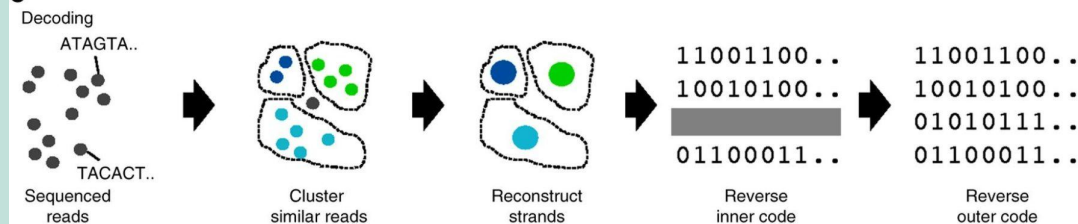
ii. Validation



b

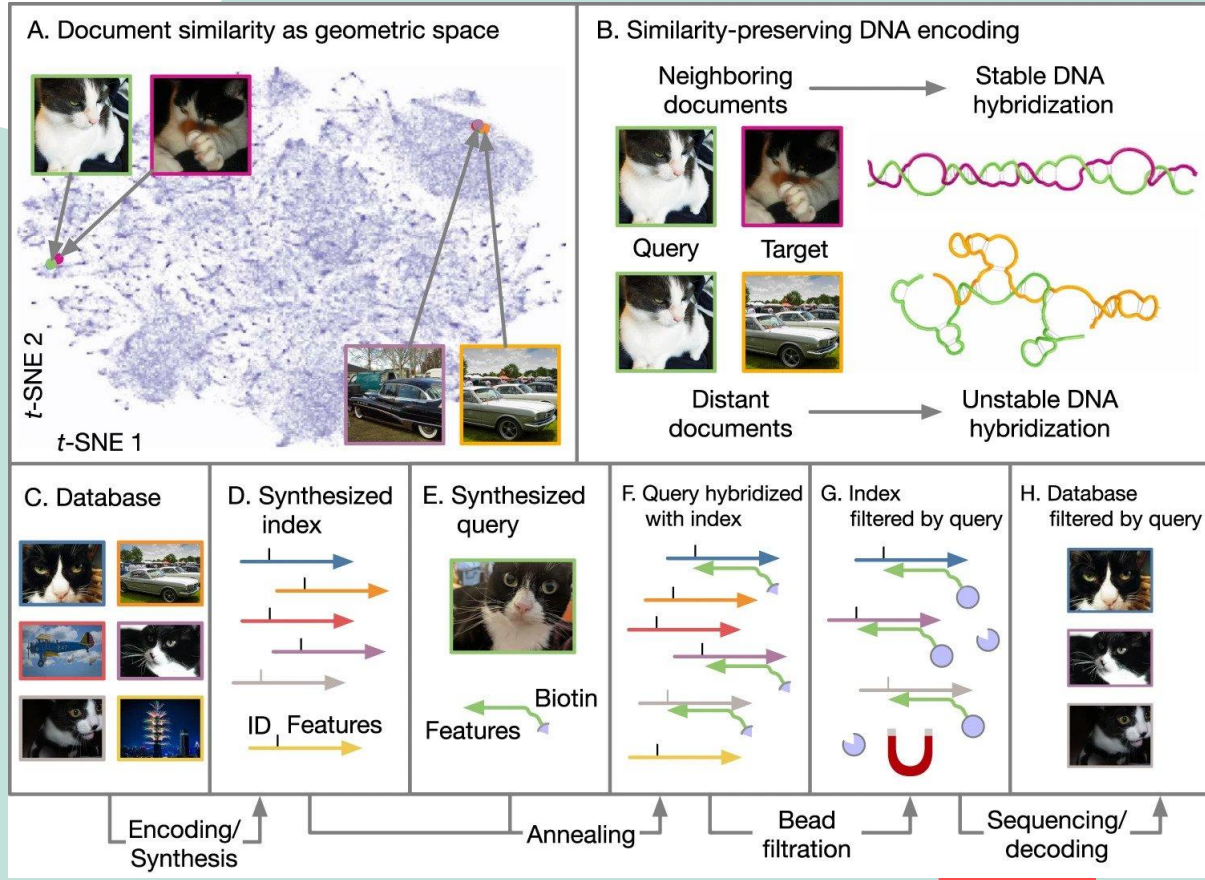


c



3rd Paper

Information Retrieval





Conclusion

DNA is a relevant alternative to traditional data storage and indexing methods, and it could become a reality in years to come