AANY: S3-like Database

Austin Jamias
Noah Markowitz
Yuqi Jin
Adwait Kulkarni

Objective

- **Text and image files**
- **Compression**
  - **Huffman Coding (text, image)**
  - **Gunzip (generalizable)**
  - **Arithmetic Coding (image)**
  - **Run-length coding (image)**
- **Distributed System**
- **Data Structures**
  - **Hash map - One key per file with metadata as value (including storage area)**
  - **Arrays**
  - **Huffman trees**
- **Time Complexity**
  - **Varying based on file type and content**

Pipeline

put pipeline:
filename -> file -> compression -> segmentation + metadata -> storage

get pipeline:
filename -> storage -> sequencing with metadata -> uncompress -> original file

Distributed System

get:
client —-request—-> server —-request—> respective database “node”
looks in metadata map

put:
client —request—> server —request—> respective database “node”
if it exists, update it,
if not, create it

clear:
client —request—> server —request—> respective database “node”