

Type Ahead Suggestion

Friday, March 22, 2024 9:21 PM

More searched

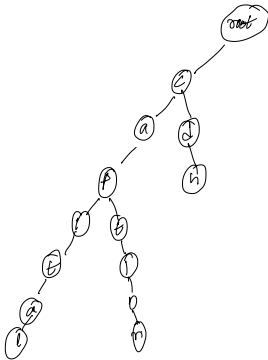
FUNCTIONAL REQs

As the word is typed most popular (10) entries should be displayed

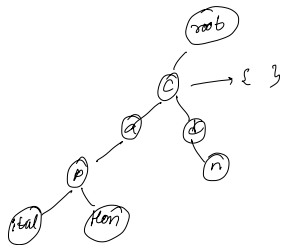
NON FUNCTIONAL REQs

1. Low latency
2. Availability
3. Relevant

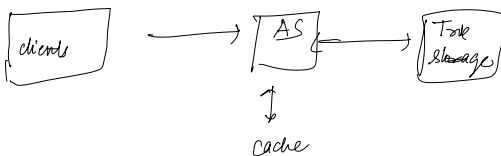
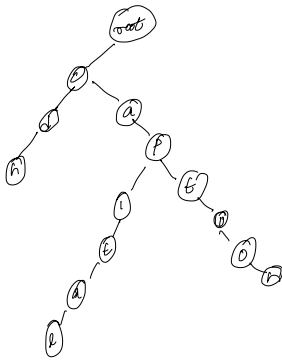
Other name for tree is prefix tree



```
class TrieNode {
    char C;
    List<TrieNode> children;
    boolean isEnd;
}
```



PG send out to top 10 entries
 $O(L) + O(N)$



SCALE ESTIMATION

5 billion queries / day

$$\frac{5 \times 10^9}{24 \times 60 \times 60} = \frac{5 \times 10^9}{86400} \approx 60k/sec$$

↓

1 billion queries

consider every query has 3 words \times 5 chars \times 2

$$20 \times 10^9 \Rightarrow 20 \text{ GB/day}$$

~ 10^6 ~ 10^7 any

100M queries
 $100 \times 10^6 \times 3 \times 5 \times 2$
 $= 3 \text{ GB}$

3 GB + $(0.02 \times 3 \times 365)$ storage per year

PARTITIONING

capacity of servers

Aggregates service

mapping:

M

S

S

Cache

LFU