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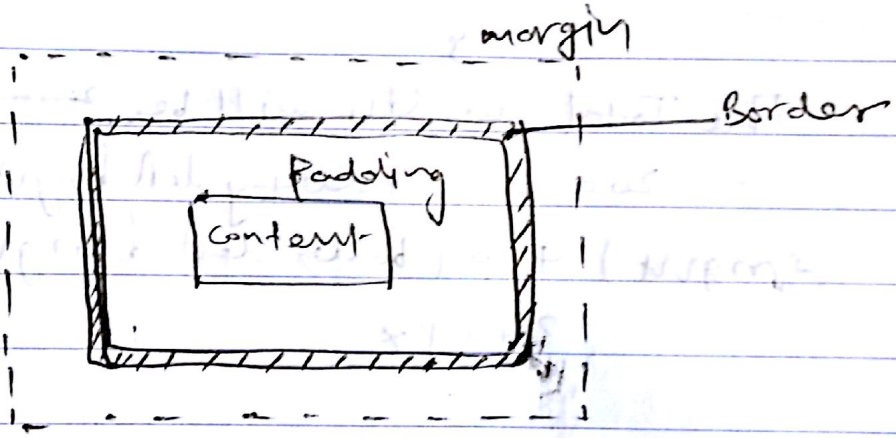
CS6314
Web programming Languages

CSS box model

The box model applies to all HTML elements. It is basically used for the design and layout of HTML web pages.

The components of box model are:

- margin
- padding
- border
- content



- The margin is transparent, it is the clear area (white space) present outside the border.
- The border can be either opaque or transparent (is customizable style and thickness)
- Padding is area around the content. This is usually transparent.
- Content is the main area where the text or all the content specified in the body appears.

The total size of the HTML element - is calculated by adding the padding, border, margin and the content area.

for e.g.

```
div {
    width : 200 px ;
    padding : 10 px ;
    border : 5 px ;
    margin : 5 px ;
}
```

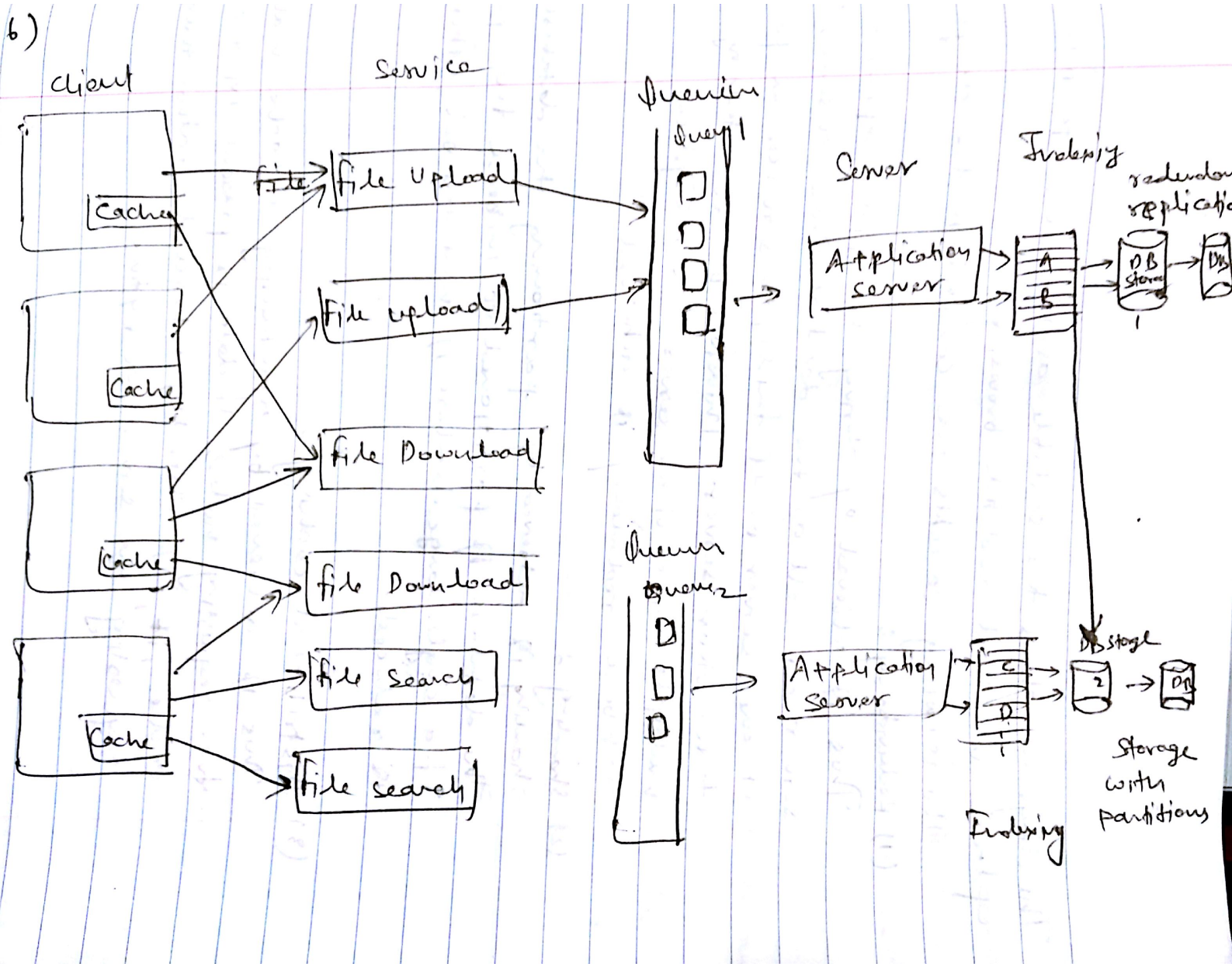
The Total width will be ~~200+10+10+~~

= 200 + 20 (padding left + right) + 10 (margin left + right) + 10 (border left + right)

= 240 px

Client
Request

6)



The diagram shows the scalable architecture for file upload, download and file browsing.

The following concepts are covered in the diagram.

(1) Redundancy:

This is achieved by storing multiple copies of the server as well as the database. This ensures that if one server or DB fails, the service can point to the other server. Therefore by maintaining multiple copies of the server and a replica database, redundancy is achieved.

(2) Sharding:

Sharding is achieved by partitioning the database. The database is partitioned to increase the speed. If a single large database is maintained, efficiency is reduced.

(3) Distributed caching:

This is achieved by maintaining a cache in all the requesting nodes. If data is present in the cache, it is directly retrieved rather than requesting the server everytime.

(4) Indexing :
Indexing technique is applied for the database storage & retrieval. The index maintains key value & a hashing technique to store and retrieve data

(5) Distributed queuing :
It is achieved by maintaining 2 queues for the servers. The request first goes to the queuing which then sends it to the server based on its availability and request priority. This way the load on application servers is managed.