

FILE SYSTEM

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BLOCK TYPES

Description Block

Content Block

Free Block Table

DESCRIPTION BLOCK

- Filename
- Metadata
- Start id
- End id
- Sub Description Block
 - Description Block without filename and meta data



If necessary

CONTENT BLOCK

- Content

FREE BLOCK TABLE

- Block id

WHAT HAS TO BE DONE WHEN THE FILE FOO.TXT CREATING

- Allocate Description Block
 - Ask the Free Block Table for the next free Block
 - Free Block Table delete the returned Block
 - Add the data into Description Block
- Allocate Content Block
 - Add the content into Content Block

WHAT HAS TO BE DONE IF THE FILE SIZE INCREASES, ESPECIALLY IF ADDITIONAL BLOCKS ARE NECESSARY

- Increase size in the Block
- If the block is too small
 - Ask Free Block Table for the next Block
 - Add new start id and end id to Description Block
 - Free Block Table delete the returned Block

WHAT HAS TO BE DONE WHEN THE FILE SHOULD BE READ SEQUENTIAL

- Iterate over the Description Block and read the content from block start to block end

WHAT HAS DO BE DONE WHEN YOU SEEK IN THE FILE

- Iterate the Description Block to specified point

WHAT HAS TO BE DONE WHEN THE FILE SIZE DECREASE

- Decrease size in the block
- If last block is unnecessary
 - Add to Free Block table
 - Modify end id in Description Block

WHAT HAS TO BE DONE WHEN THE FILE IS DELETED

- If Sub Description Block exists
 - Delete Sub Description Block
 - Add Sub Description Block id into Free Block Table
- Iterate the Description Block and delete start id to end id
 - Add the Description Block id into Free Block Table