Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte DANNY D. LOH and JIMMY PING FAI CHUI

Appeal No. 2003-0227
Application No. 09/428,871

ON BRIEF

Before Krass, Barrett and Owens, *Administrative Patent Judges*.

Owens, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the examiner's final rejection of claims 1–44, 50, 63-70 and 72-90, and refusal to allow claims 56, 62 and 71 as amended after the final rejection and claims 45-49, 51-55 and 57-61 as amended after the examiner's answer. These are all of the claims in the application.

THE INVENTION

The appellants claim 1) a multi-tier digital image storage system, method and protocol, and 2) a method and protocol for using a unique file identification value to access a digital image from a data storage unit. Claims 1 and 87 are illustrative:

> 1. A multi-tier data storage system to support photographic printing of uploaded digital images, comprising:
>
> a first data storage unit for storing digital images uploaded over a network;
>
> a second data storage unit coupled to the first data storage unit for archiving digital images residing on the first data storage unit for more than predetermined period;
>
> a third data storage unit coupled to the second data storage unit, the third data storage unit caching a requested digital image from the second data storage unit if the requested digital image is unavailable on the first data storage unit; and,
>
> a printer coupled to one of the first, second or third data storage units, the printer accessing a digital image from one of the data storage units to produce a print.
>
> 87. A method for managing a digital image storage system, comprising:
>
> generating a functional path name directory based on a unique file identification value;
>
> storing data files based on generated unique identification values; and

accessing a digital image based on the functional path name directory and producing a print from the digital image.

THE REFERENCES

Craig	5,790,176	Aug. 4, 1998
Garfinkle et al. (Garfinkle)	6,017,157	Jan. 25, 2000 (filed Dec. 24, 1996)

THE REJECTION

Claims 1-90 stand rejected under 35 U.S.C. § 103 as being unpatentable over Garfinkle in view of Craig.

OPINION

We reverse the aforementioned rejection. We need to address only the independent claims, i.e., claims 1, 21, 37, 45, 51, 57, 63, 71, 76, and 87.

The appellants state (brief, page 5), and the examiner agrees (answer, page 3), that the claims stand or fall together. The claims, however, cannot stand together because different inventions are claimed. Independent claims 1, 21, 45, 51, 57, 71 and 76 are directed toward a system, method or protocol for multi-tier digital image data storage, whereas independent claims 37, 63 and 87 are directed toward a method or protocol for using a unique file identification value to access a digital

image from a data storage unit. The claimed system, method or protocol for multi-tier data storage does not require the claimed method or protocol for using a unique file identification value to access a digital image from a data storage unit, and vice versa.

The rejection of the claims directed toward a method or protocol for using a unique file identification value to access a digital image from a data storage unit cannot be affirmed because the examiner has not addressed these claims in his explanation of the rejection.

The claims directed toward a system, method or protocol for multi-tier data storage require a second data storage tier which archives digital images from a first data storage tier, and require that if a requested digital image is unavailable on the first data storage tier, a third data storage tier caches the requested digital image from the second data storage tier.

Garfinkle discloses two-tier data storage wherein an image server (16) stores digital images in a commercially available database on a RAID (redundant array of independent (or inexpensive) disks) disk partition to guard against disk

failures, and the server digital image data is archived on an archival medium such as an 8 mm tape drive at regular intervals to guard against catastrophic failures (col. 4, lines 49-54).

Craig discloses a multimedia server which allocates storage based on the ranking of a feature and the output of trend processing performed by a usage probability processor (col. 10, lines 29-31). Typically, the storage priority, from highest to lowest priority features, is: DRAM, magnetic disk, high speed tape, and archival tape (col. 10, lines 36-48).

The examiner argues that Garfinkle's use of two levels of storage indicates an acknowledgment of the tradeoff between storage accessibility and cost, and that Craig teaches that it was known to use several levels of storage hierarchy to optimize the tradeoff between large size and low cost and small size and high cost (answer, pages 6-7). The examiner argues that given the disclosures of these tradeoffs, it would have been obvious to one of ordinary skill in the art to provide a third data storage unit as a caching unit for temporary storage of frequently requested items in Garfinkle's system (answer, pages 7-8). The

appellants' claims directed toward multi-tier data storage, however, do not merely require a third data storage unit as a caching unit but, rather, require that if requested data is unavailable on a first data storage unit, the third data storage unit caches the data from a second data storage unit which archives data from the first data storage unit. The examiner does not explain how Garfinkle and Craig would have led one of ordinary skill in the art to this system.

The examiner points out that Garfinkle removes the digital images from the image server after a fixed period of time to free up disk space for other images, and that Garfinkle prefers multiple RAID partitions so that the image server can process new rolls of film when one partition is unavailable due to service or backup procedures (col. 5, lines 40-52) (answer, pages 6-7). The examiner concludes from these and the above-discussed disclosures that "[i]t would have been obvious to the skilled artisan to provide the claimed third data storage unit to 'cache' the images requested from the second storage unit so that if the customer

wants to access them repeatedly, the long delays associated with accessing tape storage are only incurred once; subsequent requests for the same images can be provided quickly since the

third data storage unit would obviously be some type of storage unit with a shorter access time than tape" (answer, page 7). The examiner, however, does not explain, and it is not apparent, how this conclusion follows from the relied-upon reference disclosures rather than coming from the appellants' disclosure.

The examiner argues that a separate partition of Garfinkle's image server (col. 5, lines 49-52) anticipates the appellants' third data storage unit (answer, page 8). This argument is not well taken because the examiner does not explain how this separate partition caches digital images from a second storage unit which archives digital images from a first storage unit.

The examiner argues that "Garfinkle's special directory reserved for caching thumbnail images anticipates the third data storage unit (column 6, lines 64-66). Even though this directory is on the image server, it is a separate area from where the full

digital images are stored and can therefore be considered a separate data storage unit" (answer, page 8). Garfield discloses that "the thumbnail digital images are cached at the image server **16** in a special directory reserved for this purpose. (see e.g., *et*, FIG. **3**B). Subsequent access to the thumbnail digital images may be obtained by retrieving them directly from this cache. Thumbnail digital images in the cache can be deleted as required, and regenerated as needed" (col. 6, line 64 - col. 7, line 3). The thumbnail digital images are cached on a data storage tier that is comparable to the appellants' first data storage tier. The examiner does not explain how Garfinkle's image server's special directory for caching thumbnail digital images from this first data storage tier anticipates a data storage unit that caches digital images from a second data storage tier that archives digital images from the first data storage tier.

For the above reasons we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the appellants' claimed invention.

DECISION

The rejection of claims 1-90 stand rejected under 35 U.S.C. § 103 over Garfinkle in view of Craig is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
TERRY J. OWENS Administrative Patent Judge	)	

TJO/dpv

BAO TRAN
TRAN & ASSOCIATES
6768 MEADOW VISTA COURT
SAN JOSE, CA 95135