

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Google LLC,
Petitioner,

v.

Withrow Networks Inc.,
Patent Owner

Case No. IPR2025-00775
U.S. Patent No. 10,771,849

PATENT OWNER'S DEMONSTRATIVES

1. A method comprising:
receiving audio and video segments encoded in a digital 20
encoding format and with an encoding rate; wherein,
said audio and video segments are associated with
object parameters and supplied host path identification
to form multimedia objects;
requesting by a multimedia player, transmission of said 25
multimedia objects; wherein said multimedia objects
are located using http and received by said multimedia
player from servers using a wireless connection;
playing back received multimedia objects by the multi-
media player, wherein the multimedia player is config- 30
ured to play multimedia objects in a sequence such that
fluidity, video quality and audio quality are maintained
by selecting a plurality of said multimedia objects that
reflect available network bandwidth, autonomously
adjusting said selection and playback according to the 35
multimedia object parameters and supplied host path
identification, and by
utilizing optimized decoding processes to maintain qual-
ity playback.

**Claim 6 has
similar language**

6. A multimedia player comprising:
computer executable instructions stored on a non-transi-
tory computer readable medium which when executed
by a processor:
requests transmission of multimedia objects;
receives audio and video segments encoded in a digital
encoding format and with an encoding rate; wherein,
said audio and video segments are associated object
parameters and supplied host and path identification
to form multimedia objects; and wherein said mul-
timedia objects are located using http and received
by said multimedia player from servers using a
wireless connection;
plays back received multimedia objects in a sequence
such that fluidity, video quality and audio quality are
maintained by selecting a plurality of said multime-
dia objects that reflect available network bandwidth,
autonomously adjusting said selection and playback
according to the multimedia object parameters and
supplied host path identification, and by utilizing
optimized decoding processes to maintain quality
playback.

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE
United States Pat. No.
10,771,849 Claim 6
Ex. 1001, p. 33
IPR 2025-000775

So does claim 7

7. A system comprising
at least one centralized content server transmitting multimedia objects; said multimedia objects including segmented audio and video, and parameters and supplied host path identification;
at least one multimedia player configured to:
request transmission of multimedia objects;
receive audio and video segments encoded in a digital encoding format and with an encoding rate; wherein, said audio and video segments are associated object parameters and supplied host and path identification to form multimedia objects; and wherein said multimedia objects are located using http and received by said multimedia player from servers using a wireless connection;
play back received multimedia objects in a sequence such that fluidity, video quality and audio quality are maintained by selecting a plurality of said multimedia objects that reflect available network bandwidth, autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification, and by utilizing optimized decoding processes to maintain quality playback.

After configuring the audio and/or video decoding components of the multimedia object player, the object player
50 may choose to either delay playback until the multimedia object buffers in memory have filled or may begin playback immediately while requesting the next multimedia object concurrently. This decision can be based on the speed at which the multimedia objects are retrieved versus the play-
55 back time of each multimedia object, the latency of requests for multimedia objects or the number of multimedia objects that can be stored in memory at once.

FIG. 6B

DEMONSTRATIVE
EXHIBIT –
NOT EVIDENCE

United States Pat.
No. 6,389,473
(Carmel)

Ex. 1003
IPR 2025-000775
Cited in Sur-Reply
Paper 39, Page 3

Fig. 6B, p. 9
(Left)

Col. 10:64 -11:22,
pp. 17-18 (Right)

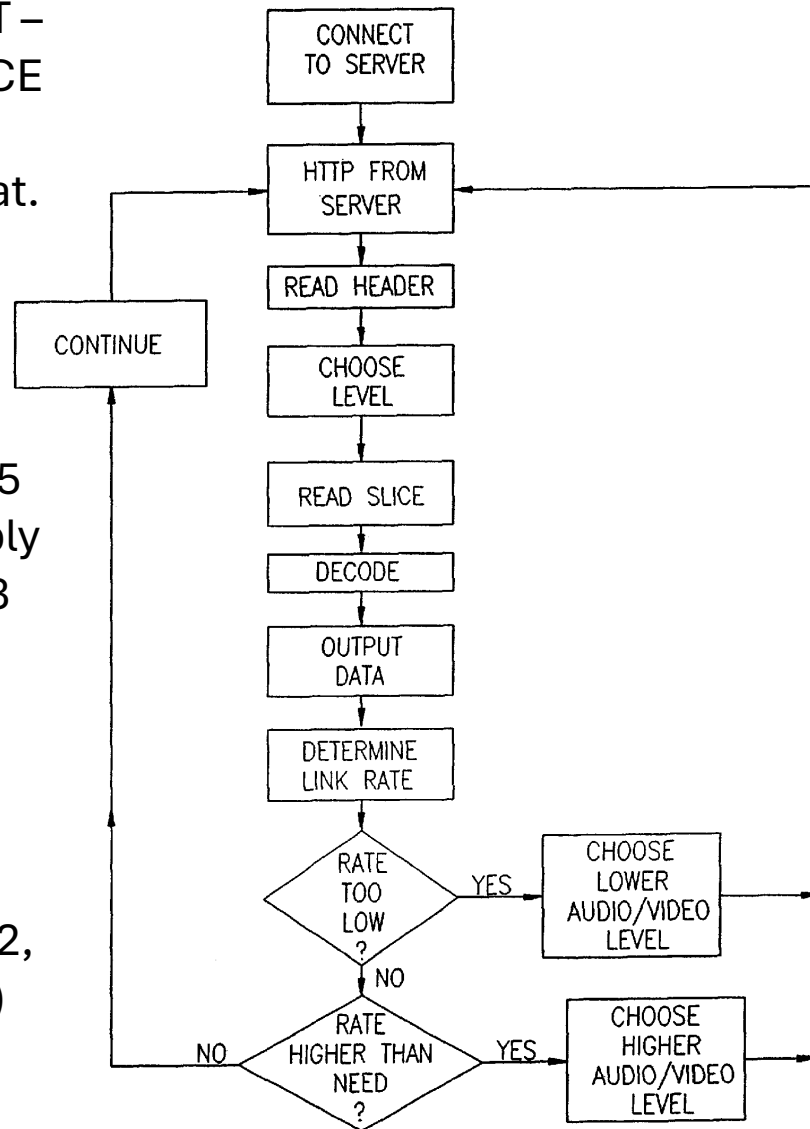


FIG. 6B is a flow chart illustrating the operation of clients 30 in downloading and playing back multi-level data stream 41 (FIG. 3D) transmitted from server 36, in accordance with another preferred embodiment of the present invention. As in the method of FIG. 6A, each client 30 connects to the server, generally using a single HTTP link. After reading header 43 and, preferably, making an initial assessment of the link bandwidth, the client selects one of the available quality levels in the stream. Responsive to the selection, server 36 begins to transmit data slices at the chosen quality level. The slices are received, decoded and output by the client.

Periodically, client 30 makes an assessment of the rate of data transfer over the link from the server and, if necessary, changes the quality level accordingly. For example, if the rate is low, such that time stamps 59 indicate that the slices need to be played as fast as or faster than they are being received, the client will preferably select a lower quality level if one is available. On the other hand, if the rate is substantially higher than what is needed to receive the successive slices on time, the client may select a higher quality level to take advantage of the available bandwidth. Preferably, upper and lower data rate thresholds, or watermarks, are set dynamically in response to the data rate and are used in determining when a new quality level should be selected.

While a POSITA may have understood that maintaining fluidity, video quality and audio quality were desirable, a POSITA would not understand how to maintain fluidity, video quality, or audio quality in the claimed manner, especially given the limited capabilities of mobile devices at the time. *Id.* The '849 Patent's three claimed steps for maintaining fluidity, video quality and audio quality solved this problem.

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE

POR, 40, citing
Goldman Decl. , ¶110
Ex. 2014
IPR 2025-000775

The ‘849 Patent expressly taught that adjusting playback (apart from selection) is “critical” to fluidity.

the sample rate of the audio stream). The buffering and playback of multimedia objects in a synchronized fashion is critical to fluid playback.

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Cited in Sur-Reply
Paper 39
Page 13

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE
United States Patent No.
10,771,849, col. 3:43-45
Ex 1001, p. 25
IPR 2025-00775

‘849 Prosecution History teaches what is meant by maintaining fluidity, video quality and audio quality.

“Maintaining semantic fidelity and further compression are NOT the same as optimized player decoding. Semantic fidelity is based on extracted bitstream characteristics for encoding and transmission control by using the Vetro [prior art] predictor model and transcoder to adaptively adjust the bitstream for network bandwidth and to tailor it to operational player characteristics/limitations. Maintaining smooth quality playback, based on playback efficiency in my specification, involves other factors, and involves dynamic player executed configurations and optimized decoding, based on the parsed multimedia objects. “

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE

File History of United States Patent No.
10,771,849
Ex. 1008, p. 582
IPR 2025-000775

Mattavelli teaches that compromising video quality is “very attractive” compared to maintaining video quality.

In this paper we introduce the motivations and ideas of the Computational Graceful Degradation (CGD) approach for the implementation of video decoding. The goal is to provide results of possibly lower visual quality, but respecting the real-time constraints, when the required processing needs exceed the available processing resources. This approach is very attractive since it enables a more efficient usage of the hardware processing power without needing to implement resources for worst case complexity decoding.

Cited in Sur-Reply
Paper 39
Pages 14-15

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE
Mattavelli
Ex. 1004, p. 1
IPR 2025-00775

**The Examiner, in the Reasons for Allowance, recognized
the importance of the maintaining
fluidity, video quality and audio quality limitation**

Independent claim 33 recites the following limitation: "wherein the multimedia player is configured to play multimedia objects in a sequence such that fluidity, video quality and audio quality are maintained by selecting a plurality of said multimedia objects that reflect available network bandwidth, autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification". This limitation of independent claim 1 in combination with the other limitations recited in the claim is the reason for allowance.

DEMONSTRATIVE EXHIBIT –
NOT EVIDENCE

File History of United States Patent No.

10,771,849

Ex. 1008, p. 589

IPR 2025-000775