

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

VIACOM INTERNATIONAL, INC., COMEDY)
PARTNERS, COUNTRY MUSIC.)
TELEVISION, INC., PARAMOUNT)
PICTURES CORPORATION, and BLACK)
ENTERTAINMENT TELEVISION, LLC,)

Plaintiffs,)

vs.)

NO. 07-CV-2203)

YOUTUBE, INC., YOUTUBE, LLC,)
and GOOGLE, INC.,)

Defendants.)

THE FOOTBALL ASSOCIATION PREMIER)
LEAGUE LIMITED, BOURNE CO., et al.,)
on behalf of themselves and all)
others similarly situated,)

Plaintiffs,)

vs.)

NO. 07-CV-3582)

YOUTUBE, INC., YOUTUBE, LLC, and)
GOOGLE, INC.,)

Defendants.)

VIDEOTAPED DEPOSITION OF MICHAEL SOLOMON
PALO ALTO, CALIFORNIA
TUESDAY, SEPTEMBER 1, 2009

JOB NO. 17576

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1 A P P E A R A N C E S (Continued.)

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11
12 ALSO PRESENT: Kelly Truelove, Consultant

13 Stewart Pettigrew, Videographer.

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1 SOLOMON, M.

2 09:13:21 start working on it or when did it become a company

3 09:13:25 and when did I start getting paid?

4 09:13:26 Q Let's take it step by step.

5 09:13:28 When did you first start working at YouTube,

6 09:13:30 whether paid or unpaid and whether or not it was a

7 09:13:33 company?

8 09:13:34 A Maybe May of 2005.

9 09:13:39 Q Okay. And was -- were you being paid in May

10 09:13:46 of 2005?

11 09:13:48 A No.

12 09:13:48 Q Okay. So in what capacity were you

13 09:13:51 affiliated with YouTube in May of 2005?

14 09:14:02 A Steve would ask me how to solve problems. I

15 09:14:06 would give him the answers.

16 09:14:07 Q What's Steve's last name?

17 09:14:09 A Chen.

18 09:14:10 Q Okay. And he is one of the original founders

19 09:14:15 of YouTube; is that correct?

20 09:14:16 A Yes.

21 09:14:16 Q And there were two others; is that correct?

22 09:14:20 A Yes.

23 09:14:21 Q They were?

24 09:14:25 A Jawed Karim and Chad Hurley.

25 09:14:30 Q Okay. So at that time, in May of 2005, when

1 SOLOMON, M.

2 09:14:33 you started working with YouTube in a non- -- in an

3 09:14:40 unpaid capacity, were there any other individuals

4 09:14:44 either employed at YouTube or working in the same kind

5 09:14:46 of unpaid capacity other than you and the three

6 09:14:50 founders?

7 09:15:00 A Maybe Yu Pan.

8 09:15:04 Q Okay. Anybody else that you recall?

9 09:15:13 A Maybe Christina Brodbeck.

10 09:15:23 Q Was Cuong Do, D-O, affiliated with YouTube at

11 09:15:41 that time?

12 09:15:41 A No, I don't think so.

13 09:15:51 Q Okay. So at that time when it was the three

14 09:15:59 founders, you, maybe Yu Pan, and maybe Christina

15 09:16:06 Broadbeck, were you the principal software engineer at

16 09:16:11 that time?

17 09:16:13 A You could say that.

18 09:16:19 Q Okay. So you started in May of 2005 in an

19 09:16:28 unpaid capacity. Did that capacity ever change as

20 09:16:31 time went on?

21 09:16:34 A Yes.

22 09:16:34 Q When was that?

23 09:16:40 A I think October of that year.

24 09:16:43 Q And how did it change in October of 2005?

25 09:16:50 A The company was, you know, formally

1 SOLOMON, M.

2 09:16:52 incorporated and we started getting paid.

3 09:16:57 Q Okay. In October of 2005, were there

4 09:17:10 additional employees at YouTube other than you, the

5 09:17:12 three fan -- founders, maybe Yu Pan, and maybe

6 09:17:18 Christina Broadbeck?

7 09:17:26 A I think so.

8 09:17:29 Q Do you recall their names?

9 09:17:36 A I think Chad -- Chad's brother Brent, had

10 09:17:41 probably started working there by then, if -- very

11 09:17:46 soon after if not.

12 09:17:49 Q Anybody else?

13 09:17:50 A Right around the time that we incorporated, I

14 09:17:53 don't really recall.

15 09:17:55 Q Okay. Is Brent a software engineer?

16 09:17:58 A No, he is not.

17 09:17:59 Q Okay. So when was the -- actually, let me

18 09:18:06 strike that and back up.

19 09:18:07 Did there ever come a time when YouTube hired

20 09:18:10 another software engineer other than you?

21 09:18:13 A Yes.

22 09:18:13 Q Who was the first software engineer other

23 09:18:17 than you to be hired by YouTube?

24 09:18:32 A Either Yu Pan or Cuong.

25 09:18:37 Q I'm sorry. What was the second name after Yu

1 SOLOMON, M.

2 09:18:40 Pan?

3 09:18:44 A Cuong.

4 09:18:45 Q Is that Mr. Do?

5 09:18:47 A I'm sorry. Yes.

6 09:18:56 Q What were your responsibilities in that

7 09:18:58 October 2005 time frame?

8 09:19:05 A Mostly just software development, general

9 09:19:08 operations work.

10 09:19:11 Q And when you say "software development" and

11 09:19:15 "operations work," was that all development and work

12 09:19:18 on developing the YouTube.com website?

13 09:19:23 A Yes, in the systems, you know, behind the

14 09:19:26 scenes that supported them.

15 09:19:27 Q Okay. Would you include what are known as

16 09:19:55 the "admin websites" as part of the behind-the-scene

17 09:19:58 systems?

18 09:20:01 MR. WILLEN: Objection to the form; assumes

19 09:20:03 facts.

20 09:20:05 MR. DESANCTIS: Q. Are you familiar with

21 09:20:06 the -- with the admin websites that are part of the

22 09:20:09 YouTube system?

23 09:20:11 A I'm familiar with one website, yes.

24 09:20:14 Q Okay. Well, what is that website? What --

25 09:20:17 A That is the admin website.

SOLOMON, M.

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2 09:20:20 Q Do you know the URL for that?
3 09:20:23 A Yes.
4 09:20:23 Q What is that?
5 09:20:24 A Admin.YouTube.com.
6 09:20:34 Q Is that accessible by the public?
7 09:20:37 MR. WILLEN: Objection to the form; vague.
8 09:20:39 THE WITNESS: You'll have to be more specific
9 09:20:44 about what you mean by "public."
10 09:20:45 MR. DESANCTIS: Q. To -- is it available --
11 09:20:47 is it accessible by non-YouTube or non-Google
12 09:20:51 employees?
13 09:20:56 A No.
14 09:20:57 Q Okay. Can you tell me generally, not all the
15 09:21:01 specifics, but generally what the Admin.Youtube.com
16 09:21:05 website is?
17 09:21:06 A Generally, it's admin tools for the YouTube
18 09:21:09 website.
19 09:21:10 Q Okay. And is it right that those admin tools
20 09:21:25 are available only to YouTube and Google employees?
21 09:21:35 A I don't know the policies that are associated
22 09:21:37 with admin these days.
23 09:21:39 Q Okay. And were you involved in developing
24 09:21:46 the admin.YouTube.com site?
25 09:21:50 MR. WILLEN: Objection to the form; vague.

1 SOLOMON, M.

2 09:23:02 A Almost all projects, regardless of who the
3 09:23:05 primary author, would normally have a discussion with
4 09:23:09 me.

5 09:23:14 Q I'm sorry. Your answer was, "Almost all
6 09:23:24 projects, regardless of who the primary author, would
7 09:23:26 normally have a discussion with me."

8 09:23:30 They would normally have discussions with you
9 09:23:33 about anything, about what?

10 09:23:35 A Technical direction, implementation details.

11 09:23:37 Q Okay. For all projects at YouTube?

12 09:23:40 A Not for all, but for the majority.

13 09:23:45 Q Okay. So if not you, was there a different
14 09:24:00 software engineer who was primarily responsible for
15 09:24:03 developing the admin.YouTube.com website?

16 09:24:06 A Yes.

17 09:24:07 Q Who was that?

18 09:24:15 A Probably Erik Klein.

19 09:24:28 Q Do you recall when Erik Klein first began
20 09:24:31 working at YouTube, approximately?

21 09:24:34 A 2006.

22 09:24:34 Q Early? Middle? Late?

23 09:24:40 A Early.

24 09:24:40 Q Before early 2006, was there an
25 09:24:55 admin.YouTube.com website?

1 SOLOMON, M.

2 10:33:20 What is being sent over these arrows from the

3 10:33:23 end user to these three various destinations?

4 10:33:27 MR. WILLEN: Objection to the form.

5 10:33:34 THE WITNESS: This is just a conceptual

6 10:33:36 document. It doesn't really reflect reality.

7 10:33:40 MR. DESANCTIS: Q. Well, because it -- is it

8 10:33:49 a -- because it's a summary? I mean, it obviously

9 10:33:52 doesn't have all of the detail in the YouTube

10 10:33:54 network --

11 10:33:55 A Uh-huh.

12 10:33:55 Q -- but if we -- is it -- do you understand

13 10:34:00 what the document is portraying?

14 10:34:09 A Only using my internal knowledge of the

15 10:34:11 system.

16 10:34:12 Q Okay. Well, that's -- that's good.

17 10:34:16 Using your internal knowledge of the system,

18 10:34:22 what is it that's being sent -- do you know what's

19 10:34:25 being sent over these arrows --

20 10:34:29 MR. WILLEN: Object.

21 10:34:29 MR. DESANCTIS: Q. -- over the three arrows

22 10:34:31 running from the end user icon to the three

23 10:34:34 destinations, net scaler, video servers, and CDN?

24 10:34:38 MR. WILLEN: Objection to the form.

25 10:34:40 THE WITNESS: My understanding is not that --

1 SOLOMON, M.

2 10:34:46 is that this is just showing at a high level where

3 10:34:52 data comes from.

4 10:34:53 MR. DESANCTIS: Okay.

5 10:34:54 Q Where data comes from from -- for what

6 10:34:57 purpose?

7 10:34:58 MR. WILLEN: Objection to the form.

8 10:35:07 MR. DESANCTIS: Let me suggest.

9 10:35:08 Q Is it when an end user requests a Watch Page?

10 10:35:11 A It doesn't seem to indicate that. It --

11 10:35:17 yeah.

12 10:35:17 Q So you don't know if it's --

13 10:35:19 A I don't know what it's referring to. It's

14 10:35:20 very generic.

15 10:35:23 Q Okay. Okay. I'm sorry to do this to you,

16 10:35:33 but I just need to consult with my team for a minute,

17 10:35:36 so can we have another three-minute break and --

18 10:35:38 MR. WILLEN: Sure. No problem.

19 10:35:40 THE VIDEOGRAPHER: The time is 10:35.

20 10:35:42 Off the record.

21 10:35:43 (Recess taken.)

22 10:41:46 THE VIDEOGRAPHER: The time is 10:42.

23 10:41:48 On the record.

24 10:41:49 MR. DESANCTIS: Okay.

25 10:41:52 Q Mr. Solomon, when a -- when a user uploads a

1 SOLOMON, M.

2 10:41:57 video, YouTube stores that video; correct?

3 10:42:02 MR. WILLEN: Objection to the form.

4 10:42:04 THE WITNESS: Yes, video is stored when you

5 10:42:14 upload it.

6 10:42:15 MR. DESANCTIS: Okay.

7 10:42:23 Q But it's not necessarily stored in the format

8 10:42:26 that the user uploaded it in; correct?

9 10:42:33 A Yes, it is always stored in the format it's

10 10:42:36 uploaded in.

11 10:42:37 Q Okay. Is it also -- is a video uploaded by a

12 10:42:43 user also transcoded into a format other than what the

13 10:42:48 user uploaded it in?

14 10:42:51 A Yes, a transcode is always attempted.

15 10:42:54 Q Okay. So there is the original copy uploaded

16 10:43:01 by the user in the format uploaded by the user, and

17 10:43:04 then, if I understand correctly, YouTube transcodes

18 10:43:09 that or attempts to transcode that and, if successful,

19 10:43:14 makes a second copy in a new transcoded format?

20 10:43:18 MR. WILLEN: Objection to the testimony.

21 10:43:21 THE WITNESS: When -- during the upload

22 10:43:23 process, the file that the user uploads is stored.

23 10:43:26 The transcoder process attempts to convert that

24 10:43:32 original uploaded file into a file playable by the

25 10:43:36 website.

1 SOLOMON, M.

2 10:43:36 MR. DESANCTIS: Okay.

3 10:43:44 Q And if successful -- if the attempt to

4 10:43:47 convert the original file is successful, does YouTube

5 10:43:54 make additional copies?

6 10:43:57 MR. WILLEN: Objection to the form.

7 10:44:00 THE WITNESS: Yeah, I don't understand

8 10:44:01 "additional copies."

9 10:44:02 MR. DESANCTIS: Okay.

10 10:44:03 Q Well, there's the original copy uploaded by

11 10:44:06 the user in the format uploaded by the user.

12 10:44:09 A (Witness nods head.)

13 10:44:10 Q Then YouTube attempts to transcode that file.

14 10:44:13 A Uh-huh.

15 10:44:14 Q If successful, we then have two -- YouTube

16 10:44:18 then has two copies, the original and the transcoded

17 10:44:20 copy; correct?

18 10:44:23 A They are different, completely different

19 10:44:26 files. They have no -- like -- they are usually

20 10:44:30 completely unrelated to the -- to each other.

21 10:44:32 Q Okay. Does YouTube make any copies of the

22 10:44:39 transcoded file?

23 10:44:42 MR. WILLEN: Are you done with the question?

24 10:44:44 Objection to the form of the question.

25 10:44:50 THE WITNESS: The process of transcoding

1 SOLOMON, M.

2 10:44:55 creates a new file.

3 10:44:56 MR. DESANCTIS: Right. The process of

4 10:44:58 transcoding creates one new file. That's good.

5 10:45:03 Q Does YouTube then create additional copies of

6 10:45:05 that one file, or does YouTube maintain only one copy

7 10:45:11 of the transcoded file?

8 10:45:15 MR. WILLEN: Objection to the form; objection

9 10:45:18 to what's meant by "YouTube."

10 10:45:22 THE WITNESS: Also, I'm not exactly sure what

11 10:45:24 you mean by "copy."

12 10:45:27 MR. DESANCTIS: What's confusing about the --

13 10:45:33 when I say the copy of a -- of a -- I'm sorry. Let me

14 10:45:35 back up.

15 10:45:48 Q I had said the process of transcoding creates

16 10:45:54 one new file, and I then asked, does YouTube then

17 10:45:58 create additional copies of that one file, or does

18 10:46:01 YouTube maintain only one copy of the transcoded file?

19 10:46:05 So when I -- you asked me -- what is it about

20 10:46:07 copy that you don't understand?

21 10:46:10 A You mean -- well, copying mean -- meaning an

22 10:46:15 exact identical copy of the -- of the file.

23 10:46:19 Q Yeah, I mean a duplicate file copy of the

24 10:46:22 same data.

25 10:46:24 A Yes, there's -- there's a copy of the file.

1 SOLOMON, M.

2 10:46:30 Q Okay. So -- so the -- that I'm clear,
3 10:46:35 there's the original uploaded by the user.

4 10:46:37 A Uh-huh.

5 10:46:38 Q There is the -- let's call it the initial
6 10:46:41 transcoded file.

7 10:46:42 A Uh-huh.

8 10:46:42 Q And YouTube then makes an additional copy of
9 10:46:46 the transcoded file, so there are in -- in total
10 10:46:50 three --

11 10:46:51 MR. WILLEN: Objection to the --

12 10:46:53 MR. DESANCTIS: Q. -- versions of -- well --

13 10:47:00 MR. WILLEN: So objection --

14 10:47:00 MR. DESANCTIS: Q. -- there are --

15 10:47:00 MR. WILLEN: Sorry, finish your question.

16 10:47:02 MR. DESANCTIS: Q. So there would be a total
17 10:47:03 of three files representing the video up -- uploaded
18 10:47:06 by the user?

19 10:47:07 MR. WILLEN: So just let me object.

20 10:47:11 THE WITNESS: Okay.

21 10:47:11 MR. WILLEN: So objection to the form of all
22 10:47:13 of that. Particularly, to the recharacterization of
23 10:47:18 Mr. Solomon's testimony that was embedded into the
24 10:47:21 question.

25 10:47:24 THE WITNESS: So I think to answer precisely,

1 SOLOMON, M.

2 10:47:27 I need to know what time frame we're talking about

3 10:47:30 and -- yeah.

4 10:47:35 MR. DESANCTIS: Okay.

5 10:47:35 Q Let's talk about the middle of 2006.

6 10:47:44 A So in the middle of 2006, there would be the

7 10:47:55 original file, the transcoded video, and either one or

8 10:48:07 two backup copies, depending on which type of hardware

9 10:48:12 they're running on.

10 10:48:13 Q Okay. So let's focus for now on the

11 10:49:05 transcoded copy and the one or two backups.

12 10:49:12 In the mid-2006 time frame, where were those

13 10:49:16 files stored by YouTube?

14 10:49:29 A Are you asking the -- the physical location?

15 10:49:33 Q I'm -- let's -- let's -- I will, but let's

16 10:49:37 take a step back.

17 10:49:38 Were -- were the trans- -- in the mid-2006

18 10:49:42 time frame, were the transcoded copy and the one or

19 10:49:45 two backups of uploaded videos stored on servers owned

20 10:49:50 and operated by YouTube?

21 10:49:55 A I think the answer is maybe.

22 10:49:58 Q Why maybe?

23 10:49:59 A Because I don't recall when our first data

24 10:50:05 centers came online.

25 10:50:10 Q Okay. When you say the data server -- "data

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SOLOMON, M.

14:02:38 the right -- he may have had the right to do that at
14:02:41 the time this e-mail was written, but a user would not
14:02:43 have had the right to do that after you had the filter
14:02:46 in place; correct?

14:02:48 MR. WILLEN: Objection to the form.

14:02:51 THE WITNESS: Can you specify? I mean, it's
14:02:53 unclear of what the meaning of the word "right" is
14:02:58 here in this particular context.

14:02:59 MR. DESANCTIS: Sure. That's fair, and I
14:03:04 suppose we can't divine what a particular user meant
14:03:09 by a particular word.

14:03:13 Q Let me ask it this way: Do you recall the
14:03:20 blocking tool or filter, as you called it, ever having
14:03:22 been put in place?

14:03:24 A Yes.

14:03:24 Q Okay. Do you recall approximately when it
14:03:27 was put in place?

14:03:30 A I do not. No, not from memory.

14:03:34 Q And how did that filter work?

14:03:40 A The filter computes a hash of the uploaded
14:03:45 file and compares it against the hash values of other
14:03:50 files that the user has uploaded.

14:03:53 Q Okay. And if it matches other files, what
14:03:59 happens? First of all, if the hashes -- if the hash

SOLOMON, M.

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2 14:04:03 of one file matches the hash of another file, what
3 14:04:07 does that indicate about the two files?
4 14:04:10 A It means that there's a reasonable chance
5 14:04:13 that they're the same, but it's not 100 percent.
6 14:04:15 There could be collisions.
7 14:04:19 Q Okay. So what happened -- how does your
8 14:04:24 filter respond if there are two files with the same
9 14:04:31 hash uploaded by the same user?
10 14:04:36 A It's been a while, so I can say generally,
11 14:04:38 but some of the specific actions, you know, I may not
12 14:04:41 recall.
13 14:04:44 Q That's fine.
14 14:04:45 A But the general -- the general idea is to
15 14:04:47 mark subsequent files as -- as a duplicate rejection.
16 14:04:53 Q Okay. And are subsequent files marked as a
17 14:05:05 duplicate rejection before they are sort of publicly
18 14:05:11 viewable on the website?
19 14:05:14 A Yes. It goes directly from the uploaded
20 14:05:17 state to the rejected state.
21 14:05:19 Q Okay. And the reason it's rejected, when
22 14:05:24 this filter is being used, is not because it was
23 14:05:31 previously rejected or previously deleted or anything
24 14:05:35 like that, it's simply because there are -- the same
25 14:05:39 user has already uploaded the identical video?

1 SOLOMON, M.

2 14:05:43 MR. WILLEN: Objection to form.

3 14:05:45 MR. DESANCTIS: I'm just trying to

4 14:05:47 understand.

5 14:05:47 THE WITNESS: The filter -- the purpose of

6 14:05:49 the filter is to prevent the same user from uploading

7 14:05:53 the identical video again.

8 14:05:55 MR. DESANCTIS: Okay.

9 14:05:55 THE WITNESS: And so once he's uploaded it, a

10 14:05:59 hash is computed, and then a subsequent file can be

11 14:06:02 uploaded. If the -- if the hash matches, then that

12 14:06:06 subsequent file and any subsequent file from that --

13 14:06:09 that matches the hash within that user, it's marked as

14 14:06:12 a -- as a reject, yeah.

15 14:06:16 MR. DESANCTIS: Okay.

16 14:06:20 Q Is that still in place today, that filter?

17 14:06:23 A I do not know.

18 14:06:24 Q Okay. When the filter was in place -- well,

19 14:06:27 was it in place ever?

20 14:06:29 A Yes.

21 14:06:29 Q Okay. When it was in place, if a user wanted

22 14:06:34 to upload multiple copies of the same file, could they

23 14:06:41 have?

24 14:06:45 A It's vague as your -- I mean, in terms of

25 14:06:47 what do you mean by "user"?