UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

TIM and PENNY PATERSON, husband and wife and the marital community thereof,

Plaintiffs,

vs.

LITTLE, BROWN AND COMPANY, a Massachusetts state corporation, TIME WARNER BOOK GROUP, a Delaware state corporation, HAROLD EVANS ASSOCIATES LLC, a New York state limited liability company, HAROLD EVANS AND JANE DOE EVANS, husband and wife and the marital community thereof, GAIL BUCKLAND and JOHN DOE BUCKLAND, wife and husband and the marital community thereof, and DAVID LEFER and JANE DOE LEFER, husband and wife and the marital community thereof,

Defendants.

NO. 2:05-CV-1719-TSZ

DECLARATION OF TIM PATERSON IN SUPPORT OF PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

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I, Tim Paterson, hereby declare I am over the age of eighteen, am competent to testify and have personal knowledge of the following:

1. I am Plaintiff in the above-entitled matter.

2. I am the inventor and creator of an operating system known as DOS, 86-DOS or QDOS that was licensed and eventually purchased by Microsoft and subsequently named MS-DOS.

3. I invented DOS while I was employed by Seattle Computer Products (hereinafter referred to as "SCP") between 1978 and 1981. I designed a computer system using Intel's 8086 microprocessor chip. The 8086 computer system was initially sold with Microsoft's Stand-Alone Disk BASIC as the primary software. However, we found that BASIC was useful to only a specific group of computer users and was not set up to serve the real needs of commercial users. We realized that we needed a different software program for our machine that would be more useful to the public.

4. My idea to rectify the software problem was to write our own operating system. I proposed a two-phase software development project: first, to create a quick and dirty operating system (hereinafter referred to as "DOS") to fill the immediate need for SCP's computer; and, second, to create a much more refined operating system that would be made available in both single-user and multi-user versions.

5. I began working on DOS with the primary objective of making it as easy as possible for software developers to write applications for it. To do so, I sought to make the application program interface (hereinafter referred to as "API") compatible with CP/M to enable automated translation of 8-bit programs into 16-bit programs. CP/M, the system created by Gary Kildall,

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could not be run on 16 bit chips. But, since no one had yet developed an operating system to run on 16 bit chips, there was no point of reference but CP/M.

6. I felt that CPM translation compatibility would significantly promote the adoption of DOS by others in the computer industry, so I made it a primary design requirement.

7. The concept of translation compatibility was that if an 8-bit program for CP/M were translated into a 16-bit program according to Intel's published rules, that program would execute properly under DOS.

8. However, attempting to use Intel's rules on the 8086 chip resulted in a program that was, in many cases, not better. So, the result was that no one used the process. No one used the translation because this idea did not end up to be useful.

9. However, translation compatibility does not equal the code, which is obviously totally different between CP/M and DOS. Defendant Evans used an analogy in his book about a car being stolen. The better analogy is this: someone in the very early days of automobiles wanted to design a better car. Existing cars had brakes, which consisted of a pedal that when depressed would force a stick into the ground. The designer also had to use the concept of stopping a car, and to use the label "brake," but thought it would be better to cause pads to adhere to discs attached to the wheels. The label was the same, the pedal being depressed was the same, but the mechanism by which the function was accomplished was completely different. Same label, same trigger, but totally and fundamentally different mechanics. Translation compatibility represents having the same control, such as a brake, perform the equivalent function but in a completely different way. The code which implements the function was a stick dragging on the ground in CP/M, but a disc brake in DOS.

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10. There are major differences between Kildall's CP/M and DOS.

a. File storage, which represented 80% of the code in DOS, was completely different in DOS. The system I designed was much faster and minimized overhead. Disks were not interchangeable between CP/M and DOS because of the improved file format. Defendant Evans misinterpreted this statement about percentages of code to imply that the remaining 20% of the code is the same as CP/M. This is not true.

b. DOS had rudimentary built-in editing, which represented about 15% of the code in DOS. CP/M did not have such a function.

c. The remaining 5% of the code in DOS accounted for utilities, such as date and time. Such functions were non-existent in CP/M.

11. Defendant Evans accused me of "rewrit[ing] the bottom part of the soft-ware – improving the way files were stored and adapting the program to a 16-bit machine – while copying most of the top part of Kildall's operating system interfacing mechanisms." *(See Declaration of Das, Ex.B, p. 412)* However, I did not copy any of the code.

12. I did use CP/M as the model for the specific disk functions since I had decided to attempt translation compatibility. The functions themselves, such as the facilities to open, close, read, and write, are present in any operating system. The implementation of these facilities is quite different.

13. The specific elements of the API that were needed to be "translation compatible" do not constitute an "architecture".

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14. I never used a debugger or any other tool to look inside CP/M. It is obvious that the internal architecture of DOS (the FAT file system) is so completely different from CP/M that there would be no point in studying CP/M.

15. I never saw CP/M source code.

16. I never saw CP/M binary code.

17. I did use the CP/M Interface Guide to aid in developing the translation compatible interface in DOS.

18. DOS is not a version of Kildall's CP/M program.

19. I have no problem with Kildall being credited for CP/M. But, I wrote DOS. He didn't.

20. I did not steal, "clone," "rip off," borrow, or "take a ride on" the code from CP/M.

21. Any novice programmer or end user would be very well aware of some of the many differences between CP/M and DOS. There are, of course, similarities, just as there are similarities between a hundred dollar car and a hundred thousand dollar car. But, nobody would or should be confused or mistake one for the other.

22. I have put together the following table to illustrate some of the many differences between CP/M and DOS.

Operating System Features		
	CP/M 2.2	**DOS**
Target processor	8-bit 8080 or Z80	16-bit 8086 or 8088
Maximum memory (bytes)	65,536	1,048,576
Source language	PL/M & 8080 assembler	8086 assembler
Standard OS function call	CALL 5	INT 21H
OS function parameters	C = function no. DE = data pointer	AH = function no. DS:DX = data pointer CX = count (fcn. 39 & 40)
File format	Proprietary	FAT (still standard on memory cards, thumb drives, floppy

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		disks, etc.)
Max file size (bytes)	33,554,432	66,928,640

File Control Block		
FCB byte offset	**CP/M 2.2**	**DOS**
0	Drive	Drive
1 – 11	File Name	File Name
12	Extent	File position (bits 7-14)
13	reserved	File position (bits 15-22)
14	reserved	Record size (low byte)
15	Record count	Record size (high byte)
16 – 19	Disk allocation map	File size
20 – 21	Disk allocation map	Date
22 – 23	Disk allocation map	Time
24	Disk allocation map	Device ID
25 – 26	Disk allocation map	First cluster
27 – 28	Disk allocation map	Last cluster accessed
29 – 30	Disk allocation map	Position of last cluster
31	Disk allocation map	not used
32	Next record	File position (bits 0-6)
33 – 35	Random record	Random record (bits 0-23)
36	not used	Random record (bits 24-32)

Hardware Disk Interface		
	CP/M 2.2	**DOS**
Disk read sequence	SELDSK (C=drive) SETTRK (BC=track) SECTRAN (BC=sector, DE=table) SETSEC (BC=sector) SETDMA (BC=address) READ repeat for each sector in sequence	READ (AL=drive, CX=number of sectors, DX=logical sector, DS:BX=address) all sectors read at once

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Track read time (8")	0.981 seconds	0.167 seconds

Line Editing		
	CP/M 2.2	**DOS**
Delete last character	Rubout, backspace	Rubout, backspace
Delete line	ctrl-U, ctrl-X	ctrl-X
Physical end-of-line	ctrl-E	Linefeed
Retype line	ctrl-R	N/A
Copy 1 char from template	N/A	F1
Copy up to char from template	N/A	F2
Copy remaining template	N/A	F3
Skip 1 char in template	N/A	F4
Skip up to chare in template	N/A	F5
Enter insert mode	N/A	Blue
Exit insert mode	N/A	Red
Edit new line	N/A	Gray

23. Kildall's CP/M relied heavily on commands used in the DECsystem, the operating system used on the PDP-10 computer made by Digital Equipment Corporation. These are the same commands I am accused of "ripping off" from Kildall. I have illustrated below some of those commands:

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DOS	CP/M	PDP-10	Description
dir	dir	direct	Display listing of file directory
rename/ren	ren	rename	Rename file
erase/del	era	delete	Delete file
type	type	type	List contents of file on screen
copy	pip	pip	Copy files
clear	n/a	n/a	Wipe disk clean
asm	asm	macro	Assemble a program
trans	n/a	n/a	Translate Z80 program to 8086
hex2bin	load	load	Convert hex or object file to binary
n/a	save	save	Save memory image to file
sys	sysgen	n/a	Put bootable OS on a disk
chkdsk	stat	systat	Display disk or system status
edlin	ed	lined	Start the editing program
debug	ddt	ddt	Start the debugging program
n/a	submit	submit	Start batch processing of a command list
n/a	dump	dump	List contents of a file as hex bytes
n/a	movcpm	n/a	Relocate OS to match memory size

24. In conclusion, I have been available to discuss, explain, and opine on any issue having to do with the origin of DOS. On occasion, having been involved in DOS's genesis, I have been interviewed by limited-circulation technical magazines. These reporters have had no difficulty finding me. I have a published phone number. I am able to be found on the worldwide web. I continue to be in business in the same general area of computers. But, I have never been contacted by Defendant Evans in person or by any of his research staff or any agent of

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Defendant Little Brown and Company prior to publication of the book, *They Made America.* Therefore, I was given no chance to explain and clarify my position on the context of the statements I may or may not have made to the interviewers referred to above.

25. As a result of this book being published without my ability to clarify the slanderous and libelous phrases and misconceptions, I have been harmed economically and I have been ridiculed with respect to my standing in the community. Defendants have called into question my integrity, honesty and my very place in history. These outrageous comments have also harmed me emotionally.

I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES OF AMERICA THAT THE FOREGOING IS TRUE AND ACCURATE.

Dated this 16th day of April, 2007.

Tim Paterson

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