

Bruce Artwick's *Flight Simulator*

You've Come A Long Way, Baby!

The History of an Epic Program

by Daniel Hockman

In one of the most vivid memories of my early days in computer gaming, I was sitting at an Apple II plus computer staring intently and proudly at the screen. I had taken my Piper 150 off the edge of the "world" and had executed a turn to begin a descent back to the world of gridland. The five mile by five mile grid that made up the "real world" in SubLogic's *A2FS1 Flight Simulator (FS)* looked like a small postage stamp on the screen. I was exploring the "edge of the envelope" and it was fun! It was 2 a.m. on a warm summer night in 1979 (I had begun playing with the simulator at 7 p.m.) but I ignored the messages I was getting from my tired aching body. Who cares about tense tired muscles when you're jazzed?!

Some six years later I sat down at a new version of Bruce Artwick's famous *FS*. This time I manipulated the mouse of an Amiga to make my Learjet buzz the Transamerica Tower in San Francisco. Then I gave the motorists on the Golden Gate bridge a thrill as I did a low "the-FAA-frowns-on-that" pass over the bridge. Banking right and climbing I toggled the instant replay switch and, using the spot plane feature, positioned myself at sea level and watched myself buzz the bridge. Wow! That's when the title of this article came to my mind.

Computer games tend to be the offspring of the hardware on which they exist. As hardware became more powerful, programmers developed new techniques to make use of that power, and games, thereby, improved. Games that were "hot" five years ago look like dinosaurs now, but not so with *FS*. As the technology improved, *FS* improved with it. Very few programs are strong enough to warrant the continued release of "new and improved" versions. This, then, is a brief history of the ongoing development of this epic program that every computer gamer should own.

IN THE BEGINNING...

In the beginning there was Bruce Artwick and Stu Moment. Behold, they were roommates at the University of Illinois. Bruce was a computer



Original A2FS1 Flight Simulator

graphics specialist and Stu was a devotee of flight and a master's degree candidate in marketing. Bruce thought it would be a good idea to combine his 3-D graphics knowledge with Stu's piloting and create a flying simulation. The original work was done on punch tape. When the Apple II came out Bruce wrote his program for the Apple and called it *A2FS1 Flight Simulator*. Having formed SubLogic, Bruce and Stu were now in business with a unique product. Three months after the October 1978 release of *A2FS1*, they released the TRS-80 version.

"LET THERE BE 16-BIT"...

...and Bruce saw the new 16-bit IBMpc and he said "It is good!" So when Microsoft approached Artwick about an IBM version of *FS*, a deal was struck. Microsoft was looking for a translation of *FS*, but Bruce felt that the new 16-bit machine offered the chance to develop a new program altogether. With the power of 16 bits and the added memory, Bruce could add shaded graphics, realistic scenery, actual airports, a slew mode, user definable flight situations, better sound, better flight equations, and a more realistic instrument panel. The new *Microsoft Flight Simulator*, with all these features, was released on November 11, 1981.

Next, Artwick and Moment decided to do a new 8-bit version of *FS* which would incorporate the best features of the 16-bit IBM version. One year of development followed.

THE ADVENT

And when the praises of the IBM version were noised abroad, Bruce did say "Let us make a new Apple version in the image of the IBM." And a year later, on December 26, 1983, we beheld the advent of *Flight Simulator II* for the Apple.

The new version was an immediate hit and SubLogic recovered all their research and develop-



Microsoft Flight Simulator

ment costs in the first month of release. The new Apple version was a bit slower than the *Microsoft* product but it was a faithful recreation of the IBM version even having an ADF gauge which was lacking in the IBM.

In May 1984 the C-64 version of *FSII* was released and in November, the Atari 8-bit version came out. In early 1985 (at the time of the release of the Apple IIc) code was written for a multi-player version of *FSII*. It was tested but not pursued (there was difficulty with the synchronization of the planes). **At the same time (early 1985) the TI Professional, Tandy, and NEC 9800 versions were released.** The NEC 9800 version was developed for the Japanese market which has a large installed base of NEC 9800's. This is why there is a Japanese scenery disk available. Speaking of scenery disks...

"GO INTO ALL THE WORLD..."

In early 1985 SubLogic began working on a series of "scenery" disks (Project USA) that could be used in conjunction with the various versions of the *Flight Simulator*. The original concept was to develop a series of disks that contained detailed scenery of the entire USA. As it turned out, this would have required more than a 100 years to develop. Needless to say, the project was scaled down. The San Francisco Star Scenery Disk and Japan Scenery Disk still follow the original concept of detailed scenery, but Scenery disks 1-6 which covers the Western USA can more accurately be thought of as *airport* disks than *scenery* disks. The airports are there, but the scenery is sparse.

Presently, SubLogic is working on scenery disks 7-12 (#7 has just recently been released). Disks 7-12 will contain more scenery than 1-6. Most of the scenery will be along "corridors of interest". Disks 8 through 12 should come out at about three month intervals. Owners of the Amiga version, however, will have to wait until fall to see the new disks.

Speaking of the Amiga (and the other 6800 versions)...

A NEW HEAVEN AND A NEW EARTH

Awe inspiring! That is the only way to describe what Artwick did with the 6800 versions of *Flight Simulator II*. When I first sat down at the monitor of my Amiga and began flying around the Bay Area I was astonished at what the program had become. But first, the story of the development of the Amiga and Macintosh versions.

When Amiga Corp. was developing what would become the Amiga 1000 they approached Artwick and asked him to do some 3-D graphics work and develop an Amiga version of *FSII*. An agreement was reached and Bruce spent New Year's Eve 1984/1985 holed up in a hotel suite with other Amiga developers working feverishly at the keyboard of a "grey box" Amiga (he was developing 3-D drivers for the new machine). At midnight the developers paused long enough to drink an orange juice toast to the new year (as any designer can tell you, programming and alcohol don't mix). One minute after midnight it was "back to the keyboard".

When Commodore bought Amiga, Artwick and Commodore entered into talks concerning the Amiga version of *FSII* but, unlike the talks with Amiga, things did not work out (June 1985).

At this same time the Macintosh version was under development. When the contract on the Amiga version of *FSII* fell through Artwick devoted his efforts to the Mac. Mike Kulas of SubLogic also jumped into the project and from September 1985 through March 1986 both men worked full time on it. The Mac version shipped in March 1986. It took extra time to develop because the two programmers had to write some of their own development tools, including their own assembler which ran 10-15 times faster than the old assembler.

New *FSII* features added to the 6800 versions included the use of a mouse graphic interface, windows, a map, spot plane views, the capability of displaying two 3-D views simultaneously, control tower view, super zoom, instant replay, and a second aircraft (a Learjet). The San Francisco Star Scenery (from the IBM scenery disk series) was incorporated as a standard feature in the 6800 versions.

Following the March 1986 release of the Mac

version, SubLogic returned to the Amiga version



Flight Simulator II (Atari ST Screen)

and also began developing the Atari ST version. A multi-player capacity was added, due mainly to get

feedback from customers about the desirability of modem/cable linked simulators. The feedback has been positive, but it turns out that there is a problem with finding the other plane (it's a big sky and a small plane after all). SubLogic is considering changes to the modem/cable feature that will make it easier to find the the other aircraft. The Amiga and ST versions shipped in November 1986.

ALPHA AND OMEGA

SubLogic's *Flight Simulator* has come a long way. From that marathon flying session in 1979 to the present it has never failed to hold my interest. But then, that is how an epic should be, right?

*I have slipped the surely bonds of Earth....
and have touched the Face of God.*

—"High Flight"
John Magee Jr.

FINALLY, THE ULTIMATE IN BASEBALL REALISM IS HERE!

AVAILABLE FOR APPLE II, IBM PC & COMPATIBLES

How would the final outcome of last season have been different if YOU had been the manager of your favorite team?

Here's your chance to find out! Or manage some of the greatest baseball teams in history. Each team includes 17 batters and twelve pitchers. For the ultimate in realism and accuracy, nearly every conceivable statistic and tendency has been taken into account including fielding range, speed, platooning; even the effect each different ballpark has on hitters and pitchers. Play the best with the best—FULL COUNT BASEBALL!

FULL COUNT BASEBALL

- Includes all 26 teams from the most recent season and 52 great National and American League teams from the past. • Stats Compiler automatically keeps all player and team stats as well as past schedule results. • Complete boxscore to screen and/or printer after each game. • One player vs. computer manager, two-player, and auto-play options. • Input your own teams, draft or trade players from teams already included. • You choose the starting lineups, batting order, relief pitchers, plus game decisions like when to hit away, bunt for a hit, sacrifice, steal, hit & run, bring in the corners or the entire infield, take an extra base, DH option and more!

FULL COUNT BASEBALL GAME WITH 1986 SEASON—39.⁹⁹

ALSO AVAILABLE: 1985 SEASON TEAMS 13.⁹⁹
1981 SEASON TEAMS 13.⁹⁹
1970 SEASON TEAMS 13.⁹⁹
1964 SEASON TEAMS 13.⁹⁹

APPLE — IBM and compatibles

Apple and IBM are registered trademarks of Apple Computer, Inc., and International Business Machines Corporation, respectively.

LANCE HAEFNER GAMES

P.O. Box 100594 • Nashville, TN • 37210 • 615/242-2617