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Star Trek

Star Trek was a very popular game on early microcomputers and minis, and lots of versions existed at one time. The "standard" was originally written in BASIC for a Sigma 7, then rewritten in Hewlett Packard BASIC, by Mike Mayfield in 1972. It was included in the HP library early in 1973. Most versions are BASIC or FORTRAN adaptations of this, which was based on an 8 x 8 galactic grid.

David Ahl translated Mike Mayfield's code to DEC BASIC and then with Mary Cole, to BASIC-PLUS for RSTS-11 in 1973. The program was published in the first edition of *101 BASIC Computer Games* under the name *SPACWR* (Space War) and various people translated that, in turn, to other versions for other DEC machines and operating systems. Bob Leedom upgraded this version, adding things like the damage and status reports, galactic quadrant names, and a more powerful library computer, while he was porting it to Data General's NOVA. Ahl called this extended version "Super Star Trek", and published it in the "Microcomputer Edition" of *BASIC Computer Games*, published by *Creative Computing* in 1978. It was converted to MicroSoft 8K BASIC (notice the capital 'S' in MicroSoft in those days) by John Borders; the version below under the name "startrek.txt" is almost identical.

Recently I had some email from Aron Insinga, who'd found this page, and he was able to give me some interesting information about his version. Although it's contemporary with David Ahl's, it's derived directly from the HP version, and he didn't see Ahl's version until later:

> Back in the 1970s there was a computer center in Delaware that was used by the high schools in the state and was staffed by students. We had the 2nd RSTS-11 system that DEC sold. Kids were using the Project DELTA Teletype and DataPhone at their school to make long distance calls to a time-sharing system at the HP facility in Avondale, PA. They were using the system for hours to play this Star Trek game and the phone bill was a big problem. I was told that it would help a lot if I could get it to run on our RSTS-11 (PDP-11/20) system at Project DELTA.

Aron described how he modified the program to fit in 8K (it would normally need about 24K), and some of the other things he worked on as a high-school student. His version of Star Trek was RSTS-11-20, only the 20th program published by DEC for the RSTS operating system. Later he went to work for DEC.

There's a good writeup of the early history of this line of *Star Treks* and how the "Super" came to be added to "Star Trek" at Maury Markowitz's webpage.

Lynn Cochran adapted a member of this family in February 1976. It was published in *SCCS INTERFACE* in June '76, and was the version most MITS Altair 8800 users knew. It had fewer commands - lacking a damage report and shield control - but with MITS 8K BASIC, it would run in 12K bytes of memory. This *SCCS INTERFACE* listing was in turn slightly modified by Dr. Li Chen Wang to create a slightly smaller version (published in the *Peoples Computer Company* journal, July 1976) for his Palo Alto TINY BASIC (published in *Dr Dobbs Journal*, May 1976). This used words (well, letters) instead of numbers for commands, and achieves the impressive feat of fitting both the interpreter (1.77K bytes) and the program (just over 6K) into a machine with only 8K memory! A different, even smaller, version for use with Bruce Sherry's version of TINY BASIC manages the same feat.

Another adaptation of Mike Mayfield's program appeared as *STTR2* on the Univac 1100, and was then ported by Ralph Hopkins to Processor Technology's Sol-20 microcomputer using BASIC/5,. In 1978, this evolved into *GALAXY* with more ships, more enemies, and a 10 x 10 grid, and then around 1982 into *COMBAT* with still more sophistication (no more grids), both for Sol-20 Extended Cassette BASIC.

Processor Technology's own *TREK80*, dated 1977, was coded in 8080 assembly language. It's particularly notable because it includes sound effects, obtained by placing an AM radio near the computer, to pick up

the electronic "noise" from the machine.

Meanwhile, of course, other people had made other modifications, or started with different sources - Mike Mayfield wasn't the only or even the first person to write a Star Trek program. Bob Bishop, who later wrote *APPLEVISION*, the first ever Apple HiRes graphic game (*Rocket Pilot*), and several others, had heard of Star Trek games but never played any when he wrote *APPLE STAR TREK* for the original Apple computer (which we now often call the "Apple-1") in late 1976. It was published in *Interface Age* (commercial successor to *SCCS INTERFACE*) in May 1977, just a couple of months before the Apple][became available.

One notable lineage originated with William Char and friends at City College of San Francisco and passed into circulation as *TREK73* from Lawrence Hall of Science, UC Berkeley. You can find later versions of this around the 'net, written in C, but the original was in BASIC; in fact, the same HP 2000C BASIC used by Mike Mayfield. 30 years later, almost to the day, I've re-typed *TREK73* from a 45-page listing, kindly donated by Kermit Murray.

TREK73 begat a C version (for UNIX), which begat an MS-DOS port around 1985. Those, and other programs, almost certainly influenced the development of the multi-user *TREK83*; somewhere along the line we got *Xtrek* and *Netrek*, but I was never so interested in those.

Star Trek games appeared in many languages, and have remained popular to this day. For example, John Thingstad faithfully copied David Ahl's version from *BASIC Computer Games*, but in LISP. Other modern versions exist in the form of Java applets, Z-code, programs for the Cybiko, Palm Pilot, Sharp Zaurus, and many others.

Here are listings of two dozen versions, written in BASIC:

STTR1	Mike Mayfield's original HP BASIC (extracted from HP tape image), 1972
spacwr.bas	converted to DEC BASIC (with MAT statements) by David Ahl, 1973
strtr1.bas	DEC BASIC-PLUS, probably from David Ahl, Part 1 (instructions)
strtrk.bas	DEC BASIC-PLUS, probably from David Ahl, Part 2 (the game)
spacwr.ba	OS-8 BASIC conversion for PDP-8, by Kay Fisher, about 1973/4
spacwr.in	text file: instructions for *spacwr.ba*
TREK.BAS	adapted for RSTS-11 BASIC, by Aron Insinga, Project Delta, 20-JUL-73
TREK.DOC	text file: Instructions for *TREK.BAS*
UT-trek.basic	Hicks & Korp extended version for TAURUS, from UTexas, 5 April 1973
BIGMES.orig	HP 2000 version (paper tape punched by Doug Quebbeman, 1976)
startrek.bas	Lynn Cochran's version, common on Altairs, 1976
instr	text file: instructions for Lynn Cochran's version above
STARTREK.BAS	A particularly small version (6K) for Palo Alto TINY BASIC, 1976
STARTREK.DOC	text file: instructions for the TINY BASIC version above
startrek.asc	An even smaller version (under 6K) for PATB 3.1, 1976
tiny.doc	text file: Information to go with TINY BASIC 3.1
trek15	One of the "Super Star Trek"s, this one for Intellec MDS, 1976
newgame4.bas	3-dimensional version for a CDC 6000, V.1.1 April 06 1976
newgame4.basic	As above but translated to PR1ME BASIC/VM
startrek.txt	BASIC-80 for CP/M (Microsoft BASIC), from *Creative Computing*, 1978
sttr.bs5	Ralph Hopkin's Sol-20 BASIC/5 version, late 1970s
COMBT.ECB	Ralph Hopkin's *COMBAT* for Sol-20 Extended Cassette BASIC, February 1982

CMDS.ECB	Instructions for *COMBAT*
AppleStarTrek	Bob Bishop's *Apple Star-Trek* for Apple INTEGER BASIC, 1976
AppleStarTrek.txt	text file: rules for *Apple Star-Trek*; retyped from a scanned copy
APPLETREK	INTEGER BASIC version for Apple][, by W SANDER 1/11/78 (Has some machine code on the end)
Star Trek 3.3	APPLESOFT version for Apple][, author/date unknown
trek.bas	From *Ensign Software*, possibly for a Tandy Color Computer, 1982
strek	BBC BASIC, an enhanced version for the BBC Microcomputer, about 1983
GALAXY	A thinly-disguised AcornSoft version of *Star Trek* for the BBC Micro, 1982
STREK	Exidy Sorcerer version, adapted from *Practical Computing* around 1980
TREK73	William K. Char's original HP 2000 BASIC version, 26-NOV-1973

Here are a few in other languages:

startrek.c	Chris Nystrom's 'C' port of Mayfield-style StarTrek, 1995
startrek.doc	text file: Instructions for Chris Nystrom's version
trek.tar.gz	gzipped tar file: Eric Allman's C version for Unix, 1993 (originally 1976)
trekdocs.tar.gz	gzipped tar file: documentation to Eric Allman's C version, as *nroff* source
spacwr.for	Mike Mayfield's version, DEC FORTRAN-IV, by Kay Fisher, 1974
sttr.ftn	Mike Mayfield's version, CDC FORTRAN (author/date unknown)
startrek.exe	MS-DOS TREKWAR ver. 5.7, compiled Microsoft BASIC, by Stan Warman
TREK.PAS	VAX/VMS Pascal, from Don Kooker, 1988
ctrek.cob	wow, a COBOL version! By Kurt Wilhelm, 1979
trk80	Processor Technology's TREK80. A binary file, but the Intel HEX is here.
trk80.pdf	PDF file: instructions for Processor Technology's TREK80
startrek.lisp	John Thingstad's LISP version of David Ahl's Super Star Trek
startrek.files	Help, map, and pic(ture) files which accompany *startrek.lisp*
startrek	is like a simplified TREK73, written in IMP, an Algol-like language used at The University of Edinburgh (and elsewhere). Probably written by Dave Briggs circa 1974; rescued from oblivion by Graham Toal.
Palm Trek	for the Palm Pilot (with CBASPAD 0.84 or higher) by Michael Baker
ztrek.z5	ZTrek, a Super Star Trek executable written in Z-code by John Menichelli
ztrek.inf	the ZTrek Inform source, ported from Chris Nystrom's C version
st.html	Super Star Trek as a Java applet, by Jim Bat, December 2003 Similar to *TREK15*, based on *Star Trek 77* in FORTRAN
st.jar	Java Archive for Jim Bat's applet
StarTrek.doc.html	HTML document: instructions to go with Jim Bat's Java applet
sst	a Super Star Trek executable for the Sharp Zaurus, by Mark Hart
sst.doc	text file: instructions for Zaurus Super Star Trek (actually Tom Almy's instructions for his Super Star Trek)

Since I would hate to be accused of interstellar racism, I'm pleased to be able to provide at least one view from the other side of the Neutral Zone:

romulan.bas	Command the *RSS VINDICTAE*. Author/date unknown.

I have several other versions "somewhere":

- *STARTREK*, a Sharp MZ80K cassette tape version (also about 1980, I think)
- *StarTrek* for Polymorphic Systems A00 11K BASIC, for a Poly-88 micro, published in *Practical Computing*, April 1979
- *TREK73*, a version in C from about 1986

and probably some on RT-11 and UCSD p-systems as well.

It's amazing how many people wrote their own versions of Star Trek. To get an idea, take a look at the People's Computer Company Alumni Site, especially the page for the Games Archive.

Other places to find Star Trek listings and information include Maury Markowitz's Star Trek page, Chris Nystrom's Classic Computer Game: Star Trek page, the AI Attic, Kermit Murray's page which has links to other versions, and any number of sites you'll find if you search for "classic basic games", or any of the authors' names you see above.

Of course, there are loads of other games in BASIC for microcomputers, especially from the late 1970s and early 1980s, because that's when home micros were really taking off. I keep a small number online, not really a representative sample, but a somewhat random collection of games that I've been asked for, or which have interested me for one reason or another.

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If anyone has other interesting *StarTrek* versions, I'd be glad to hear from you. I'm particularly interested in versions in other languages such as FORTH, LISP, or APL. You can contact me (pete) by email -- remove the "www" from the address of this web page, strip off the directory names, and put my name @ the front.