STAR

TREK

by

Eric Allman
University of California
Berkeley

INTRODUCTION

Well, the federation is once again at war with the Klingon empire. It is up to you, as captain of the U.S.S. Enterprise, to wipe out the invasion fleet and save the Federation.

For the purposes of the game the galaxy is divided into 64 quadrants on an eight by eight grid, with quadrant 0,0 in the upper left hand corner. Each quadrant is divided into 100 sectors on a ten by ten grid. Each sector contains one object (e.g., the Enterprise, a Klingon, or a star).

Navigation is handled in degrees, with zero being straight up and ninety being to the right. Distances are measured in quadrants. One tenth quadrant is one sector.

The galaxy contains starbases, at which you can dock to refuel, repair damages, etc. The galaxy also contains stars. Stars usually have a knack for getting in your way, but they can be triggered into going nova by shooting a photon torpedo at one, thereby (hopefully) destroying any adjacent Klingons. This is not a good practice however, because you are penalized for destroying stars. Also, a star will sometimes go supernova, which obliterates an entire quadrant. You must never stop in a supernova quadrant, although you may "jump over" one.

Some starsystems have inhabited planets. Klingons can attack inhabited planets and enslave the populace, which they then put to work building more Klingon battle cruisers.

STARTING UP THE GAME

To request the game, issue the command

/usr/games/trek

from the shell. If a filename is supplied, a log of the game is written onto that file. (Otherwise, no file is written.) If the ‘‘**–a**’’ flag is stated before the filename, the log of the game is appended to the file.

The game will ask you what length game you would like. Valid responses are "short", "medium", and "long". You may also type "restart", which restarts a previously saved game. Ideally, the length of the game does not affect the difficulty, but currently the shorter games tend to be harder than the longer ones.

You will then be prompted for the skill, to which you must respond "novice", "fair", "good", "expert", "commodore", or "impossible". You should start out with a novice and work up, but if you really want to see how fast you can be slaughtered, start out with an impossible game.

In general, throughout the game, if you forget what is appropriate the game will tell you what it expects if you just type in a question mark.

ISSUING COMMANDS

If the game expects you to enter a command, it will say "Command: " and wait for your response. Most commands can be abbreviated.

At almost any time you can type more than one thing on a line. For example, to move straight up one quadrant, you can type

```
move 0 1
```

or you could just type

```
move
```

and the game would prompt you with

```
Course:
```

to which you could type

```
0 1
```

The "1" is the distance, which could be put on still another line. Also, the "move" command could have been abbreviated "mov", "mo", or just "m".

If you are partway through a command and you change your mind, you can usually type "-1" to cancel the command.

Klingons generally cannot hit you if you don't consume anything (e.g., time or energy), so some commands are considered "free". As soon as you consume anything though -- POW!

THE COMMANDS

Short Range Scan

Mnemonic: srscan
Shortest Abbreviation: s
Full Commands: srscan
                        srscan yes/no
Consumes: nothing

The short range scan gives you a picture of the quadrant you are in, and (if you say "yes") a status report which tells you a whole bunch of interesting stuff. You can get a status report alone by using the *status* command. An example follows:

```
Short range sensor scan
  0 1 2 3 4 5 6 7 8 9
0 . . . . . . . * . * 0   stardate      3702.16
1 . . E . . . . . . . 1   condition     RED
2 . . . . . . . . . * 2   position      0,3/1,2
3 * . . . . # . . . . 3   warp factor   5.0
4 . . . . . . . . . . 4   total energy  4376
5 . . * . * . . . . . 5   torpedoes     9
6 . . . @ . .   . . . 6   shields       down, 78%
7 . . . . . . . . . . 7   Klingons left 3
8 . . . K . . . . . . 8   time left     6.43
9 . . . . . . * . . . 9   life support  damaged, reserves = 2.4
  0 1 2 3 4 5 6 7 8 9
Distressed Starsystem Marcus XII
```

The cast of characters is as follows:

```
E   the hero
K   the villain
#   the starbase
*   stars
@   inhabited starsystem
.   empty space
    a black hole
```

The name of the starsystem is listed underneath the short range scan. The word "distressed", if present, means that the starsystem is under attack.

Short range scans are absolutely free. They use no time, no energy, and they don't give the Klingons another chance to hit you.

Status Report

Mnemonic: status
Shortest Abbreviation: st

Consumes: nothing

This command gives you information about the current status of the game and your ship, as follows:

Stardate -- The current stardate.

Condition -- as follows:
RED -- in battle
YELLOW -- low on energy
GREEN -- normal state
DOCKED -- docked at starbase
CLOAKED -- the cloaking device is activated

Position -- Your current quadrant and sector.

Warp Factor -- The speed you will move at when you move under warp power (with the *move* command).

Total Energy -- Your energy reserves. If they drop to zero, you die. Energy regenerates, but the higher the skill of the game, the slower it regenerates.

Torpedoes -- How many photon torpedoes you have left.

Shields -- Whether your shields are up or down, and how effective they are if up (what percentage of a hit they will absorb).

Klingons Left -- Guess.

Time Left -- How long the Federation can hold out if you sit on your fat ass and do nothing. If you kill Klingons quickly, this number goes up, otherwise, it goes down. If it hits zero, the Federation is conquered.

Life Support -- If "active", everything is fine. If "damaged", your reserves tell you how long you have to repair your life support or get to a starbase before you starve, suffocate, or something equally unpleasant.

Current Crew -- The number of crew members left. This figures does not include officers.

Brig Space -- The space left in your brig for Klingon captives.

Klingon Power -- The number of units needed to kill a Klingon. Remember, as Klingons fire at you they use up their own energy, so you probably need somewhat less than this.

Skill, Length -- The skill and length of the game you are playing.

Status information is absolutely free.

Long Range Scan

Mnemonic: lrscan

Shortest Abbreviation: l
Consumes: nothing

Long range scan gives you information about the eight quadrants that surround the quadrant you're in. A sample long range scan follows:

Long range scan for quadrant 0,3

	2	3	4
	*	*	*
0	108	6	19
1	9	///	8

The three digit numbers tell the number of objects in the quadrants. The units digit tells the number of stars, the tens digit the number of starbases, and the hundreds digit is the number of Klingons. "*" indicates the negative energy barrier at the edge of the galaxy, which you cannot enter. "///" means that that is a supernova quadrant and must not be entered.

Damage Report

Mnemonic: damages
Shortest Abbreviation: da
Consumes: nothing

A damage report tells you what devices are damaged and how long it will take to repair them. Repairs proceed faster when you are docked at a starbase.

Set Warp Factor

Mnemonic: warp
Shortest Abbreviation: w
Full Command: warp factor
Consumes: nothing

The warp factor tells the speed of your starship when you move under warp power (with the *move* command). The higher the warp factor, the faster you go, and the more energy you use.

The minimum warp factor is 1.0 and the maximum is 10.0. At speeds above warp 6 there is danger of the warp engines being damaged. The probability of this increases at higher warp speeds. Above warp 9.0 there is a chance of entering a time warp.

Move Under Warp Power

Mnemonic: move
Shortest Abbreviation: m
Full Command: move course distance

Consumes: time and energy

This is the usual way of moving. The course is in degrees and the distance is in quadrants. To move one sector specify a distance of 0.1.

Time is consumed proportionately to the inverse of the warp factor squared, and directly to the distance. Energy is consumed as the warp factor cubed, and directly to the distance. If you move with your shields up it doubles the amount of energy consumed.

When you move in a quadrant containing Klingons, they get a chance to attack you.

The computer detects navigation errors. If the computer is out, you run the risk of running into things.

The course is determined by the Space Inertial Navigation System [SINS]. As described in Star Fleet Technical Order TO:02:06:12, the SINS is calibrated, after which it becomes the base for navigation. If damaged, navigation becomes inaccurate. When it is fixed, Spock recalibrates it, however, it cannot be calibrated extremely accurately until you dock at starbase.

Move Under Impulse Power

Mnemonic: impulse
Shortest Abbreviation: i
Full Command: impulse course distance
Consumes: time and energy

The impulse engines give you a chance to maneuver when your warp engines are damaged; however, they are incredibly slow (0.095 quadrants/stardate). They require 20 units of energy to engage, and ten units per sector to move.

The same comments about the computer and the SINS apply as above.

There is no penalty to move under impulse power with shields up.

Deflector Shields

Mnemonic: shields
Shortest Abbreviation: sh
Full Command: shields up/down
Consumes: energy

Shields protect you from Klingon attack and nearby novas. As they protect you, they weaken. A shield which is 78% effective will absorb 78% of a hit and let 22% in to hurt you.

The Klingons have a chance to attack you every time you raise or lower shields. Shields do not rise and lower instantaneously, so the hit you receive will be computed with the shields at an intermediate effectiveness.

It takes energy to raise shields, but not to drop them.

Cloaking Device

Mnemonic: cloak
Shortest Abbreviation: cl
Full Command: cloak up/down
Consumes: energy

When you are cloaked, Klingons cannot see you, and hence they do not fire at you. They are useful for entering a quadrant and selecting a good position, however, weapons cannot be fired through the cloak due to the huge energy drain that it requires.

The cloak up command only starts the cloaking process; Klingons will continue to fire at you until you do something which consumes time.

Fire Phasers

Mnemonic: phasers
Shortest Abbreviation: p
Full Commands: phasers automatic amount
    phasers manual amt1 course1 spread1 ...
Consumes: energy

Phasers are energy weapons; the energy comes from your ship's reserves ("total energy" on a srscan). It takes about 250 units of hits to kill a Klingon. Hits are cumulative as long as you stay in the quadrant.

Phasers become less effective the further from a Klingon you are. Adjacent Klingons receive about 90% of what you fire, at five sectors about 60%, and at ten sectors about 35%. They have no effect outside of the quadrant.

Phasers cannot be fired while shields are up; to do so would fry you. They have no effect on starbases or stars.

In automatic mode the computer decides how to divide up the energy among the Klingons present; in manual mode you do that yourself.

In manual mode firing you specify a direction, amount (number of units to fire) and spread (0 -> 1.0) for each of the six phaser banks. A zero amount terminates the manual input.

Fire Photon Torpedoes

Mnemonic: torpedo
Shortest Abbreviation: t
Full Command: torpedo course [yes/no] [burst angle]
Consumes: torpedoes

Torpedoes are projectile weapons -- there are no partial hits. You either hit your target or you don't. A hit on a Klingon destroys him. A hit on a starbase destroys that starbase (woops!). Hitting a star usually causes it to go nova, and occasionally supernova.

Photon torpedoes cannot be aimed precisely. They can be fired with shields up, but they get even more random as they pass through the shields.

Torpedoes may be fired in bursts of three. If this is desired, the burst angle is the angle between the three shots, which may vary from one to fifteen. The word "no" says that a burst is not wanted; the word "yes" (which may be omitted if stated on the same line as the course) says that a burst is wanted.

Photon torpedoes have no effect outside the quadrant.

Onboard Computer Request

Mnemonic: computer
Shortest Abbreviation: c
Full Command: computer request; request;...
Consumes: nothing

The computer command gives you access to the facilities of the onboard computer, which allows you to do all sorts of fascinating stuff. Computer requests are:

score -- Shows your current score.

course quad/sect -- Computes the course and distance from wherever you are to the given location. If you type "course /x,y" you will be given the course to sector x,y in the current quadrant.

move quad/sect -- Identical to the course request, except that the move is executed.

chart -- prints a chart of the known galaxy, i.e., everything that you have seen with a long range scan. The format is the same as on a long range scan, except that "..." means that you don't yet know what is there, and ".1." means that you know that a starbase exists, but you don't know anything else. "$$$" mans the quadrant that you are currently in.

trajectory -- prints the course and distance to all the Klingons in the quadrant.

warpcost dist warp_factor -- computes the cost in time and energy to move 'dist' quadrants at warp 'warp_factor'.

impcost dist -- same as warpcost for impulse engines.

pheff range -- tells how effective your phasers are at a given range.

distresslist -- gives a list of currently distressed starbases and starsystems.

More than one request may be stated on a line by separating them with semicolons.

Dock at Starbase

Mnemonic: dock
Shortest Abbreviation: do
Consumes: nothing

You may dock at a starbase when you are in one of the eight adjacent sectors.

When you dock you are resupplied with energy, photon torpedoes, and life support reserves. Repairs are also done faster at starbase. Any prisoners you have taken are unloaded. You do not receive points for taking prisoners until this time.

Starbases have their own deflector shields, so you are safe from attack while docked.

Undock from Starbase

Mnemonic: undock
Shortest Abbreviation: u
Consumes: nothing

This just allows you to leave starbase so that you may proceed on your way.

Rest

Mnemonic: rest
Shortest Abbreviation: r
Full Command: rest time
Consumes: time

This command allows you to rest to repair damages. It is not advisable to rest while under attack.

Call Starbase For Help

Mnemonic: help
Shortest Abbreviation: help
Consumes: nothing

You may call starbase for help via your subspace radio. Starbase has long range transporter beams to get you. Problem is, they can't always rematerialize you.

You should avoid using this command unless absolutely necessary, for the above reason and because it counts heavily against you in the scoring.

Capture Klingon

Mnemonic: capture
Shortest Abbreviation: ca
Consumes: time

You may request that a Klingon surrender to you. If he accepts, you get to take captives (but only as many as your brig can hold). It is good if you do this, because you get points for captives. Also, if you ever get captured, you want to be sure that the Federation has prisoners to exchange for you.

You must go to a starbase to turn over your prisoners to Federation authorities.

Visual Scan

Mnemonic: visual
Shortest Abbreviation: v
Full Command: visual course
Consumes: time

When your short range scanners are out, you can still see what is out "there" by doing a visual scan. Unfortunately, you can only see three sectors at one time, and it takes 0.005 stardates to perform.

The three sectors in the general direction of the course specified are examined and displayed.

Abandon Ship

Mnemonic: abandon
Shortest Abbreviation: abandon
Consumes: nothing

The officers escape the Enterprise in the shuttlecraft. If the transporter is working and there is an inhabitable starsystem in the area, the crew beams down, otherwise you leave them to die. You are given an old but still usable ship, the Faire Queene.

Ram

Mnemonic: ram
Shortest Abbreviation: ram
Full Command: ram course distance
Consumes: time and energy

This command is identical to "move", except that the computer doesn't stop you from making navigation errors.

You get very nearly slaughtered if you ram anything.

Self Destruct

Mnemonic: destruct
Shortest Abbreviation: destruct
Consumes: everything

Your starship is self-destructed. Chances are you will destroy any Klingons (and stars, and starbases) left in your quadrant.

Terminate the Game

Mnemonic: terminate
Shortest Abbreviation: terminate
Full Command: terminate yes/no

Cancels the current game. No score is computed. If you answer yes, a new game will be started, otherwise trek exits.

Call the Shell

Mnemonic: shell
Shortest Abbreviation: shell

Temporarily escapes to the shell. When you exit the shell you will return to the game.

SCORING

The scoring algorithm is rather complicated. Basically, you get points for each Klingon you kill, for your Klingon per stardate kill rate, and a bonus if you win the game. You lose points for the number of Klingons left in the galaxy at the end of the game, for getting killed, for each star, starbase, or inhabited starsystem you destroy, for calling for help, and for each casualty you incur.

You will be promoted if you play very well. You will never get a promotion if you call for help, abandon the Enterprise, get killed, destroy a starbase or inhabited starsystem, or destroy too many stars.

COMMAND SUMMARY

Command	Requires	Consumes
abandon	shuttlecraft, transporter	-
capture	subspace radio	time
cloak **u**p/**d**own	cloaking device	energy
computer request; ...	computer	-
damages	-	-
destruct	computer	-
dock	-	-
help	subspace radio	-
impulse course distance	impulse engines, computer, SINS	time, energy
lrscan	L.R. sensors	-
move course distance	warp engines, computer, SINS	time, energy
phasers **a**utomatic amount	phasers, computer	energy **p**hasers **m**anual
amt1 course1 spread1 ...	phasers	energy
torpedo course [**y**es] angle/**n**o	torpedo tubes	torpedoes
ram course distance	warp engines, computer, SINS	time, energy
rest time	-	time
shell	-	-
shields **u**p/**d**own	shields	energy
srscan [**y**es/**n**o]	S.R. sensors	-
status	-	-
terminate yes/**n**o	-	-
undock	-	-
visual course	-	time
warp warp_factor	-	-