

Bios Index

The topics under this small help file are broken into four main categories. For those of you who might have started this program and are wondering what in the world it is supposed to do, I suggest that you start with the overview.

Bios Overview

This help section contains a general overview of the Bios program. This is a good place to start.

Bios Menu Items

This help section explains all of the pull-down menu items in the Bios program.

Changing Trialites

This help section explains how to select a trialite and change its attributes.

About Bios

This section tells something about the author and gives technical information on the Bios program.

Please browse through at least the first help section. Bios does not really require much user intervention (although it does allow user customization), but it is still more interesting to watch if you know what you are looking at.

Bios Overview

The bios is an interacting community of organisms living within a window on your computer screen. The bios is partitioned into triangular niches, each niche containing one mannatree. The mannatree is the favorite meal of most varieties of trialites. When a trialite finds plenty of food, it multiplies by dividing in two. When it does not find enough food because of competition with other trialites, it starves (hey, life is tough in the bios).

Although the bios always starts with just one type of trialite, descendants of the first trialite will randomly mutate into different types and sizes. Not all of the trialites are vegetarian and only eat mannatrees. Some of the large ones (the heavyweights) are carnivores and eat the smallest of its trialite relatives (the lightweights). Other trialites are middleweights, and are neither prey for the heavyweights nor predators upon the lightweights.

The fascination of the bios is watching the different size trialites interact. The lightweights require less food, so they will do better than the middleweights when the food supply is scarce. The middleweights, on the other hand, are not vulnerable to attack by the predatory heavyweights, so they will do better when the heavyweights thin the lightweight population by hunting them down. The populations of the different sized trialites will vary over time as they interact with each other. Occasionally, one or more types of trialite may become extinct. However, extinction in the bios is generally a temporary condition, since occasional mutations assure that each type of trialite pops up again given a little time.

Many of the characteristics of the bios are under your control. You may change the bios size and how fast the organisms move. You may also control the frequency of mutations and what mutations are allowed to occur. This allows you to try different kinds of bios systems to see how stable they might be. This information may be found under the heading Bios Menu Items.

You can also change individual trialites. You can, say, turn a vegetarian lightweight into a carnivorous heavyweight and set him loose on his ex-buddies. How to do this can be found under the heading Changing Trialites.

If you want to know something about the creation of the bios, About Bios, has a little bit of information about the author and the Bios program itself.

Bios Menu Items

You may control many of the characteristics of the bios through standard windows menus. The menus available are:

File Menu

Settings Menu

Help Menu

File Menu

From the file menu you may **Exit** the bios or you restart the bios with a single trialite by selecting **New**. This second option can be handy when you wish to start Bios over again with only some of the types of trialites enabled (see Settings Menu).

Settings Menu

This menu allows control over the bios as a whole or over different characteristics of the trialites. From this menu two different dialogs may be opened:

Bios...

Trialites...

Bios...

Selecting this option brings up a dialog box that allows you to change the **Lifecycle Speed** of the bios (how fast everything moves and grows) and the **Bios Size** (how many niches appear on the screen). Changing the size of the bios always causes bios to start over again with one trialite.

Note that the top lifecycle speed of the bios is limited by the speed at which the computer can redraw all of the bios organisms every life cycle. Therefore, a larger bios will have a slower top speed (although they tend to be more interesting). Of course, bios will also be slower on a slower computer.

Trialites...

Selecting this option brings up a dialog box that allows you to change certain attributes of all the trialites in the bios:

Mutation Rates:

Mutation rate refers to how often a split of one trialite into two will result in one of the new trialites being a different type (see Bios Overview). Mutation rates can be set to zero if you want to see if your particular bios is stable, that is, if all of the types of trialites stay in balance and none of them become extinct. The mutation rate can be cranked up if you want to increase the diversity of the trialites (if, say, the bios currently contains only one type of trialite).

Allowed Mutations:

This option selects which mutations are allowed (heavyweights, middleweights, and lightweights). If only heavyweight and lightweight mutations are allowed and new is selected from the File Menu, the balance of the new bios tends to be more stable (if less interesting). Note that excluding a mutation won't eliminate trialites of that type, it will just prevent other trialites from mutating into that type when they split.

Heavyweights:

This option selects whether the heavyweights are carnivores (trialite-eaters) or omnivores (trialite- and mannatree-eaters). If the heavyweights are made into omnivores, they tend to eventually eat all of the lightweights and take over the bios or get starved out by the middleweights. However, I made the option available if you want to see what happens.

Help Menu

The Help menu provides a help **Index**, **Help about Help** (which calls the standard windows help file), and access to an **About...** dialog box which states the author, date of creation, and version number of the Bios program.

Changing Trialites

Using the mouse you can select any particular trialite and change some of its attributes. You can change it into a heavyweight, middleweight, or lightweight. If you want, you can even delete the trialite if you think its causing too much trouble (go ahead, your bigger than it is).

About Bios

The Bios program was created by me (Chris Linstrum) using Borland C++ 3.1 with Application Frameworks. It is still something of a work in progress, with more features planned whenever I darn well feel like it. New versions will be posted on CompuServe as they are completed.

This program is being distributed as freeware, which means you are free to make as many copies as you wish and give it away to whomever you like (so long as you do not sell it for a profit) and I do not expect you to send me money. However, comments about the program would be appreciated and would definitely serve as motivation for future updates. Comments may be sent as follows:

On CompuServe:

Send E-Mail to address 71514,2517

On Internet

Send E-Mail to 71514.2517@compuserve.com

Trialite

A trialite is a three-legged star shaped creature that moves around the bios eating mannatrees or other trialites.

Mannatree

Mannatrees are the circles/ellipses which grow in every niche

Niche

Niches are the triangular shaped areas that combined make up the total area of the bios.

Heavyweight

Heavyweights are the largest trialites. They eat the lightweight trialites, but not the middleweight trialites.

Middleweight

Middleweights are the medium size trialites. They eat only mannatrees like the lightweights but they are too big to be eaten by the heavyweights. Being bigger than the lightweights, they require more food to stay alive.

Lightweight

Lightweights are the smallest trialites. They dont need much food to stay healthy and multiply, but they can be eaten by the heavyweights.

