A gopher client for Commodore GEOS

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Speaker Bio

- ↗ a.k.a. "Cenbe", "ShadowM"

- ↗ GEOS user (continuously!) since 1987

- ↗ several released GEOS applications including geoLink, geoSnap, ulecSwitch

- ↗ author of the infamous "Shadow Virus"

- ↗ GEOS pages at lyonlabs.org

Network apps for the Commodore 64

↗ What's appropriate for this machine?

↗ A web browser? You gotta be kidding...

↗ Why not write a client for a protocol that can actually be implemented on this machine?

↗ geoGopher: caters to GEOS users, but non-GEOS files can be retrieved as well

↗ goal is compatibility with other gopher servers, but no modern extensions supported

geoGopher

↗ custom server (written in Java) that can look inside disk images and send individual files

↗ GEOS files are converted to .CVT format, streamed to the client, and converted back as they are written to disk

↗ geoGopher recognizes .CVT files and acts accordingly

↗ non-GEOS files are sent as-is (assuming they will fit on the disk!)

Modus Operandi

↗ hand-coded in assembler using a pencil and clipboard… and a big eraser!

↗ source code entered into geoWrite files for assembly and linkage *on the Commodore 64*

↗ debugged using GEOS' symbolic debugger

↗ I *did* cheat a little… source files converted to ASCII text from backup D64 for grepping on a PC running Linux

Gopher Protocol (RFC 1436)

↗ simple, text-based format

↗ "items" made up of four tab-delimited fields:

  type byte + user display string

  selector

  host

  port

Sample gophermap

```
iWelcome to gopher!||dummy||dummy||0
0A text file||/textfile.txt||lyonlabs.org||70
1A subdirectory||/subdir||lyonlabs.org||70
7Search gopher||/search||lyonlabs.org||70
9A binary||/geoGopher.prg||lyonlabs.org||70
```

floodgap (console-based client)

floodgap (Firefox "overbite" plugin)

floodgap (Firefox "overbite" plugin)

```
*********************************************************************
**          CELEBRATING GOPHER'S 25 YEAR ANNIVERSARY!          **
**                  Plain text is beautiful!                   **
*********************************************************************
```

- 📄 [Does this gopher menu look correct?](#)

```
If you have having difficulty viewing Gopherspace, your client might be
broken or not current with current Gopher practise. Many web browsers
make inadequate gopher clients; see our related document on this topic:

        gopher://gopher.floodgap.com/0/gopher/wbgopher

Signs of a broken implementation include 1) not showing all selectors on
a menu; 2) not showing informational text at all; or 3) incorrectly
rendering informational text as links, which invariably fail.

** IF YOUR BROWSER RENDERS GOPHER CORRECTLY, you should have seen a
   title blurb before the link for this document explaining about
   gopher.floodgap.com, and it should not have been a link. **

To see a reference implementation in action, or if you are unlucky enough
to use a browser that does not support Gopher at all (MSIE 6, Opera, Safari,
etc.), you can visit the Floodgap Public Gopher Proxy here to view gopher
sites translated into HTML:

        http://gopher.floodgap.com/gopher/
```

(plus using the Floodgap Public Gopher Proxy)

floodgap (geoGopher)

geos ┊ options ▤▤▤▤▤▤▤▤ geoGopher 1.0 [66.166.122.165] ▤▤▤▤

Welcome to Floodgap Systems' official gopher server.
Floodgap has served the gopher community since 1999...

Does this gopher menu look correct?

(plus using the Floodgap Public Gopher Proxy)

Super-Dimensional Fortress: SDF Gopherspace

Get your own Gopherspace and shell account!
...

Getting started with gopher, software, more

(what is Gopherspace? We tell you! And find out how
to create your own Gopher world!)...

DEMO

TODO

- only works with GEOS files for now
- device chooser for downloads
- pager window to display text files
- implement gopher search (on server as well)
- improve gophermap generator program
- bug fixing, error handling

Resources

↗ gopher RFC: https://tools.ietf.org/rfc/rfc1436.txt

↗ gopher://gopher.floodgap.com/

↗ gopher://gopher.quux.org/

↗ apt-get install gopher

↗ Overbite: http://gopher.floodgap.com/overbite/