

# Multicians Website

[www.multicians.org](http://www.multicians.org)

THVV 12/10/23 v21

# multicians.org Home page

Drop down Menus

Google Search



Sliding pictures with computed counts from DB

Recent changes list generated from database

RSS feed generated

mail link

Computed counts in text

Clicks on sliding pictures lead to other site features.

Combines pictures into one JPG for CSS sprites, speeds loading.

# Site Contents (Dec 2023)

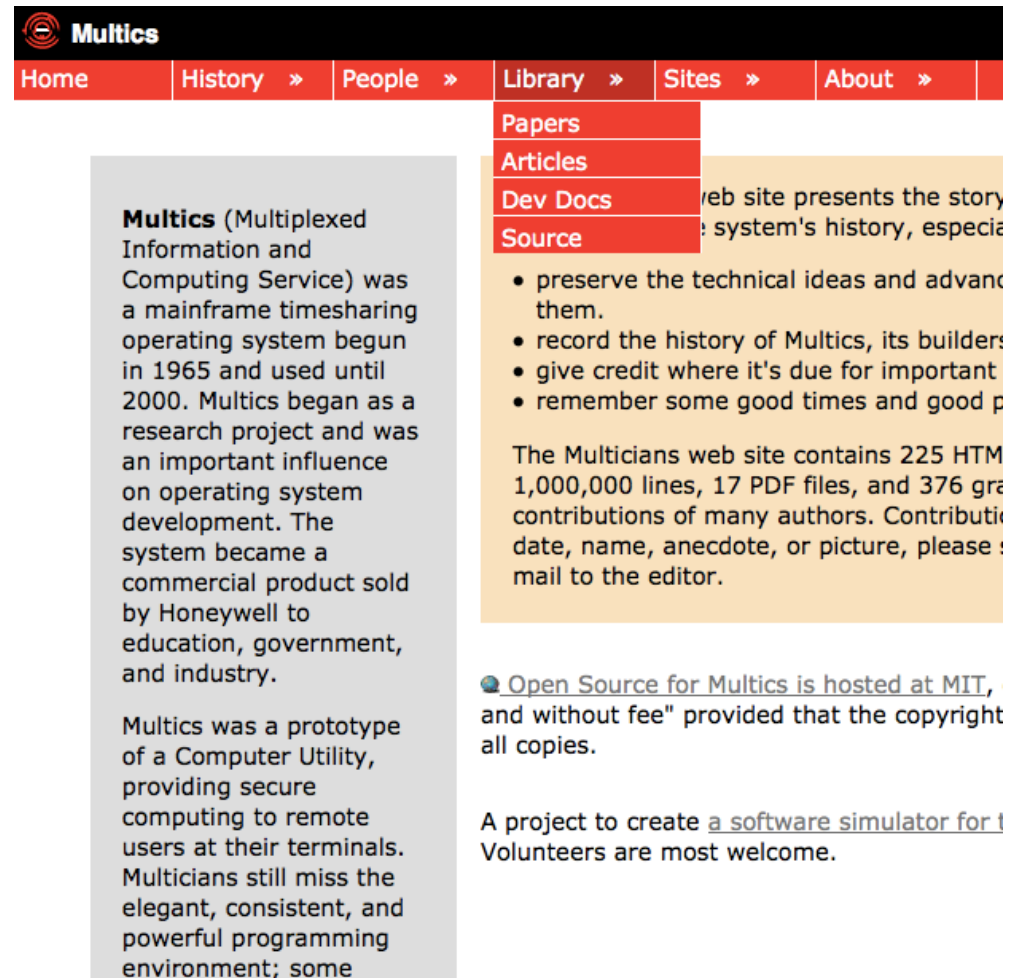
- 0.5 sec to become interactive (Google Lighthouse)
- 486 HTML pages
- 663 images
- over 540K lines of HTML
- Multicians: 2046 names, 746 mail addresses
- Glossary: 843 entries, 27 web pages
- 87 Multics Stories by 41 authors
- 30 Articles about Multics
- 46 Published papers (35 on site)
- 1794 PDF documents (e.g. MSPM, MCBs, MTBs, MSBs, MCRs, MOSNs)
- (15 SQL tables used in generation)
- Bibliography: 5054 entries (links to 3612 online)

# Popularity

- Millions of hits per year
- Most popular:
  - main Multics page
  - Multicians list
  - History and General Information
  - Myths about Multics
  - Chronology
  - Multics Humor
  - Cookie Monster story
  - History of Multics PL/I Compiler
  - Glossary

# Navigation menus

- Drop down JavaScript menu using jQuery
- Multiple modern browsers
- Works with tablets and mobile phones
- Generated from SQL table
- Identical menus on all pages



The screenshot shows the Multics website with a navigation menu at the top. The menu items are Home, History, People, Library, Sites, and About. The Library menu is open, showing a dropdown list with items: Papers, Articles, Dev Docs, and Source. The main content area is divided into two columns. The left column contains a paragraph about Multics (Multiplexed Information and Computing Service) and a paragraph about its prototype. The right column contains a list of bullet points and a paragraph about the Multicians web site.

**Multics** (Multiplexed Information and Computing Service) was a mainframe timesharing operating system begun in 1965 and used until 2000. Multics began as a research project and was an important influence on operating system development. The system became a commercial product sold by Honeywell to education, government, and industry.

Multics was a prototype of a Computer Utility, providing secure computing to remote users at their terminals. Multicians still miss the elegant, consistent, and powerful programming environment; some

- preserve the technical ideas and advance them.
- record the history of Multics, its builders
- give credit where it's due for important
- remember some good times and good p

The Multicians web site contains 225 HTML files, 1,000,000 lines, 17 PDF files, and 376 graphics. Contributions of many authors. Contributions include date, name, anecdote, or picture, please email to the editor.

[Open Source for Multics](#) is hosted at MIT, and without fee" provided that the copyright notice is included on all copies.

A project to create [a software simulator for Multics](#) is underway. Volunteers are most welcome.

# Modern Design

- Valid HTML5.
- CSS table-free liquid layout. Mobile friendly.
- Uses JavaScript, works without it.
- No ActiveX, Flash, or Java.
- Cross browser design, minimum of hacks.
- Static pages; minimum of server-side support.
  - Site can be served by an FTP host and viewed offline.
- Site design documents set standards and explain rationale and implementation.

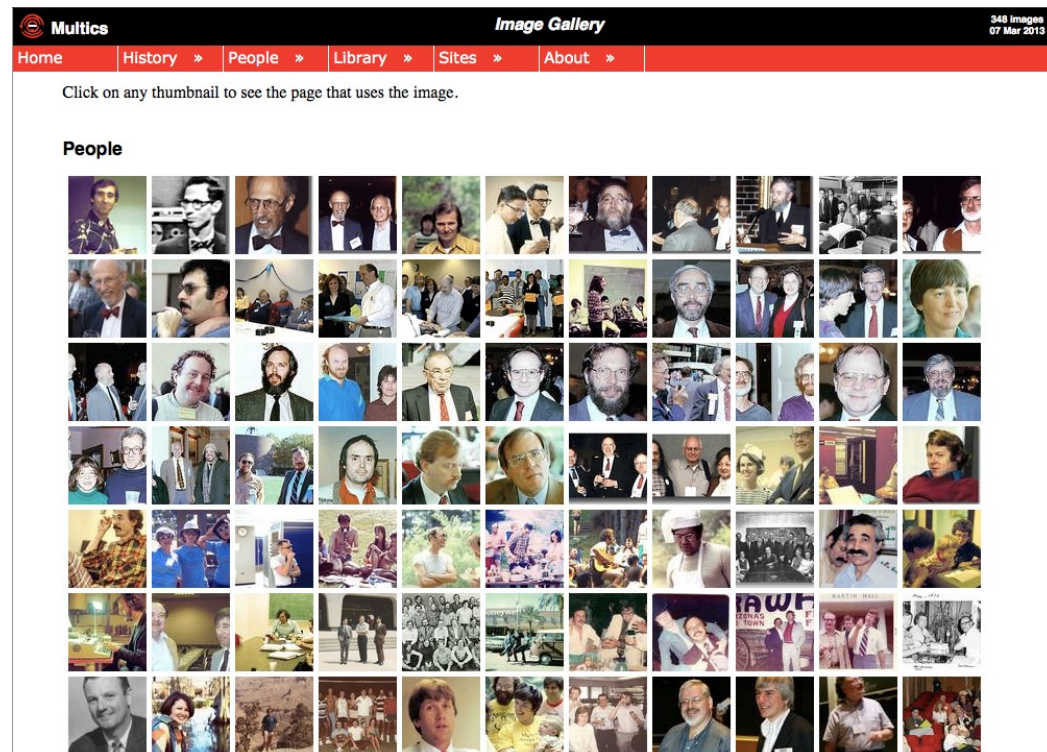
See <https://multicians.org/m-webguide.html>.

# Search function

- Uses Google Custom Search.
- Files indexed by Google:
  - HTML pages at `multicians.org`.
  - source of Multics at `web.mit.edu`.
  - `www.bitsavers.org/pdf/honeywell/multics`
  - PDF files with OCR text.

# Image Gallery page

- Links to pages containing graphics
- Generated from template and SQL table
  - 133 lines of template source expand to 3028 lines of HTML
- Generates combined JPGs for CSS sprites
  - saves 662 file requests and loads much faster





# Multicians Listing

- Contributors to Multics
- Name, what they did, protected email link
- Generated from SQL tables
- Counts of publications by type
- Awards

**Coppola, Richard L.**

Field Engineering (PMDC): benchmarks, SysMaint, 870-M, Flower. [1 MTB] [mail](#)

**Corbató, Fernando J.**

Administration (MIT); Designer. {Story: [Corby](#).} [6 interviews, 6 MDNs, 6 MSPM sections, 1 MTB, 14 papers, 8 repository docs, 1 TR, 5 videos, 3 web pages] [IEEE-Fellow](#) [ACM-Fellow](#) [McDowell](#) [NAE](#) [NEC](#) [Pioneer](#) [Turing](#) [AAAS](#) [ACM-Lec](#) [AmAcadAS](#) [CHM-Fellow](#) [Goode](#) (deceased)

**Coren, Robert S.**

System (CISL): IO daemon, TTY DIM. [58 MCRs, 1 MDD, 3 MOSNs, 4 MSBs, 15 MTBs] [mail](#)

**Corney, David**

User (Avon): wrote enhanced FAST subsystem, 1979.

**Corsi, A. J.**

Engineering (HIS): performance measurement.

**Cote, Gil**

System (NWGS): Applications (NWGS). [mail](#)

**Couleur, John F.**

Designer (GE): 645 CPU architecture. [1 MDN, 6 papers, 1 repository doc] [mail?](#)

# Signup form

- Displayed by CGI program
- User enters (partial) name, looked up via AJAX
- Ambiguous names replaced by SELECT picklist.
- Form is filled in for existing users.
- Thanks page generated on the fly when submitted.



The screenshot shows the 'Multicians Registration' page on the Multics website. The page has a red navigation bar with links for Home, History, People, Library, Sites, and About. The main content area is light blue and contains the following text and form fields:

Who is a [Multician](#)? Anybody who contributed to the development and success of Multics, who advocated it to others and tried to make it better, who loves the system (with all its faults). As long as we have Multicians, we have the best part of Multics.

To add yourself to the [Multicians list](#), or update your entry, please fill out this form. (If you have trouble, send mail to the editor.)

Your name, last name first. For example, Fooch, Melvin T.

Update existing entry  
 New entry.

*If you had more than one role or job, send mail.*  
Your role:

Where you worked or used Multics:

What you worked on:

Your e-mail address:

Please set up a [mail forwarding address](#) in the "multicians.org" domain with username

(optional) Your home page location, beginning with "http//":

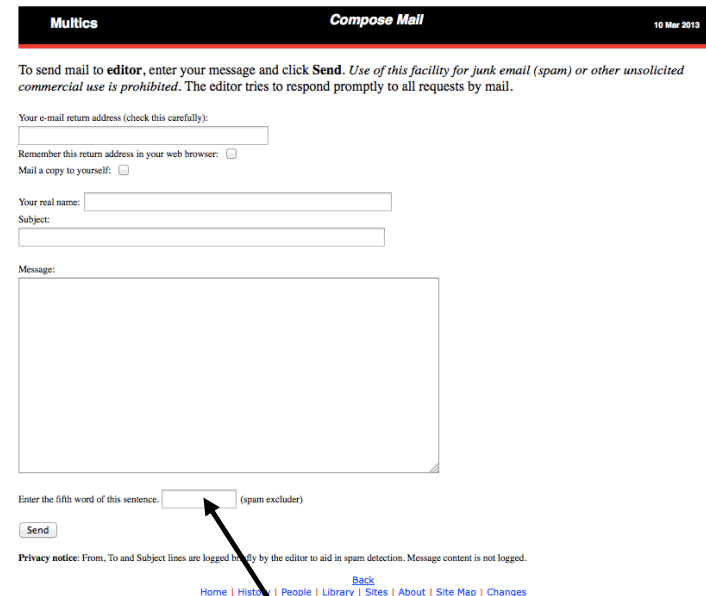
Click  to mail the form.

I encourage you to write up a brief "Multics biography" for yourself and post it to [alt.os.multics](#) or the Multicians mailing list. If you have stories or pictures from the history of Multics, space for them and help putting them in Web format is available.

**Mail address display:** As a spam control measure, your e-mail address will **not** be displayed on the multicians.html page. Instead, clicking a link will present a web form where a user can type a message to you. Clicking SEND on the form will look up your e-mail address in a

# Mail to Multicians or editor

- Mail addresses hidden from web crawlers, looked up in online database.
- Mail form page generated on the fly.
- Human Interaction Proof: user must answer a text question.
- Checks to prevent spamming.
- Thanks page generated on the fly.
- Optional return address cookie.

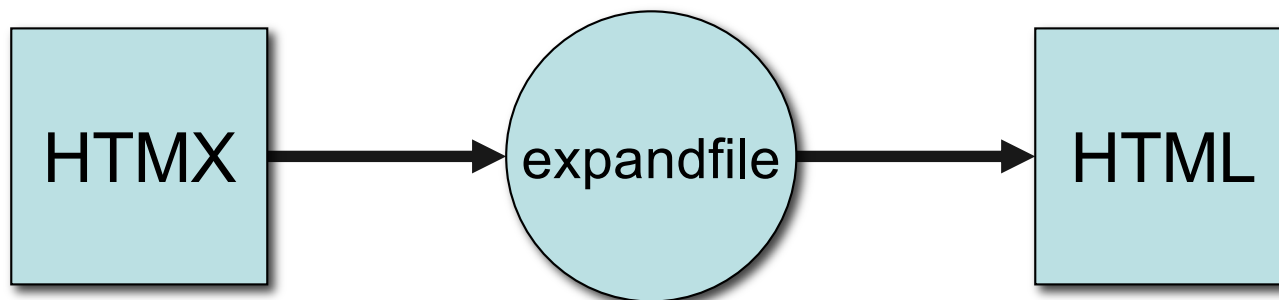


The screenshot shows a web form for composing an email. At the top, there is a black header with 'Multics' on the left and 'Compose Mail' on the right, with the date '10 Mar 2013' in the top right corner. Below the header, a warning message states: 'To send mail to editor, enter your message and click Send. Use of this facility for junk email (spam) or other unsolicited commercial use is prohibited. The editor tries to respond promptly to all requests by mail.' The form includes several input fields: 'Your e-mail return address (check this carefully):', 'Remember this return address in your web browser:' (with a checkbox), 'Mail a copy to yourself:' (with a checkbox), 'Your real name:', and 'Subject:'. A large text area is provided for the 'Message:'. Below the message area, there is a 'Send' button and a 'human interaction proof' question: 'Enter the fifth word of this sentence.' followed by a small input box and the text '(spam excluder)'. At the bottom, there is a 'Privacy notice' and a set of navigation links: 'Home | History | People | Library | Sites | About | Site Map | Changes'.

*human interaction proof*

# Generated HTML Pages

- Templates for standard look and feel.
- Source language HTMX expands into HTML.
- Macros simplify source and prevent error.
- Sizes, dates modified, user counts, etc. determined at generation time.
- Navigation aids, menus, and indexes generated automatically.



See <https://multicians.org/thvv/htmx/expandfile.html>.

# References between pages

- Special syntax in HTMX source, e.g. glossary reference:  

```
  {{GIOC Generalized I/O Controller}}
```
- Generated by looking up key in SQL table.
- TITLE attribute comes from database, displays in a tooltip on cursor hover.
- Consistent format.
- Syntax for
  - Glossary reference
  - Multicians list reference
  - Off-site link
  - Intra-site link

# Pages generated from SQL tables

- Main page (sliding pictures, recent changes)
- Bibliography
- Multicians list
- Change history listings
- Site map, Google crawl advice
- Image thumbnails and gallery pages
- Glossary pages
- Sites listing and timeline chart
- menus

`expandfile` expands a template for each row returned from a SQL query.

# Graphical Charts generated using JavaScript and HTML

- Site timeline bar chart (SQL+HTML)
- Count of sites by year bar chart (SQL+HTML)
- Count of sites by country pie chart (SQL+JavaScript)
- History timelines (JavaScript)
- MSPM Authors bar chart (SQL+HTML)
- Changes by year (SQL+HTML)

# Other Tables and lists generated using `*sqlloop`

- `dates` list: events in Multics history by year
- `articles` list: articles by date
- `multics-stories` lists: stories by date, author, site
- `source-index` list: counts by library



# Macros

- Generate code for images, external links, etc.
- Examples:
  - `%[*callv,getimgdiv,=t.jpg,=xt.jpg,=alt,=ttl,=st,=caption]%`
    - Generates a DIV wrapping `t.jpg` with CSS style `st`, and given caption. If `xt.jpg` is specified, creates a link to it. Supports **-2x** version of graphic if found with SRCSET.
  - `%[*callv,mitsourcearc,="sss",="t.alm",="pxss source"]%`
    - Generates a link to `t.alm` in library `sss` at MIT with anchor text `pxss source`.
- Additional macros
  - Links to Multics files at `bitsavers.org` and `mit.edu`
  - Image displays with generated popup.
  - Galleries of images.

# Automated Site Installation

- Generate and upload only the new pages necessary using **make** and **rsync**
- Automatic update when needed of
  - site map
  - RSS feed
  - **procmail** mail forwarding commands
  - **tar** file generator
- Automatic creation of Google crawl advice **sitemap.xml.gz**

# Mobile Device Support

- Mobile usability advice from Google tools
- Menus simplified for small screens
- Set viewport and size
- CSS sprites speed graphic loading

Ease of use

Speed

Affects site ranking in Google

# High DPI Displays

- Old pictures look unsharp on displays with  $> 96$  pixels/inch.
  - smartphones and Retina displays
  - HD and 4K monitors
- Create **-2x** versions of images if possible and specify SRCSET attribute in IMG tag.
- Browser chooses best version to show, depending on display.
- Recompile source with new HTMX macros.
- JavaScript functions adapt to display pixel ratio.
- Macros create **-2x** thumbnails and show in **-1x** space.