

The Medley Interlisp Project: Reviving a Historical Software System

Authors:

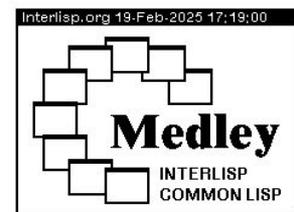
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DOCUMENTATION

BASICS

PRIMER

MANUAL

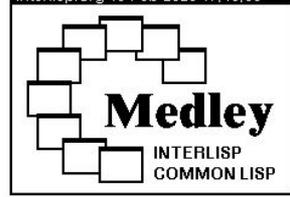
NOTECARDS

ROOMS

ACTIVATE FEATURES

NOTECARDS

ROOMS



The Medley Interlisp Project - What and When?

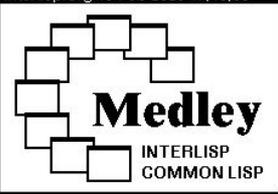
- Open-source software recovery effort founded in 2020
- Interlisp.org — Non-Profit Organization
 - US 501(c)(3)
- Main Goals:
 - Make Medley Interlisp easy to access on modern operating systems (OSs),
 - Expand Medley's compatibility with modern computer peripherals,
 - Ease interoperability between Medley and modern OSs
 - Continue Medley's development by fixing bugs, updating Common Lisp implementation, etc.,
 - Compile a comprehensive Interlisp Bibliography
 - And most importantly, conserve Medley Interlisp's value as a groundbreaking software system for historical and computational research

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Interlisp History

- 1958-1959 – LISP implemented under John McCarthy at MIT
 - ✨ Homoiconicity ✨ = able to represent itself within its own data
- 1962 – LISP 1.5, first widely distributed version
- 1966 – LISP 1.5 implemented on SDS 940 at BBN, becoming BBN-Lisp
 - 1969-1970~ – Several key Interlisp features implemented – DWIM, History Package
- 1972 – Development shared between BBN and Xerox PARC
 - Renamed to Interlisp (1973?)
- 1976 – Interlisp virtual machine first implemented
- 1976 – Advanced graphical window system, inspired by Smalltalk's windows

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Interlisp History Continued

- 1979-1982 – Interlisp-D developed and released on D-Machines
- 1985 – Began incorporating Common Lisp alongside Interlisp
- 1988 – Medley 1.0 release
- 1989 – Interlisp development passed from Xerox PARC to Venue Corporation
 - Headed by Interlisp developer John Sybalsky
- 1992 – Medley 2.0 release, Interlisp wins the ACM Software System Award
- 1999 – Medley 3.5 is being distributed by Venue
- 2020 – Medley Interlisp project picks up from several disparate shards of Medley 3.5



ELECTRO-OPTICAL SYSTEMS

XEROX

XEROX 1100 SERIES

*A Family of Powerful
Scientific Information Processors
Your Personal Computing Environment*

Interline-D

THE MOST
ADVANCED
LISP
ENVIRONMENT

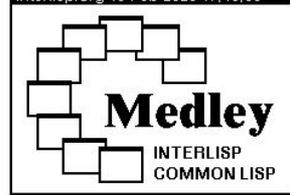
AAAI 1982



AAAI 1982

A photograph of a man with a beard and dark hair, wearing a plaid shirt, sitting in a light-colored armchair in a hotel lobby. He is holding an open book and looking towards the camera. The lobby has a patterned carpet, a wooden chest of drawers with a lamp, and a hallway in the background.

AAAI 1982



Barriers to Progress

- 30 year gap between Interlisp's active use and now
 - System architecture has changed a lot in that time (big-endian -> little-endian, Y2K, etc.)
- Bugs in the most recent build of Medley
 - Made more complicated by fractured source code origins
- Interlisp virtual machine had to be updated
- Scattered and outdated documentation
- Updating to the ANSI Common Lisp takes a prohibitive amount of work
- Almost entirely volunteer-based effort

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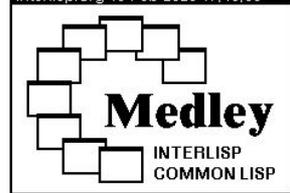
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A Survey of Current Progress

Modernization of Medley

- Medley runs on Linux, MacOS, Windows 10 & 11, and more
- An online version of Medley is also accessible
 - Also an experimental WebAssembly version!
- Medley-Git integration
- LOOP iteration construct implemented in Medley Common Lisp,
- System Clipboard functionality & UTF-8 intercompatibility

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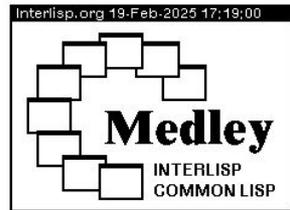
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Progress Continued

The Medley Primer – Introductory Documentation

- Rewriting the Primer
 - Following more modern pedagogies
 - Goal is to make it as easy as possible to ‘get your hands dirty’

- The Primer can introduce both the system and its history

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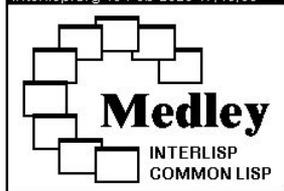
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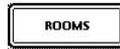
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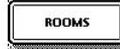
Outdated Definitions and Their Value

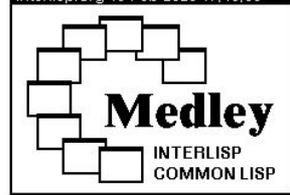
Glossary Entry	Definition
button	(1)(n.) A key on a mouse. (2)(v.t.) To press one of the mouse keys when making a selection.
menu	A way of graphically presenting you with a set of options. There are two kinds of menus: pop-up menus are created when needed and disappear after an item has been selected; permanent menus remain on the screen after use until deliberately closed.
mouse	The mouse is the box attached to your keyboard. It controls the movement of the cursor on your screen. As you become familiar with the mouse, you will find it much quicker to use the mouse than the keyboard.
Mouse Cursor	The small arrow on the screen that points to the northwest.
window	A rectangular area of the screen that acts as the main display area for some Lisp process.

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Interlisp Bibliography

- Exhaustive, enumerative bibliography hosted in Zotero
- Scope encompasses anything and everything directly related to Interlisp
- Use case is both practical and historical
 - Holds useful Interlisp documentation
 - Historical research (computer history, programming languages, etc.)
- Further bibliographic organization is still ongoing
 - Tagging, metadata, document types, sorting into (sub-)categories, etc...
- Most files are hosted within Zotero or other stable repositories
 - Internet Archive, Google Drive...

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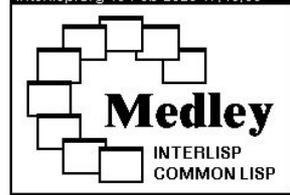
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External Collaboration

- Collaborated with independent freelancers, then Universities
- University collaboration generally found to be more helpful
 - Students from adjacent fields start with a higher baseline than unspecialized freelancers
 - Universities can often fund the students to some extent
- Currently collaborating with University of Alberta's (U of A's) Software History Futures and Technologies (SHFT) group headed by Dr. Eric Kaltman
 - Authors Eleanor Young and Abhik Hasnain are U of A graduate students currently working with the project

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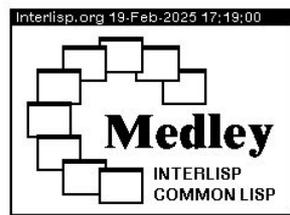
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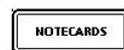
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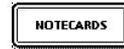
Conclusion

- **Medley Interlisp project**
 - Open-source software recovery project, founded 2020
- **Interlisp History**
 - LISP (1958) -> BBN-Lisp (1966) -> Interlisp (1972) -> Interlisp-D (1979-1982)
-> Medley 1.0 (1988) -> Medley 2.0 (1992)
- **Difficulties**
 - Medley is old, codebase was fractured, documentation was scattered...
- **Successes**
 - Runs on common OSs, some interoperability changes implemented, Primer currently being rewritten, Bibliography created and being actively organized and curated...
- **External Collaboration**
 - University collaboration helps and is relatively sustainable

DOCUMENTATION



ACTIVATE FEATURES



Get in contact if you're interested!

<https://interlisp.org/project/getinvolved/>



The Medley Interlisp Project

a retrofuturistic software system

What did we leave behind on the path to developing today's computer systems? Could there be lessons for the future of computing hidden in the past? Enter the Medley software environment to explore these questions.



History Project Software Get Involved GitHub Search this site...

Medley

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