Origins and Some History

1988: First Discussions
1992: Software Development Begins
1993: First Public Release
1994: Version 1.0
...
2002: Book (Finally!) Published
...
2017: Still going strong; jwe joins ESI
What’s in a Name?

“Science and the application of science are worthwhile activities on which to spend a lifetime.”

Octave Levenspiel
1926-2017
Project Scope in 1992
Project Scope Today

MANY more functions

More (and more complicated) language features
Early Goals

Interactive language

High quality numerical tools

Free software distribution
Current Goals Include

Matlab compatibility: Octave users have come to expect a high degree of compatibility

Improving ease of use and installation

Ensuring the community of Octave contributors and users remains active and healthy.
Project Activity – Mailing Lists

![Graph showing project activity over time with a 6-month moving average. The x-axis represents time from 1991 to 2021, and the y-axis represents the number of posts per month. The graph shows an increasing trend with a peak around 2015.]
Developer Activity
Innovation vs. Compatibility

- C-style I/O – fopen, printf, etc.
- Variable argument lists – f(...) vs f(varargin)
- Struct
- Short-circuit && and || operators
- Multiple functions in a single file vs: subfunctions, nested functions, and now local functions
- Assignments are expressions: \( a = b = c \) or if (status = fcn (...))
- Indexing: \( A(I,j)(k,l) \) or \( [1,2;3,4](::,1) \)
Specific Development Areas for the Near Future

Improvements in usability and reliability of the GUI interface
- Code editor
- Debugger
- Variable editor (spreadsheet-style interface to data)

Improvements to language features and compatibility
- classdef – partially implemented
- packages (+DIR namespaces) – partially implemented
- large data files using current HDF5-based Matlab .MAT file format
  ...
- JIT Compiler – longer term
Toolboxes

Improve compatibility and coverage of widely used Octave packages

• Signal processing
• Image processing
• Statistics
• Numerical optimization
• Control systems design
• Communications