

TIME-2004
Montreal



Looking in the Derive Window

A Designer's View

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Derive 4 for Windows®

- Goals & Challenges:

- Get it out there fast!

- Devise communication between DUI and mathematical engine

- Support all current Microsoft Windows® (3.1, 95 and NT 3.51) and DOS

- Support a 32-bit program on 16-bit OS (Windows 3.1)



More Derive 4

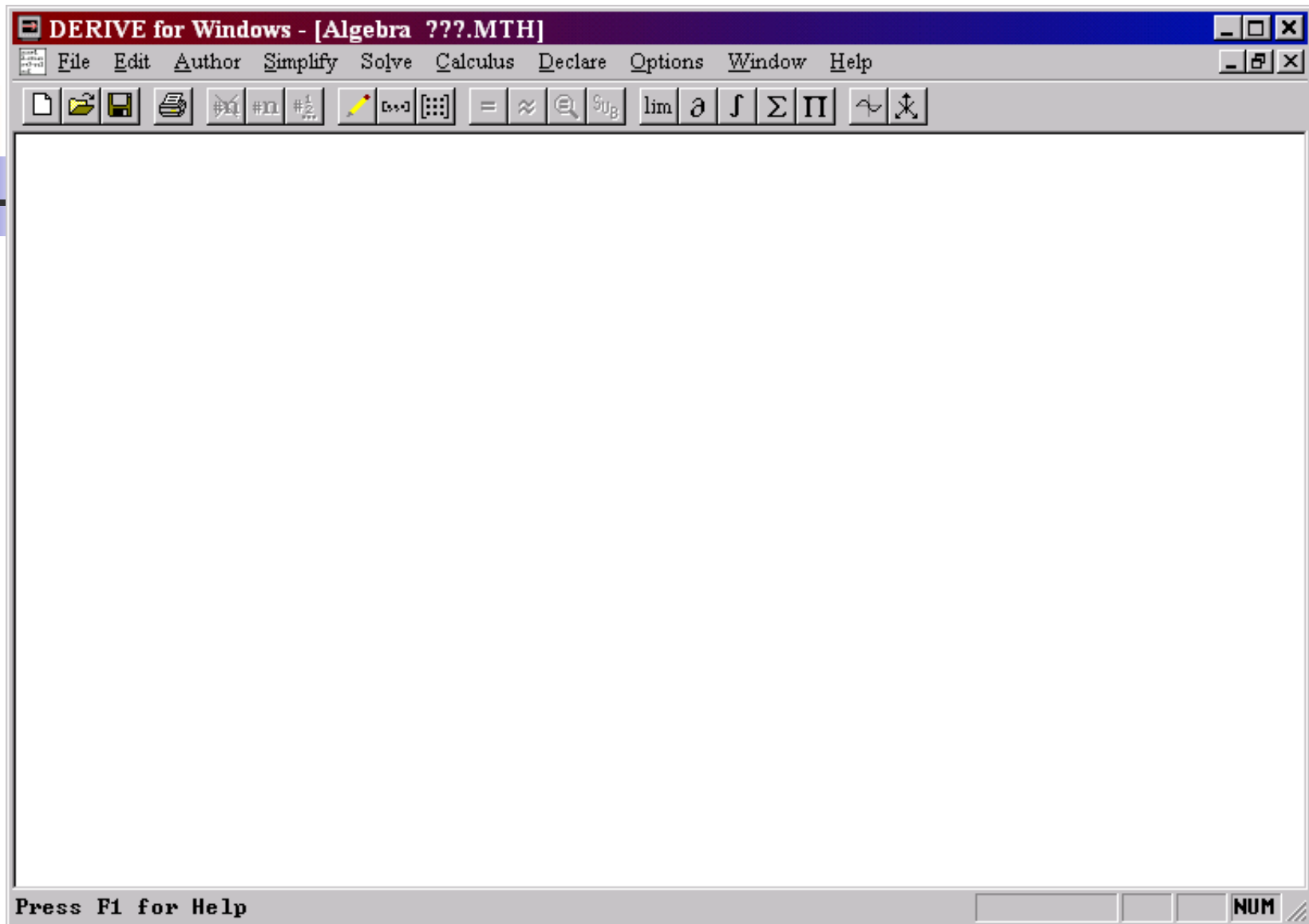
Goals & Challenges

- Translate Derive into different languages
 - Release Derive in multiple languages simultaneously
- Keep it similar to the DOS interface
 - Adhere to “The Windows Interface: An Application Design Guide”



Memorable quotes

- “Error messages should not imply that the user is at fault; instead they should state the problem objectively and offer possible solutions.”
- “The title bar of the application window should identify the application name but not the current document name, unless that document window is maximized.”





My Favorite

- ... “Space the buttons evenly within each group, leaving at least 4 DU (Dialog Units) between the right edge of one button and the left edge of the next. ... Leave at least 6 DUs between the edge of the dialog and the edges of the buttons... Normally the buttons should all be the same width, but individual buttons may be made wider to accommodate exceptionally long text.”

Calculus Integrate - TIME-2004 File.dfw #9

Variable:

Integral

☐ Definite

☒ Indefinite

Definite integral

Upper Limit:

Lower Limit:

Indefinite integral

Constant:

OK

Simplify

Cancel



Derive 5 for Windows

■ Goals & Challenges

- Create, edit, print and save text and plots as well as expressions
 - Keep a familiar face while adding powerful new features
- Take full advantage of Windows environment & common elements
 - Time and \$\$
- Rotate one or more 3D plots in real-time
 - Make it fast and accurate

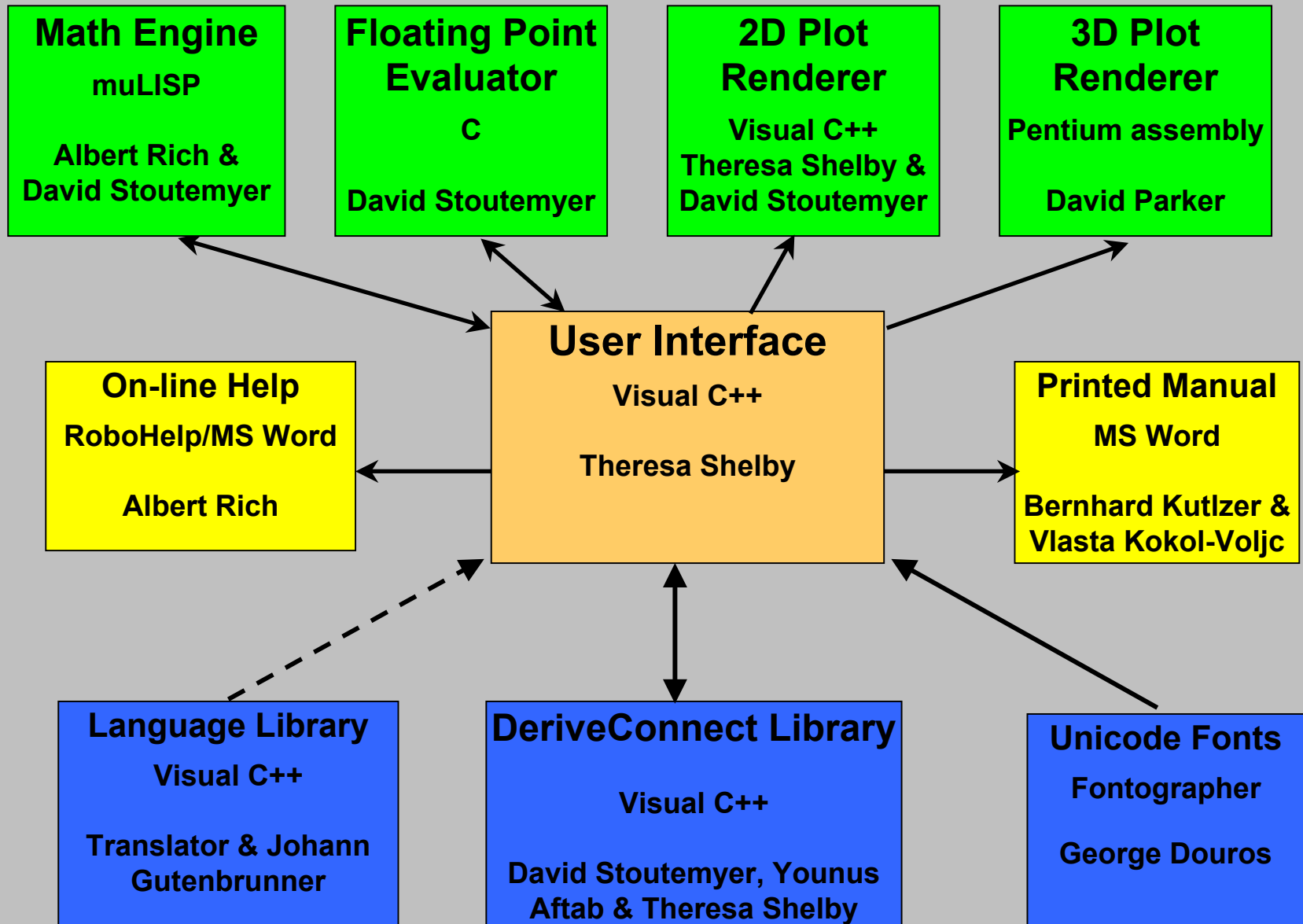


Derive 6 for Windows

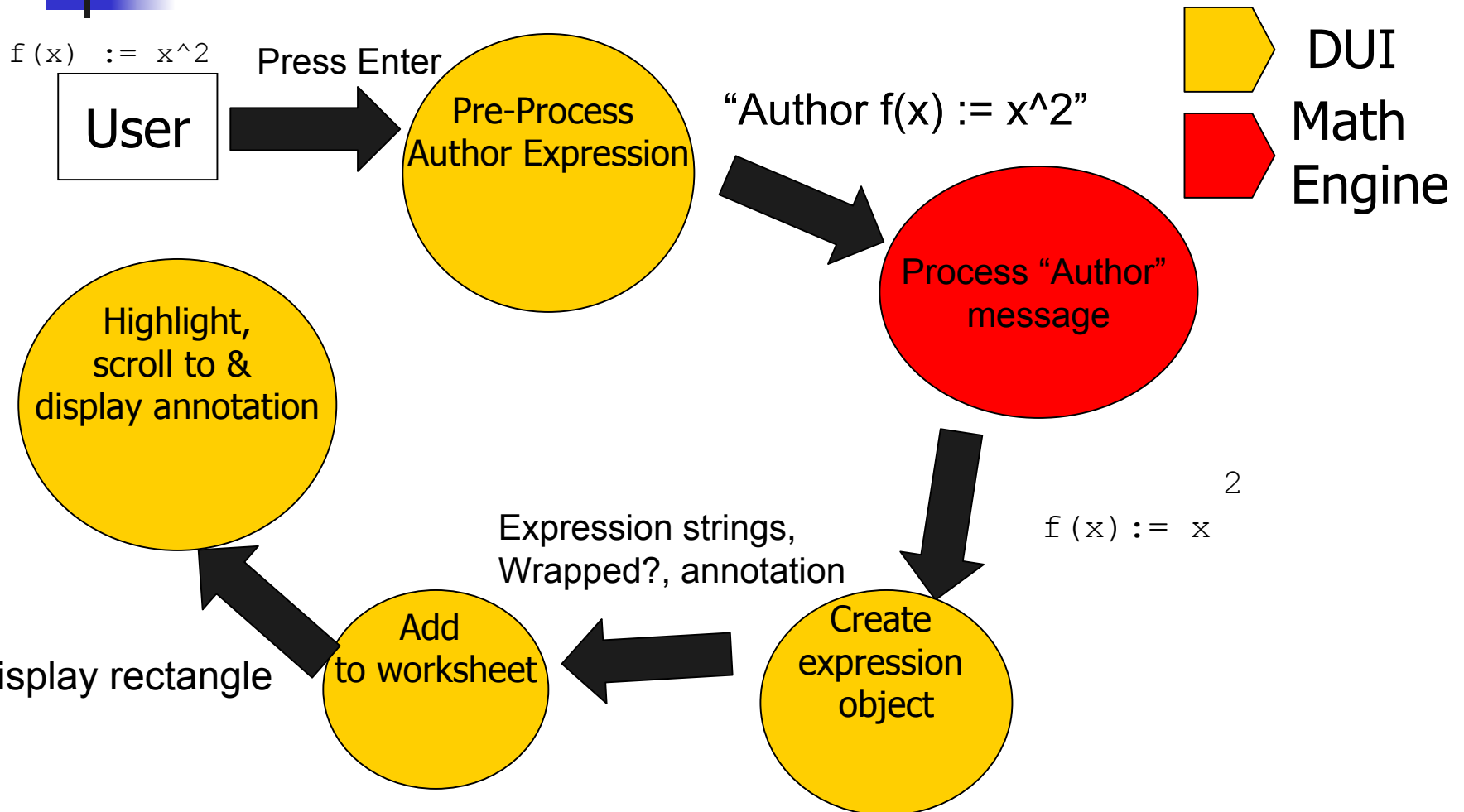
■ Goals & Challenges

- Improve expression editing
 - How to add requested features while maintaining simplicity
- Provide complete multilingual support and faster string processing with Unicode fonts
 - Unicode does not run natively on Windows 98/mE
- DPGraph-like graphics in 3D plot window
 - Time and \$\$

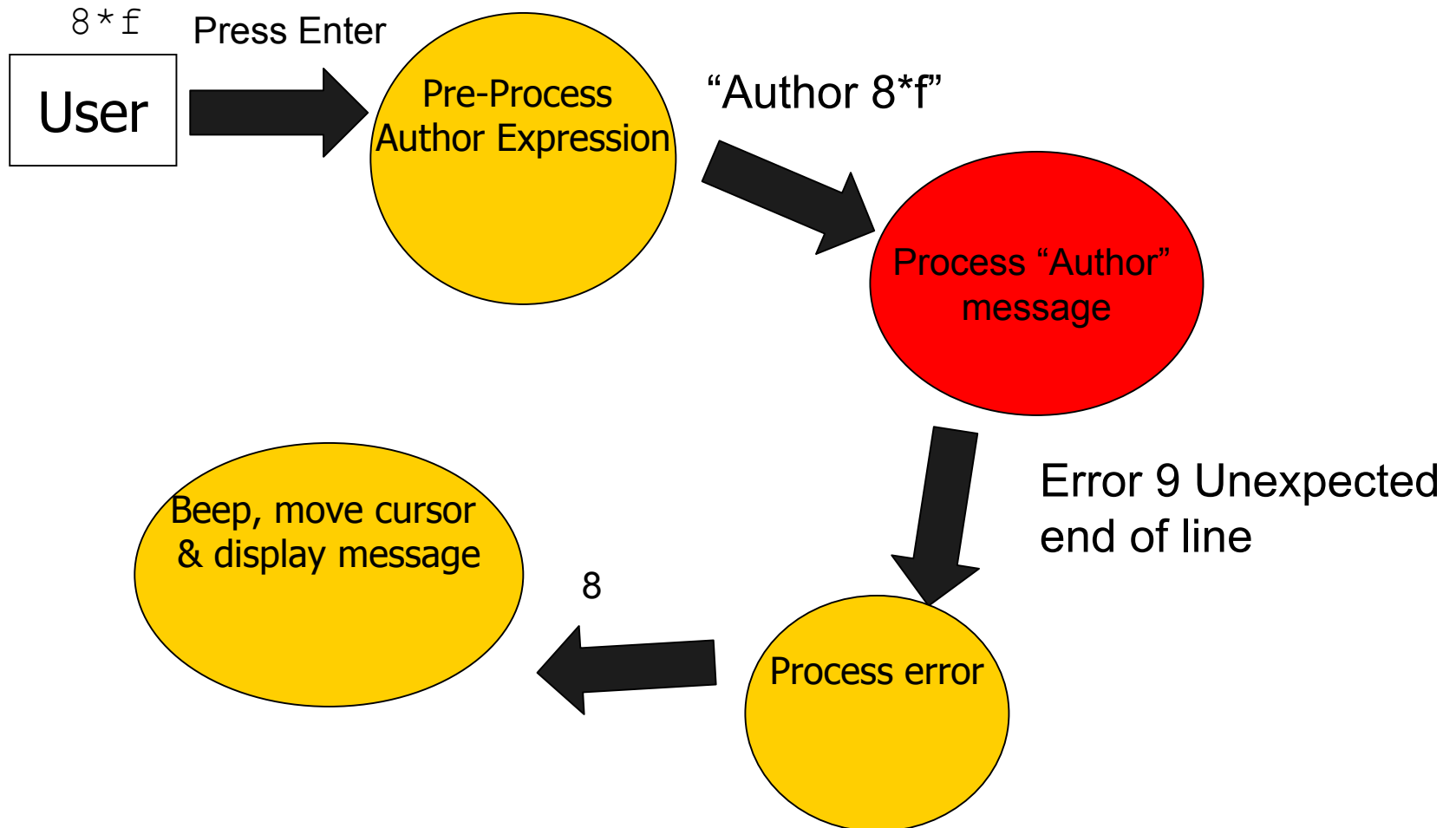
The Architecture of Derive 6



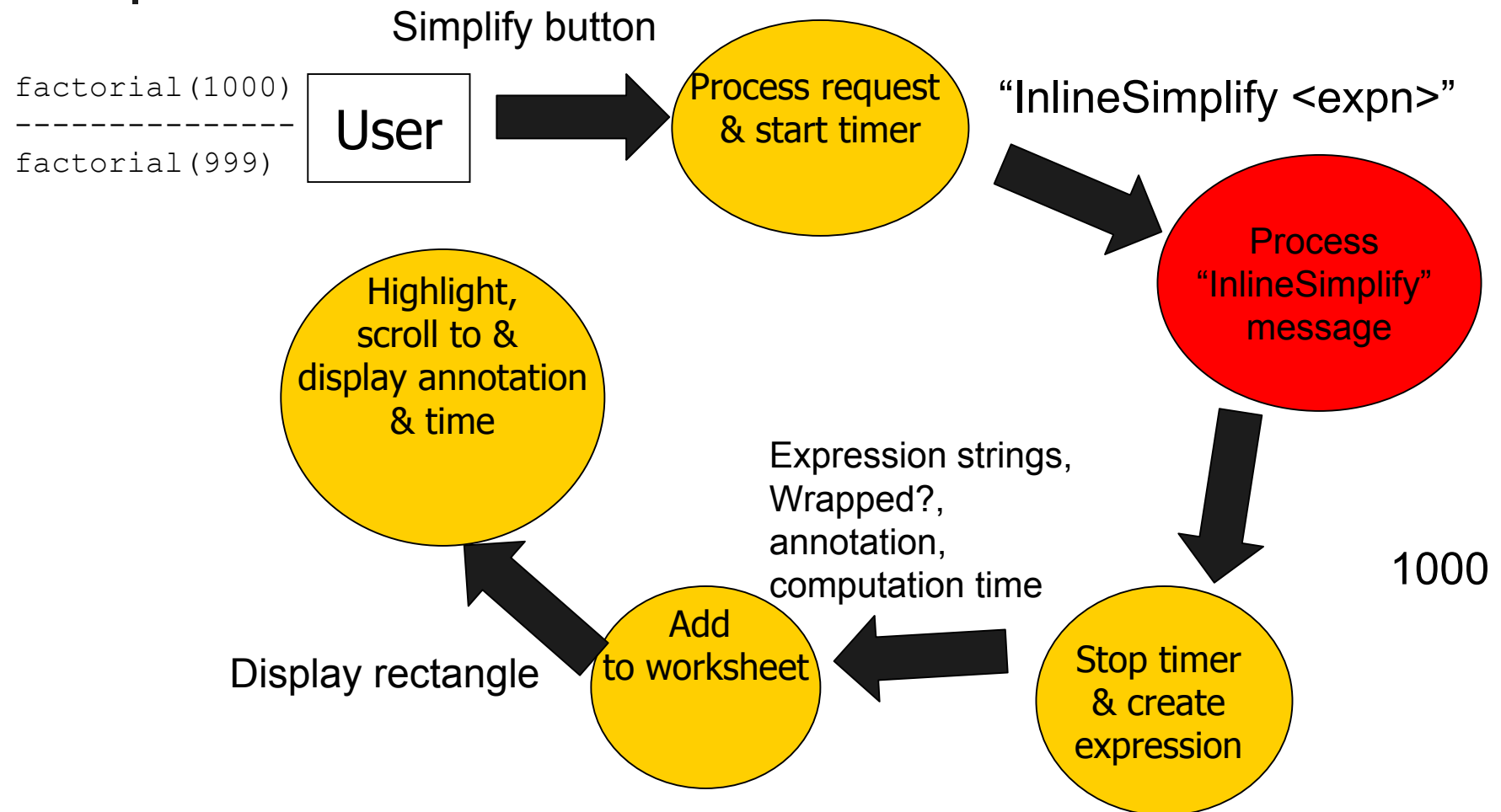
Entering expression



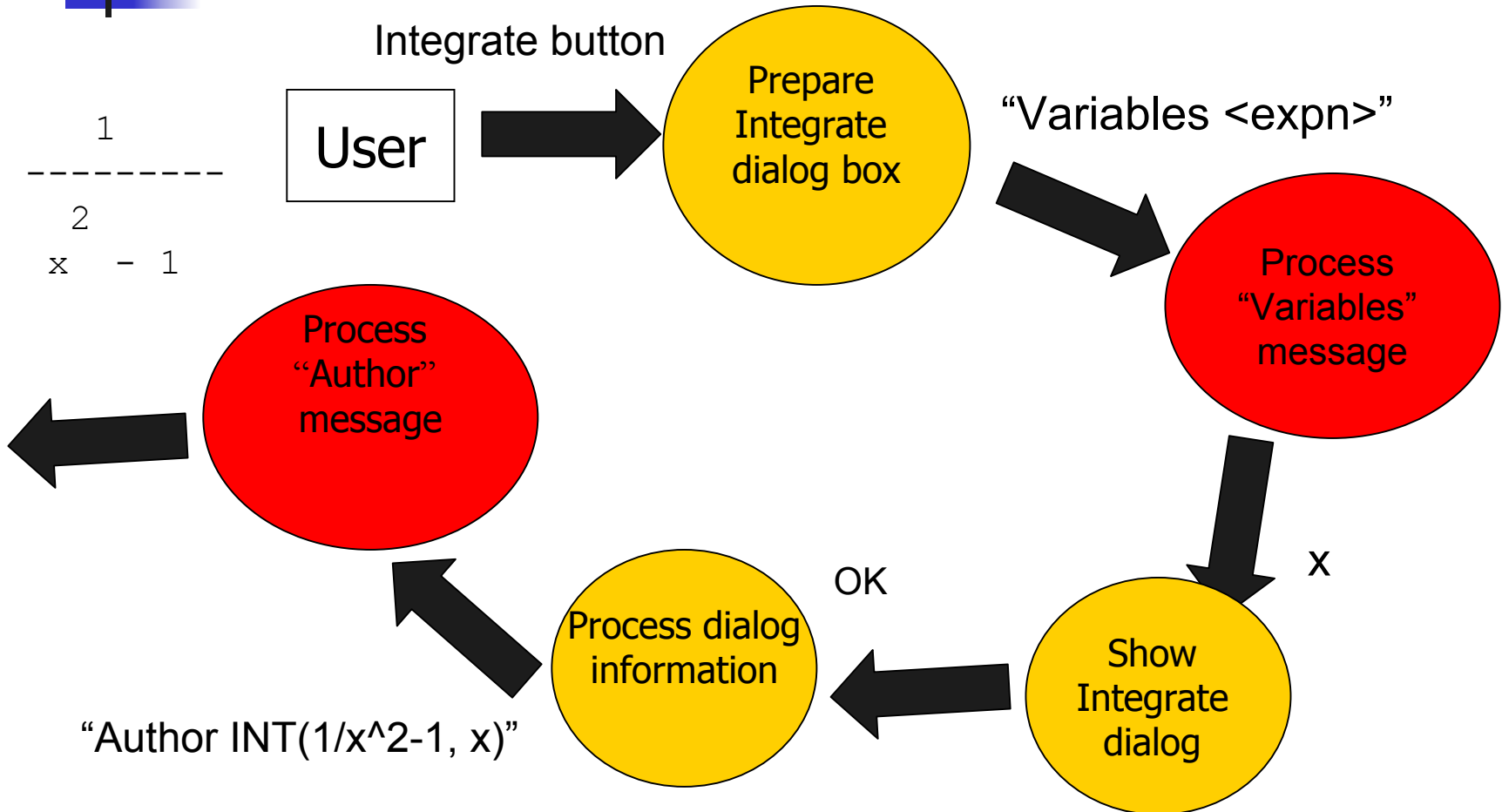
Decoding errors



Simplifying expression



Integrating expression

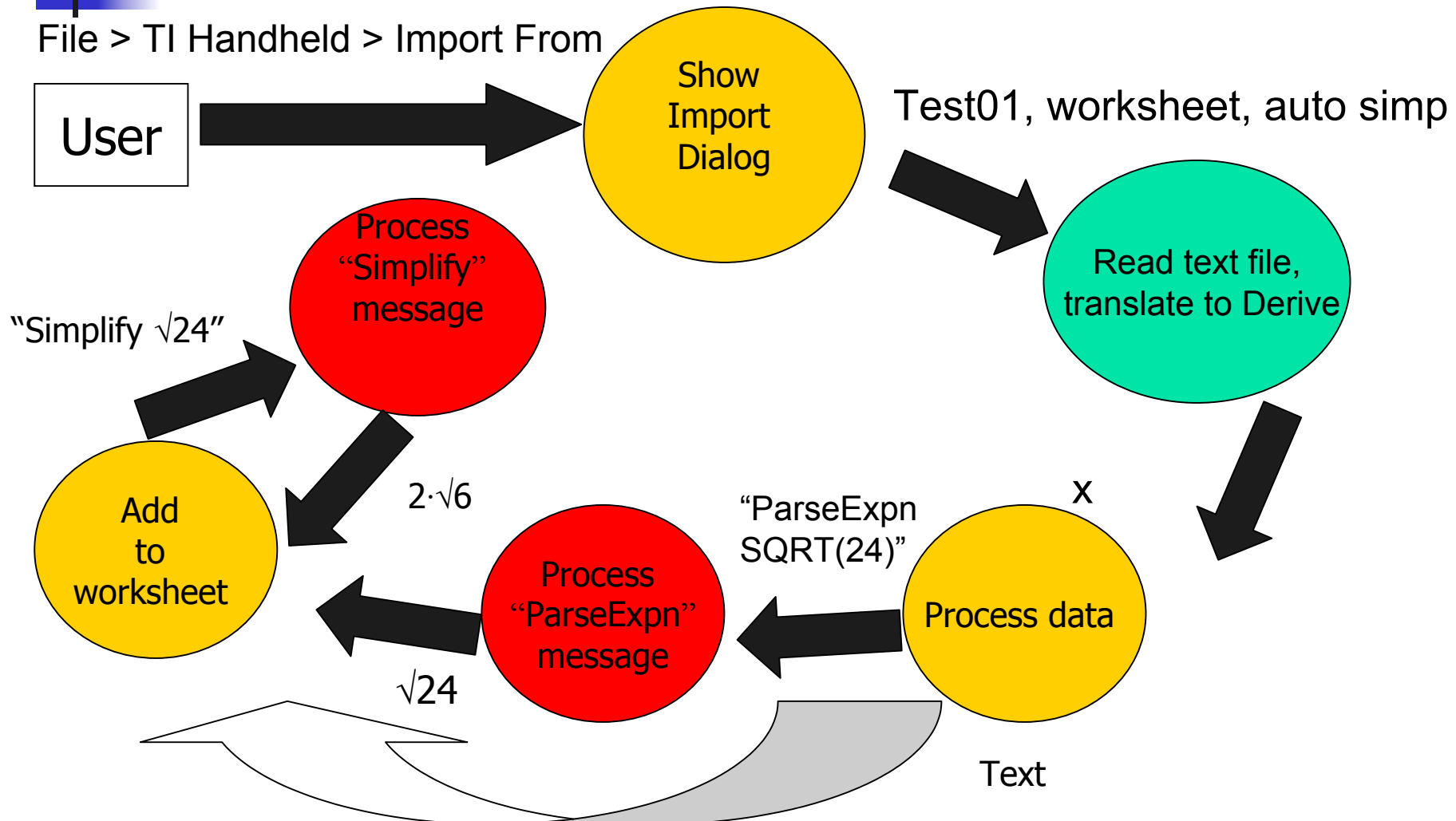




Display Step

- *See example in dfw file*

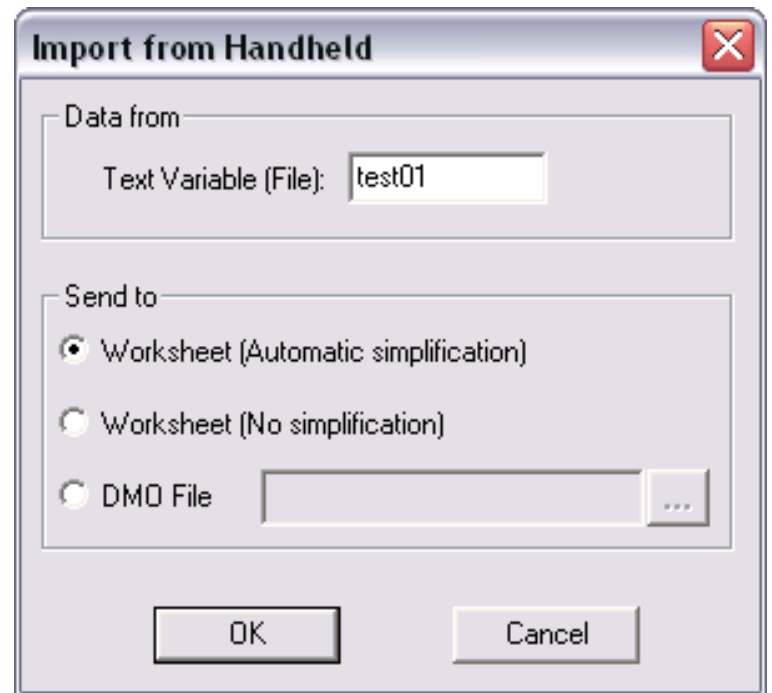
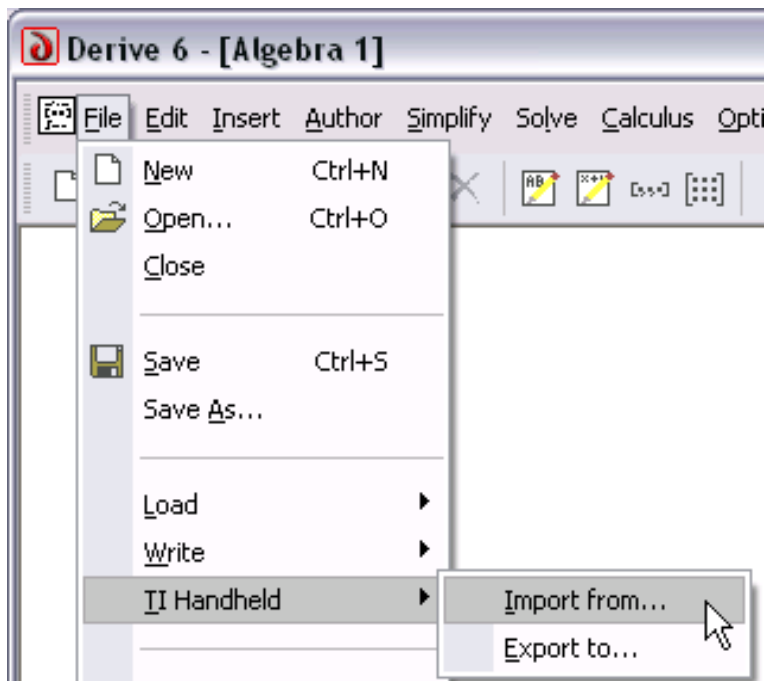
Interconnectivity – Import from TI-CAS





Text Variable (file) - test01

F1 	F2 	F3 	F4	F5	
Command	View	Execute	Find...		
C: NewProb					
C: $\sqrt{24}$					
C: $1/x + 1/y$					
C: comDenom($1/x + 1/y$)					
:					





Searching for TI device

Please wait while the software attempts to connect to your device

Cancel

Transferring...

test01

File 1 of 1



Cancel



#1: $\sqrt{24}$

#2: $2 \cdot \sqrt{6}$

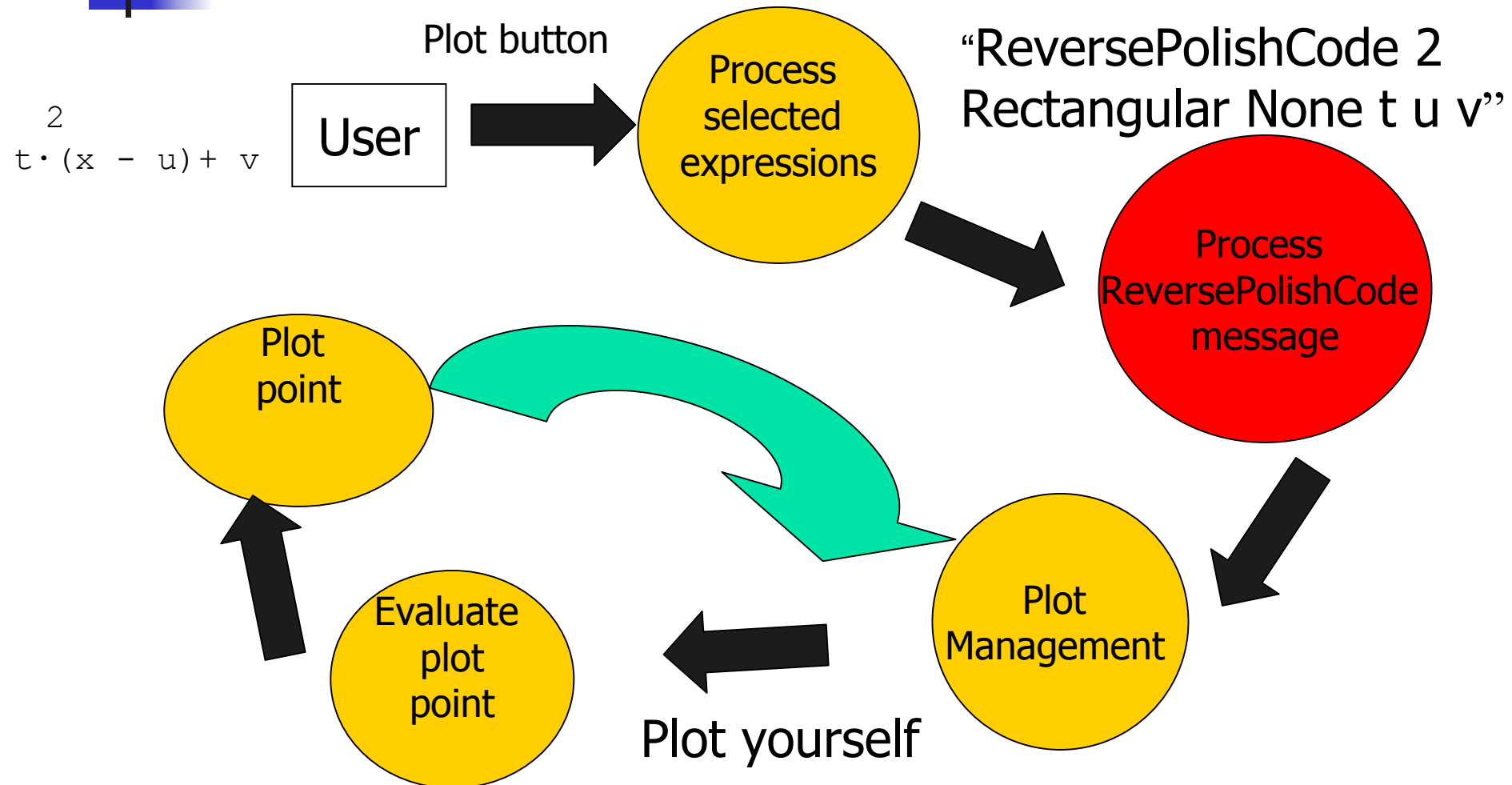
#3: $\frac{1}{x} + \frac{1}{y}$

#4: $\frac{1}{x} + \frac{1}{y}$

#5: $\text{FACTOR}\left(\frac{1}{x} + \frac{1}{y}, \text{Trivial}\right)$

#6: $\frac{x + y}{x \cdot y}$

Plotting expression





Summary

- Background and Overview of Derive for Windows – *Programmer's and Software Designer's perspective*
 - Evolution of Derive for Windows (from Derive for DOS)
 - Derive for Windows Architecture
 - Derive for Windows Innards and Examples



In Conclusion

- Derive design thrives on customer feedback
 - In fact, we're "Deriving Under your Influence"
- So, how else can you help?
 - Keep those cards and letters coming
 - Or emails and blogs in today's jargon
 - Volunteer to beta test our next release